

Comparative Study: An analysis of WhatsApp application and SMS by students & Professionals of Karachi

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Abstract:

WhatsApp has become one of the most popular messaging applications around globe. The study is conducted to analyze the effectiveness of WhatsApp and SMS in metropolitan city Karachi. Quantitative research method is used in this regard. A questionnaire was constructed with 10 close ended questions. Data was gathered from 250 students and 250 professionals of Karachi. An interview was also conducted from few professionals and students to gather additional data. It is concluded from the study that both students and professionals use WhatsApp to achieve their academic and business goals. Though people still use traditional SMS to communicate with their fellow beings but WhatsApp provide them more options and features in affordable rates. Therefore it is indispensable to revolutionize and adopt the latest technology in order to dilute the emerging challenges in Pakistan.

Keywords: Smart phone; Pakistani WhatsApp users; WhatsApp conversation; survey; basic phone

Introduction:

Since 1990, the technologies have contributed individually or collectively in their quest to reveal information or to help mankind to save time and efforts, which has led them to hoist the flag of creativity that calls for a thought provoking approach towards making life easy

Text & Instant Messaging:

Text messaging or SMS includes all those conversations which are sent and received through mobile phone. Text messaging is usually limited to 140 characters. Instant messaging includes all those longer conversations which are sent and received through computer and smart phones.

The importance of SMS (Text messages) and WhatsApp (instant messaging) cannot be denied in this digital era of communication. They have been the most dominant and popular form of communication among students. (Johnson. 2007; Kennedy *et al.* 2008; Smith, Salaway, and Caruso. 2009).

With the passage of time, different online applications have become so popular around the globe. Traditional communication channels were not providing multiple options to their consumers and so a shift was observed from tradition communication platforms to digital platforms in the recent years.

With the passage of time Telecommunication becomes mandatory in the fundamental operations of a society. It has reduced geographical distances and made it possible for a person living in Pakistan to contact any one sitting on the other side of the globe.

Ever since the boom of smart phones in Pakistan, the scenario of communication has totally changed. With the arrival of a plethora of Mobile Companies and Service Providers, People quickly became accustomed to communicate with peers or groups of people via text from an electronic device. They are switching from

basic phone to the smart phone in order to keep in touch with their relatives, friends and acquaintance. Smart phone has emerged as a technology in Pakistan that has made conversations more convenient and affordable as compared to basic phone and has more glamour than that of the basic Phone.

With the emergence of instant messaging service, a strong need was felt to observe the content and effect of these communication applications on language. In this regard, SMS took leading position in communication among different people. A study was done in university of Gujrat to find out the effects of using text-speak in SMS on the writing skills of university students. Three month's data was gathered using survey method. It was discovered that the writing skills of students were badly affected by excessive use of text-speak in SMS. Writing wrong spellings and abbreviation of different words like U for 'you', 4 for 'for', 'ur' for 'your' was prevailing among students gradually. This type of language is not allowed in academic institutes and so very harmful (Yousaf & Ahmed, 2013).

A comparative study was conducted to find out the percentage of English, Roman English and Urdu language by 50 male and female students of Lahore city. The findings revealed that the ratio of female is greater than male in using one single language as compared to mixed (Ali & Aslam, 2012). Another research was analyzed in order to know the variation of language use in SMS. Data of three months was gathered from 100 graduate students, both male and female. The findings of this study are significant in demonstrating that the habit of texting in different languages is affecting the spelling grammar and syntax of their second language (English) (Mahmood et al, 2015).

During the course of history, a mobile phone was either seen as a source of entertainment or a symbol of elite class. During the past twenty years, we have witnessed an evolution of instant messaging services. How internet, mobile phones and text messaging have spread to the general public, generating a transformation in thought

and practice, and then ruled over the lives of common man in Pakistan – a country that has been, akin to other countries, a conservative male-dominated society.

Mobile Communications finally emerged as a strong pillar of the society. Although various changes were seen in the field of telecommunications during the last two decades, still half of the populations are still away from the mobile phones, especially females living in the rural areas of Pakistan.

This study aims to discover the usage and effects of instant messaging through WhatsApp in Karachi. The study may provide grounds through which one can use the technology for the development of educational and business sector of Pakistan. Let us first evaluate the history of WhatsApp application.

The innovation of WhatsApp:

WhatsApp Messenger is a messaging application with multiple features. Instant messaging is one of its main features which allow users to exchange instant messages, pictures, audios and videos among their fellow beings. Some of its main features apart from exchanging multimedia content include free of cost voice calls within the application, personalizing the theme, wallpaper, notification sound as well as background color, adding a WhatsApp widget on the phone's home screen for quick access to chats, blocking unwanted contacts, sharing location and keeping track of call history. Furthermore, the Archive Chat feature allows you to hide a conversation from your Chats screen and access it later, if needed. Moreover, a variety of new emoji have been added with different skin color options. Users can exchange messages with up to 256 people in a group chat. Previously, the number was limited to 100 users.

WhatsApp has some up-to-date features which encourage users to prefer it over SMS. Church and Oliveira (2013) as well as Soliman

& Salem, (2014) back this assertion that the main reasons behind adopting WhatsApp is convenient communication.

It offers simple operation (Bouhnik, 2014), immediate communication (Bouhnik, 2014; Church and de Oliveira, 2013), unlimited messaging (Church and de Oliveira, 2013), simultaneous communication (Church and de Oliveira, 2013), real time sharing of videos, images and text messages (Church & Oliveira, 2013; Lai et al., 2007), accessibility affordance (Bouhnik, Dshen, & Gan, 2014) enhancement of social circle, increase empowerment. (Bere, 2012; Plana, Gimeno, & Appel, 2013; Church & Oliveira, 2013; Bouhnik, 2014; Yeboah & Ewur, 2014; Soliman & Salem, 2014; Devi & Tevera, 2014; O'Hara, Massimi, Harper, Rubens & Morris, 2014).

WhatsApp users can get confirmation as well after sending messages. A single grey tick on message represents that the message has been successfully sent, while two grey ticks mean it has been delivered to their phone. Once the ticks turn blue, it means the recipient has read your message. It has affected relations in both positive and negative manner. In the article "Saudi man divorces wife for ignoring his WhatsApp messages" (2014) it was reported that a Saudi man has divorced his wife because she ignored his WhatsApp messages after reading them. He found it highly insulting and divorced her. In the article 'NRI uses WhatsApp to divorce wife of 4 weeks' (2015) it was reported that a girl was given triple talaq through WhatsApp.

WhatsApp is continuously adding different emoji on the application. These emoji are the best way through which one can express their emotion. However they are also being used to represent our culture, religion, activities and life style. It has also some additional features such as if WhatsApp user send heart to recipient, WhatsApp will convert that heart into a giant one and that will start beating on screen.

However it's also possible to read WhatsApp message without letting anyone know. We can turn off Wi-Fi or data net and then read message and the second option is to read it through notification on desktop or smart phone.

We can also quote any specific message and then reply it accordingly. Sometimes it's difficult especially in group chats to let people know that who they are replying. WhatsApp has made it easy by introducing 'quote' feature through which one can refer to a particular message

In order to control harassment WhatsApp has 'block' option through which one can block unwanted messages and people. If you get any message from a new contact WhatsApp will give you two options. 'Spam' or add to contact'. You may simply choose the right option.

WhatsApp has another interesting broadcast feature through which people can send same message to multiple contacts within seconds. It saves time and allows people to keep in touch with their entire contact list. It also allows users to format their message. They can send their messages in bold, italic and strikethrough too.

WhatsApp has a feature through which people can sync their WhatsApp account with desktop computer or laptop by QR code. People can add shortcut to any specific conversation on directly to desktop. It also helps people to share content directly from computer to smart phone or vice versa. WhatsApp also allow users to send and receive documents, photos and videos in different formats like .pdf, .doc, .txt etc.

It is also possible to send message to yourself on WhatsApp. You just have to create a WhatsApp group with any of your friend and then after deleting that friend you will be the only member in that WhatsApp group and so you can save your notes there or write important messages before sending. Through this technique one can also transfer data from mobile to computer. Simply send any

file to yourself and then connect WhatsApp on desktop computer. After connecting you just have to download file from that conversation and you are done.

It's also possible to disable notification panel on WhatsApp. If you want your message to stop appearing on your home screen, you may simply turn off notification option. Through this way WhatsApp messages will not appear on your home screen.

The “seen” feature of WhatsApp has helped people in different ways. In the article “Extraordinary life of Italian man found dead in London canal” (2016) it was reported that Italian man, Mangnanini checked his WhatsApp last time around 3:15 pm on 21 September. The feature helped police to know that he was alive at that time. Cross train station and Caledonian Road, near the stretch of canal where his body was later found. WhatsApp also allows users to disable ‘last seen’ option so that your details will not be visible to other users. However if a user shut off the last seen option, He can also not see the details of other person.

WhatsApp also allows users to mute conversations if their notifications are disturbing them. The messages will come in but people will not get any notification or audio alert.

Furthermore WhatsApp users can reduce data consumption by choosing ‘low data usage’. They can turn on and turn off automatic downloading when they are on roaming. It helps people to use their mobile data in effective manner.

WhatsApp introduce status feature through which people may send status updates in the form of pictures and videos to their entire contact list. It will disappear after 24 hours and the people have option to see the list of people who have checked their status update. They can add their comments on it.

WhatsApp introduce another feature through which people can delete messages after sending them within seven minutes. It will be completely disappeared from all the conversations

and chats. However it's also possible that the recipients have already seen your message in notification before they are deleted.

The concerned authorities of WhatsApp secure messages with end to end encryption. It ensures that your personal data is secured with a lock and it will not fall into wrong hands. The end to end encryption is enabled automatically in the latest versions of application.

Hence we may say that WhatsApp is an innovating messaging application which provides multiple features to users. Let us see how WhatsApp is being used in Pakistan and different parts of Globe. It offers rich interactive experiences and allows users to chat along with sharing pictures and videos.

Literature Review

Communication technology was considered luxury in 20th century but slowly and gradually it becomes a necessity not only in the developed nations but in emerging and developing nations as well. Mobile phones were initially considered as only a source of communication and to be owned by only elites in Pakistan. However, soon it has been observed that the gadget makes its place as an indispensable necessity of the new generation, irrespective of their economic class and social status. (Ali et al, 2015). Cell phones are considered as one of the most effective tool of communication among teen agers. (Ali et al, 2015)

The use of smart phones is rapidly increasing in all the regions of the world including Pakistan. According to the Oct-16 reports of Pakistan Telecommunication Authority (2016), total tele-density of Mobile, fixed and WLL is declined by 8.98 percent (70.91) as compared to the figures of 2013-2014 (79.89).

The number of annual cellular subscribers has declined by 5 percent (134.9 million) as compared to 2013-14 (139.9). The cellular mobile penetration has declined by 6.5 percent (69.1) as

compared to 2013-14 (75.6) (Pakistan Telecommunication Authority, 2016).

However, not much research has been done to analyze the usage and effect of these applications on the citizens of Pakistan. Most of the researches have been done to analyze the effects of mobile phones and networking sites on youth of Pakistan. Some of them are mentioned below

Effect study of using mobile phones on academic performance of students

Mobile phone has become one of the major necessities of students all around Pakistan. It may have both positive and negative effects on the academic performance of students. To understand the scenario in a better way, a cross sectional study was conducted in a public sector female medical college of Khyber Pakhtunkhwa. This research was intended to find out the effects of using mobile phone on academic performance of students. In this regard, structured questionnaire survey was carried out. Data of four months was gathered from a sample of 308 female students. Data was analyzed through MS Excel and SPSS. The findings showed that students consider mobile phone as a best tool to interact with their family and friends. It is being used for studies, internet and for downloading games, videos and images. It was also discovered that the daily routine of 81 percent students was badly affected by using cell phones. Almost 56 percent students stated that their sleeping routine, social relations, academic performance and other outdoor activities were badly affected due to the excess use of mobile phone (Aman et al, 2015).

Effect study of social phone application on interpersonal relationship

A UK-based study analyzed the usage pattern of WhatsApp messaging application. The main focus of the research was relationship among people through the short narratives of

WhatsApp. Data was gathered from twenty participants of different occupational background, both male and female aged between 17 and 49 years old. The researcher conducted semi-structured interviews of an hour with each of them. It was discovered that WhatsApp gives them a platform by means of which they can communicate. They can share their experiences, feelings and arguments with each other. WhatsApp help them to build a long distance relationship which is durable and reliable like face to face relation. (O'Hara et al, 2014)

Effect study of social phone application on distant learning

A study was conducted in the same context to explore the importance of using cell phones for learning in distant education. In this regard 5 study groups were formed with 23 undergraduate students (four male and 1 female) of a South African university. The main aim of the study was to find out how participant use MXit, an instant messaging application for the purpose of learning and interacting with each other. There were 3 to 12 sessions comprising an overall period of four months. The researcher analyzed the content of the chat and concluded that MXit users have their own language in which they discuss and interact with each other and this instant messaging application has the potential to be used as a collaborative learning platform for distant students. (Makoe, 2012)

Comparative study on instant and text messages

A survey was done by Telenor Company (2016) to draw a comparison between SMS, voice calls and messaging application in seven countries including Pakistan, Malaysia, Thailand, Serbia, Hungary, Sweden and Norway in Dec 2015. Data was gathered from a sample of 5600 people, ages 16-35. According to that survey, 74% Pakistani use their basic phone to make a traditional call several times per day, confirming the importance of traditional basic calls in this era of digital networking. 30% Pakistanis use the feature of video calling several times on daily basis. 49%

Pakistanis use messaging application several times on daily basis. This is the lowest percentage among all surveyed country where the messaging apps users are more than half. 66% Pakistanis use traditional SMS to communicate, confirming the fact that the youth of Pakistan prefer traditional SMS and voice calls over messaging application. 54% Pakistanis agreed that they use WhatsApp at least once a day, beating Facebook messenger at 51 percent. It's interesting to note that the findings shows that the use of sharing location, map services and games is relatively low in Pakistan as compared to other online activities including picture and video sharing.

A research was conducted in United States in which an online survey was carried out from a sample of 321 small business owners. The aim of the research was to find out the impact of mobile application on small business revenues. The findings showed that only 11.21% business owners use mobile applications in which more than half respondent (53 percent) reported increased revenues after using mobile applications. 19 out of 70 business men indicated a 5 to 25 percent increase in their revenues. They use application for advertising and promotion and were extremely satisfied with the progress of their business. (Goodwin et al, 2014)

The studies confirm the fact that Instant messaging application reduces time and efforts and helps professionals to communicate and discuss ideas and problems with each other in a more convenient and fastest manner. It provides them a single application through which they can chat, share audio or video messages, location or other stuff within seconds.

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Significance of the study

The increasing trend of WhatsApp messenger use as an innovative communication device in the metropolitan city Karachi is a matter of newer subject of interest that needs evaluation and research based understanding. The study will be an important research work for exploring the possibilities of emergence of WhatsApp as the leading mobile messaging application in Pakistan.

Research Objectives:

The objectives of this research are given below

- To draw a comparison of basic phone and smart phone
- To draw a comparison of WhatsApp and SMS
- To determine the frequency and composition of WhatsApp users in Karachi city.
- To discover the need and utilization of WhatsApp application by students and professionals of Karachi city.

Hypothesis

There is positive co relation between income and smart phone subscribers in Pakistan

There is positive co relation between the use of WhatsApp and performance of students and professionals

Methodology:

“A survey design provides a quantitative or numeric description of trends, attitudes, or opinions of a population by studying a sample of that population. From the sample results the researcher generalizes or makes claims about the population” (Creswell, 2009, p. 145).

The questionnaire study was comprised of variety of close ended questions covering research objectives from all the possible angles. In end an interview was taken from few students and professionals. The questions were semi structured and the duration of interview was ten minutes.

Sampling Method:

Stratified sampling technique was used this study in which respondents were assigned according to their social status, education and income. The subjects were initially classified into separate groups (stratra) based on their socioeconomic status and age. Then simple random sample was drawn from each group.

Background Information of respondent:

250 Professionals and 250 Students were chosen in a way that they were representative of the city as a whole. So, the total sample consisted of 500 respondents aged between 18 and 70.

Gender distribution of respondents:

Gender	Number of Respondents
Male (Students)	125
Female (Students)	125

Male (Professionals)	187
Female (Professionals)	63
Total	500

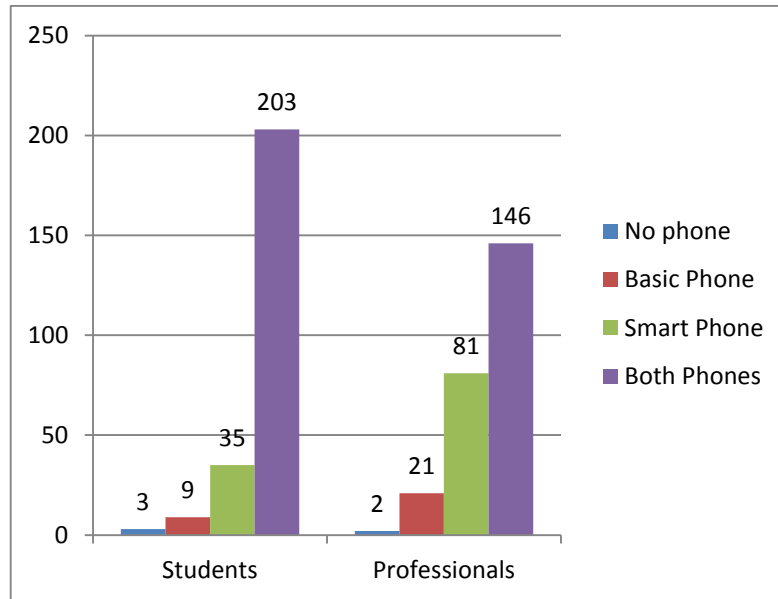
Education

Education	Students	Professional	Total
Illiterate	0	35	35
Matric	0	58	58
Inter	139	34	173
Graduation	45	105	190
Post Graduation	66	18	44
Total	250	250	500

Findings:

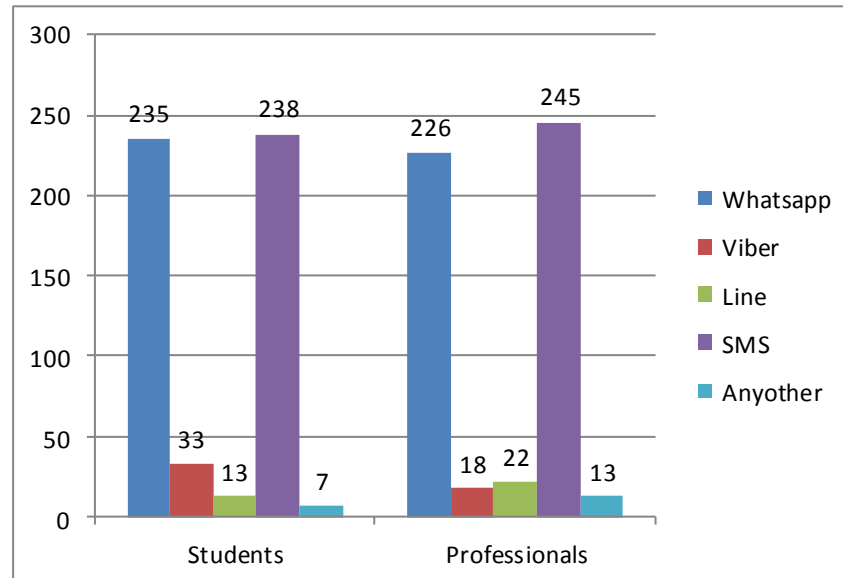
The findings of survey are given below:

Comparison of Basic Phone & Smart Phone



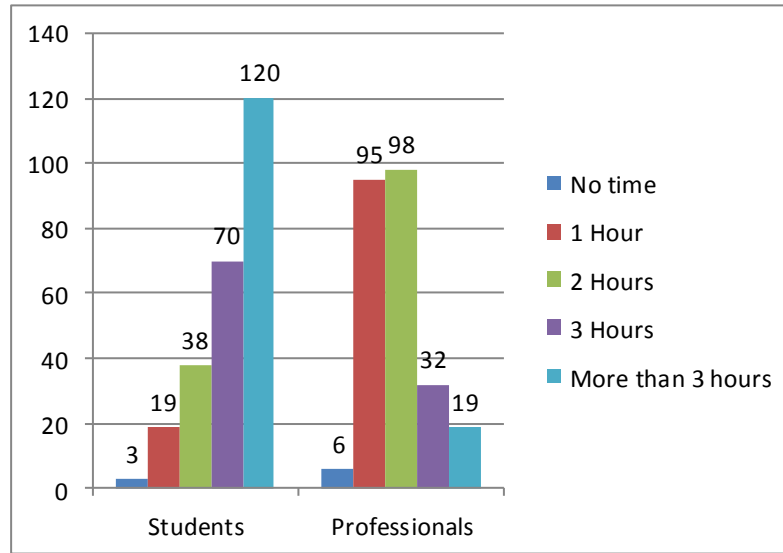
It was discovered that 203 out of 250 students and 146 out of 250 professionals are using both smart phone and basic phone.

Comparison of WhatsApp and SMS



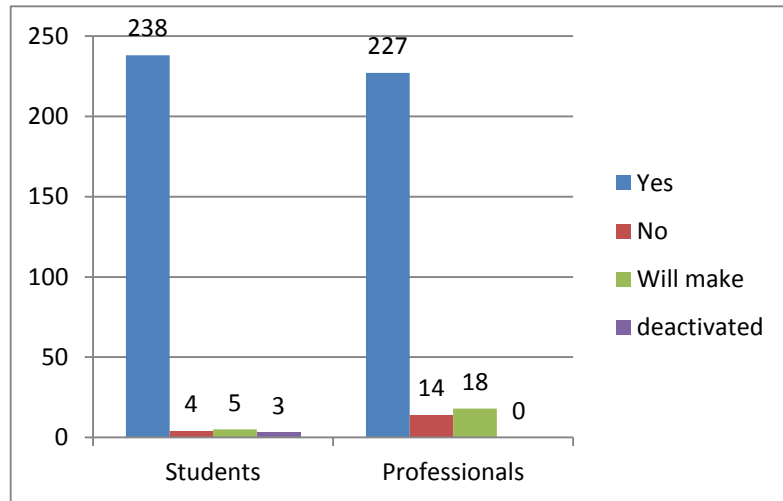
It was discovered that 235 out of 250 students and 226 out of 250 professionals are using WhatsApp messenger to interact with their fellow beings. However 238 out of 250 students and 245 out of 250 professionals are using SMS for the same cause which shows that SMS is still the most popular way to interact. However the frequency of WhatsApp is slightly low as compared to SMS.

Frequency of Using Phone



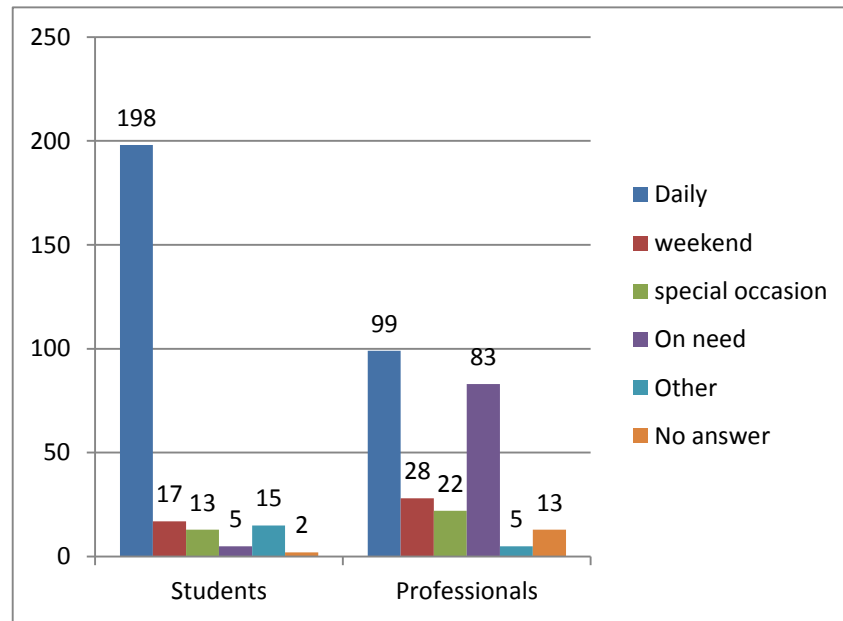
It was discovered that 120 out of 250 students are spending more than 3 hours on their phone however 98 professionals are spending approximately 2 hours on their phones.

Frequency of Using Whatsapp



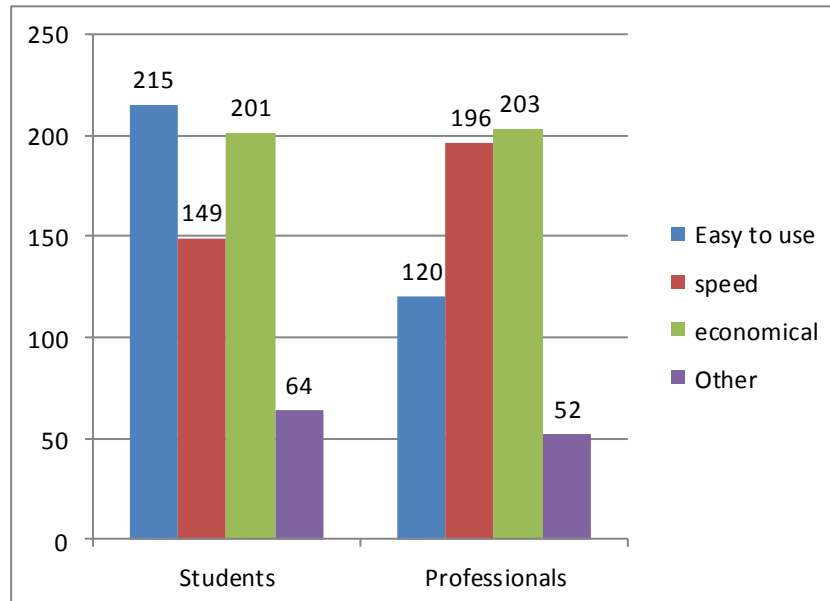
It was discovered that 238 out of 250 students and 227 out of 250 professionals have account on WhatsApp.

Frequency of Using Whatsapp



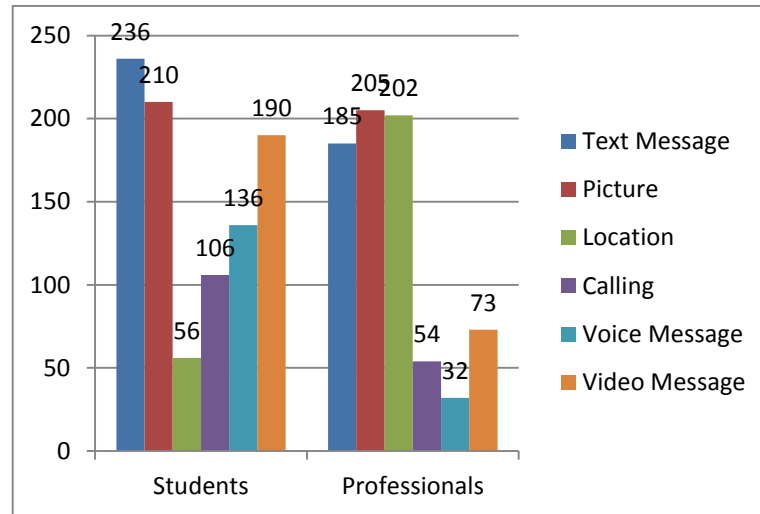
It was discovered that 198 out of 250 students and 99 out of 250 professionals are using WhatsApp on daily basis.

Reasons behind using Whatsapp



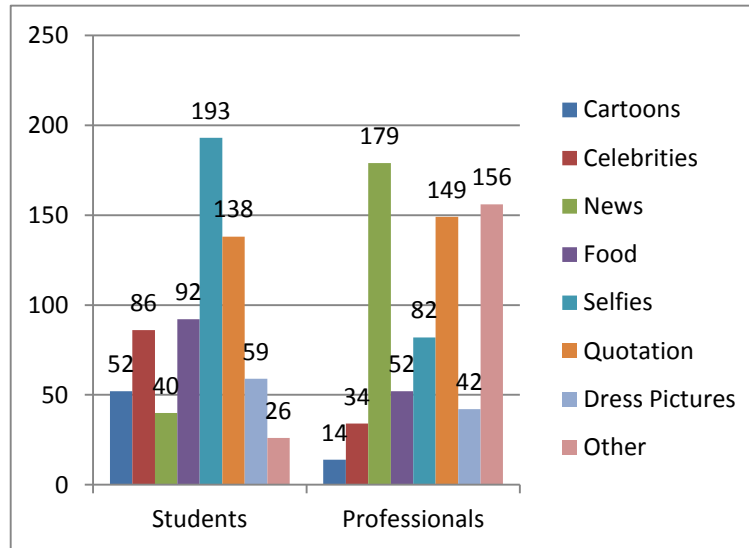
It was discovered that 215 out of 250 students are of view that they use WhatsApp because it is easy to use however 203 out of 250 professionals shared their view that they use WhatsApp because it's affordable way to connect with the professional world.

Most popular feature of Whatsapp



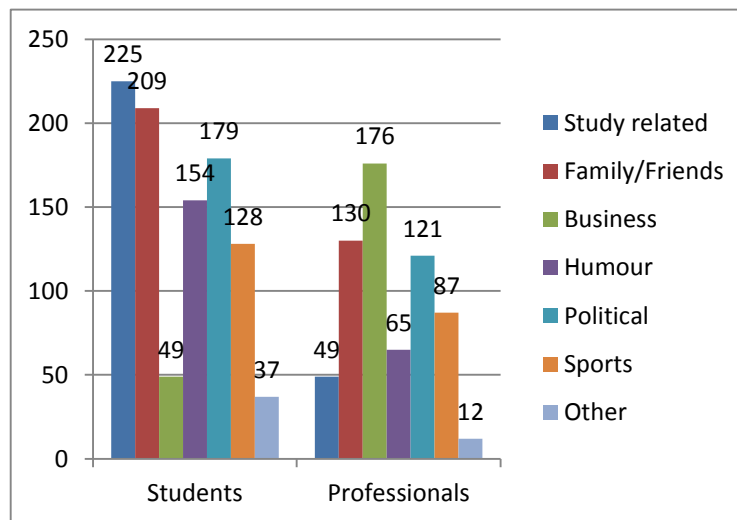
It was discovered that 236 out of 250 students use text messages more than any other feature on WhatsApp whereas sending pictures is most popular among professionals. According to findings, 205 out of 250 professionals use WhatsApp to send pictures.

Type of Media shared on WhatsApp



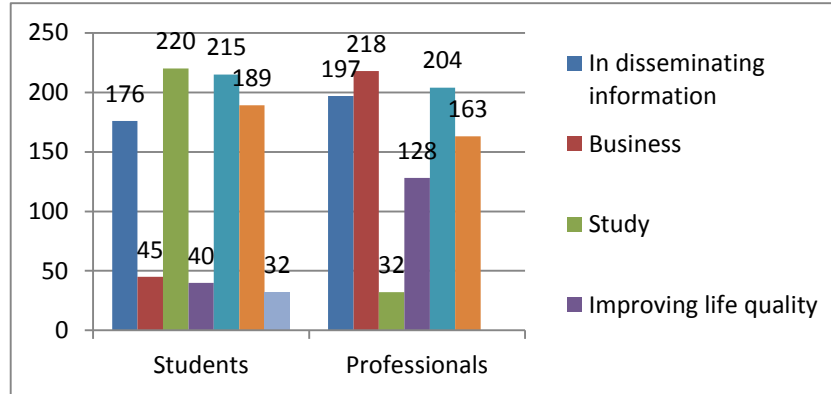
It was discovered that 193 out of 250 students share selfies more than any other images on WhatsApp whereas 179 out of 250 professionals share images related news on WhatsApp.

Type of Content on Whatsapp



It was discovered that 225 out of 250 students share study related material on WhatsApp whereas 176 out of 250 professionals share business related stuff on WhatsApp.

Role of WhatsApp



It was discovered that 220 out of 250 students use WhatsApp to achieve their academic goals whereas 218 out of 250 professionals use WhatsApp to achieve their business goals. The findings also show that 215 out of 250 students and 204 out of 250 professionals feel that WhatsApp is helping them to build relationship.

Discussion:

The findings show that the combination of basic and smart phone is being used by professionals as well. And even the people who are earning nothing or less than 20,000 also own basic and smart phone both. It proves that there is no relation between income and ownership of basic and smart phone.

Looking at the statistics of the research done by pew research centre, it can be seen that the countries with higher GDP have higher number of mobile phone subscribers whereas the lowest numbers of mobile phone subscribers can be found in developing countries and the name of Pakistan is third last in the list.

In order to sort out this contradiction, an attempt has been made to contact few professionals and students to find out the reason behind this contradiction. They were of view that

- Due to the increasing number of cell phone snatching incidents in Karachi, one cannot keep and use smart phone openly on the streets so people use both basic phone and smart phone. A 21 years old male student, enrolled in BS program at a government university of Karachi says, “Due to the increasing number of mobile snatching in Karachi, It’s good to have both basic and smart phone. I usually hide smart phone under my socks and basic phone in my pocket when I am outside.” The findings are consistent with the findings of research study done by Gertjan van Laar, an app developer of Pakistan that almost 35 percent Pakistanis carries a low cost phone for safety reasons. (Smartphone usage in Pakistan, 2014)
- Both basic and smart phones are necessary as sometimes people are not so addicted of using touch screen so they prefer to send SMS or call from basic phone and as there are limited features on basic phone so it’s necessary to keep both types of phones.
- People use both smart phone and basic phone in order to trap mobile phone snatchers as if they come across with any snatcher. They will hand over basic phone instead of smart phone. 28 years old male professional working as general secretary of a bird organization said that ‘I keep both basic and smart phone. The snatcher will have definitely an idea that it’s impossible to survive in a city of Karachi without cell phone so if I deny he might shoot me on the spot so I usually place one or two thousand rupees and basic phone in my front pocket and hide additional money and smart phone inside the pocket of my shalwar.”
- People usually do not allow their toddlers and children to have their personal smart phone so they use basic phone and smart phone both so that they may handover their smart phone to

them for a certain time period and keep basic phone with them so that people may contact them on that phone. A 23 years old house wife say that, “ My two years old toddler is so addicted of watching cartoons on YouTube so I keep both basic and smart phone so even if my son is using smart phone, I will not be out of touch and my husband can contact me on basic phone.”

Reasons behind using only smart phone

It is observed that 35 students out of 250 and 81 professionals out of 250 use only smart phone. In order to find out the reason behind not using basic phone, an attempt was made to carry out an interview with both students and professionals. It was discovered that

It is difficult to carry both basic and smart phone. A 21 years old female student, enrolled in intermediate at a private college of Karachi says that, “I cannot keep both basic phone and smart phone in college. It’s quite difficult”

People keep cheap smart phones so even if it gets snatched it will not cost them much. The findings of the study are consistent with the findings of the recent study ‘Mobile phone usage and students perception enrolled in undergraduate University of Pakistan’ which stated that the almost 70 percent students own a smart phone (Iqbal, 2017)

If we draw a comparison of both smart phone and basic phone, it can be clearly seen that 442 respondents have basic phone whereas 424 respondents have smart phones. In the light of these statistics, we can say that first hypothesis is rejected. There is no co relation between income and mobile phone subscribers.

The findings show that 96.8% students and 91.6% professionals are using WhatsApp in Karachi city which proves the importance of WhatsApp application. The findings also show that 198 students and 99 professionals use WhatsApp daily. Majority of students are of view that it’s easy to use whereas professionals are of view that

it's more economical that's why they use WhatsApp. It was also discovered that students share study related material on WhatsApp whereas professionals use WhatsApp for business purpose. They both are of view that WhatsApp is so helpful for studies and business. It proves second hypothesis that WhatsApp help students in achieving their academic goals and help professionals to complete their tasks

Conclusion

The study concludes that smart phone subscribers are increasing day by day in under developed countries regard less of their low incomes. Both students are professionals consider WhatsApp cost effective than SMS. They use WhatsApp to achieve their academic and business goals.

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