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A Review on Perception of Usage - "WhatsApp"

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ABSTRACT

With the arrival of technology, Life has become convenient and easier during this dynamic and busy world, staying to touch with associates is tough. Social media has emerged as a cloud nine in disguise and helps us to take care of the updates from friends, family and associates. Social media is evolving within the world at in no time pace and affecting individuals in varied ways. In this going on era virtual chat is undoubtedly engulfed everyone. Almost 90% of the smart phone users are busy in messaging each other with the help of one or other applications. Whatsapp has emerged as one of the most popular app among all. Its utility range is high among others. Whatsapp has become hottest medium of interaction among folks because it is convenient to use. This application is often simply downloaded and works in various electronic gadgets like I-Phone, Blackberry, Android, Windows phone and computers. This valuable exchange of text, image, video, audio message helps us to communicate better. This glorious application is a crucial medium of social property and its own effects (good or bad) upon the whole society. In the whole scenario we have studied that the youth is addicted to this and cannot abstain themselves from constantly chatting, replying, and exchange of information. If talk about the reply time 31.67 % of the users reply within in minute of arrival of message. 40.83% of the users reply within 16-30 minutes of arrival of message. The distribution of the message throughout the day was seen as very few messages were sent overnight with under 5% (4.36%) being sent between midnight and 4 A.M and only 2.37% being sent between sent between 4 A.M and 8 A.M, If we come to the parameters of male female bases it's been overviewed that females tend to use whatsapp more with comparison of males and generally concluded from the reviews the age group 21 to 37 tends to take more advantage of this app.

Keywords : Whatsapp, Analysis, Patterns, Findings, Mining.

I. INTRODUCTION

"It has become passing obvious our Technology has exceeded our Humanity". -**Albert Einstein** [6] [11]

The Planet of communication is very dynamic because of development of field of Technology. Right waking up the morning until their last work before they sleep, they create use of technology. The foremost usually used technology driven media unit computer and mobile phones. Today's generation is just too abundant hooked into luxury and their life is virtually moved by the utilization.. Today it is rare to examine a young adult while not having appliance in hand. They are fully concerned in exploitation new media in one kind or the opposite. The performance and capability of mobile phones have modified lots. Out of these applications whatsapp has become additional well liked among youth [11]. Modern technology has relieved the lives of the many permitting to stay in touch with friends and families around the globe with its distended use, we have learned not arrange to perceive however it works, rather a way to utilize it to assist [6].

1.1. Instant Messaging

Instant electronic communication (IM) has become a necessary evil within the kind of communication with the gift of era therefore IM communication

shoppers like AIM, MSN and additional recently GTalk, Facebook and whatsapp have triggered a wave of instant electronic communication primarily based communication particularly [3]. IM is one amongst the utilities that have allowed us to stay to bear over the net by causing and receiving messages, photos and videos [6]. Internet social network becomes the universal application permitting individuals to simply to share text, pictures, audios and video files in style. Networks represent Facebook, Reddit and LinkdIn with the intention of all maintain website to smooth progress of function hubs, facilitating people's data sharing. In distinction, the comparatively new whatsapp application could be a Smartphone application that allows folks to share data directly via their phones. Since its introduction in 2009 its growth balanced increased, and as of September 2015, it numbers over nine hundred million users whereas several alternatives to also exist. Given the rising the importance of this network it's not stunning that there is a growing interest in researching it, together with user studies concerning peoples whatsapp use and potential application, the whatsapp network considerably a lot of sophisticated as a result of no public data set presently exist, in this destination those different network. This can be doubtless thanks to medium concerned-whereas different social network area unit primary internet based so given to collection of information through web locomotion, the whatsapp relies on individuals non public phone use and so not publically in the market [3].

User Satisfaction is the degree of satisfaction provided by products of services of a group as measured by quantity of repeat users. User satisfaction survey may be method of discovering whether or not the company users are happy or not or glad with the merchandise or services received from the cooperation it's going to be conducted face to face, over the phone, via emails or webs or on written form [2].

1.2. Web Mining

Web mining provides intelligible ascend-able, totally different and outline approach for information analysis and mental image. The method of extracting such associates in nursing intelligible information from a varied supply is that the very important and sophisticated issue since it should give qualitative and quantitative, technical, communicative and coherent information to the user such as a colossal method [21]. Web mining is to act as a tool to retrieve data simply and quickly. Web page mining works by organizing a bunch of documents into connected classes that helps internet program to extract data a lot of quickly and expeditiously. [21] [25] Structure mining mines the knowledge by utilizing the link structure of the net documents. It helps in describing the similarities and relationship between the sites. Internet uses the mining mines the secondary knowledge that is gift in log files and derived from the interaction of the user with the net [21] [25]. Internet uses mining focuses on the applying mining techniques to find out the usage pattern from the internet data so as to grasp and higher serve the requirement of the web applications [24] [25]. Data processing is the initial step within the information preparation method and aims to reformat the first logs to separate the log supported weblog format [21] [25] [23]. Data mining analysis interest is that the outcome of big volumes of information employed in regular activities of this contemporary technology familiarized settings.

1.3. Whatsapp

Technology provides associate in nursing was impact on human lives wherever the employment of whatsapp Application in education carries positive response to the educational development [8]. Whatsapp started in the year 2009 with the tagline- "Simple Personal Real Time Electronic Messaging" could be a mobile electronic messaging app that permit the user twisting the messages while not having pay money for SMS [4] The whatsapp courier was choice created by Brain Acton and Gregorian

Koun 2009 to form communication and also the distribution of multimedia system electronic messaging additional simply and quicker [12] Whatsapp works with web property and helps its users to remain in contact with friends and relatives in their contact list. Whatsapp has done same for electronic messaging what Skype did for voice and video calls. By victimization the net as its communications backbone, whatsapp has fully remodeled personal communications that was antecedently set up. If you have got unlimited text, it is still useful because it could by worlds largest wireless carriers. Whatsapp courier has been around for a short while however recent updates have improved the practicality of the appliance since it's unleash date. The most purpose behind this application is to switch SMS with a cross platform mobile courier that works on a web knowledge set up. It's fashionable as a result of there is no price to message friends and family aside from net knowledge set up that users have already got on their phones. It's straight forwarded to urge started. Merely enter the phone variety of the device into the app. A personal will initiate and build sturdy business partnership in any part of the planet while not meeting the individual into the flesh. It's less costly as compare to the conventional phone electronic messaging. A personal will chat with friends and family overseas through whatsapp while not having to incur international SMS charger. The supply and access to learning material any place, any time and in varied formats has potential to reinforce deep student learning capability. In upper level of education whatsapp is employed for the improvement of discussion and sharing data among students and lectures [4] [5].

Whatsapp is registered by 800 millions monthly users across multiple platforms in April 2015. The square measure or so 1.7 billion folks own, 700 million people that utilize Apple phones. Windows has just below 100% of the market share for mobile in the operating system, this interprets to regarding 50 million window phone users within the world at the top of 2013 [6]. Whatsapp uses a changed version of quality electronic communication protocol XMPP (Extensible Messaging and Presence Protocol) and so the complete section is loaded into central info once installed [7]. This is one of the inventive techniques that are employed to draw student's interest and fun based learning. It permits the scholar to precise the thoughts and ideas via numerous option of the whatsapp application platform like attaching footage, sharing videos, sharing web links, recording videos and plenty of additional [8]. Whatsapp instant traveler has quickly become omnipresent and well linked among colleges and university students, the speedy adoption of whatsapp among tertiary student's signals that social media technology square measure undergoing a paradigm shift. Whatsapp has been used as a platform for educational activity establishment [9].

Whatsapp is now a day's very popular in business dealing. People have smartly started using this social platform for flourishing their business. They have started using this for the advertisement purpose. Advertisement through this medium is quite easy, reliable, cost efficient and less time consuming. It has actually becomes a boon for the business industry ,whatsapp group features is exactly the right thing to hit for the marketing industry because with little time the messages could be spread to many and many of the contacts.Every age group share the equal benefits of whatsapp in their lives if we talk about the other ages irrespective of the students they also cherish the features of this social messaging app. Thorough the can make the contacts with the people who are far away them [10].

II. Related Work

The change of communication has affect on many factors including message length, delivery time, and rate of response [12].

This alarming alteration in communication has influence on all individuals because it alters the message standards. Whether it is face-to-face

communication, telephone calls, emails, text messages, or a tweet to another person, these interactions influence the way in which we communicate.

2.1 Evaluation of Communication

During the last two decades, the evolution of technology and especially of the Internet changed our message telecommunication. In the middle of the 1990s, for the first time the concept of personal instant messaging over the Internet became available in the form of so called instant messengers. Instant messengers are chat programs, which allow users to instantly exchange messages of short size with each other. In that, they are similar to the Short Message Service (SMS), which already became available to mobile phone users in the early 1990s.

With the release of the instant messenger ICQ in 1996, an alternative to the traditional email communication became popular on personal computers. In comparison to emails, which are mostly written formal, containing long and fully formulated sentences and usually has a longer response time; instant messengers are made to communicate with others similar to a real life oral conversation. Here, the content is informal with mainly short sentences. Also, a quick response is expected, so that a fluent conversation results. Other well-known instant messengers are, for example, Microsoft's discontinued MSN Messenger and AIM, the instant messenger of AOL.

After the turn of the millennium, a new trend in online communication emerged. For the next couple of years, one-to-many communication became more and more popular. One-to-many communication is a way of broadcasting messages to a receiving group of users. Messages are simply published and can be read by everyone or by a restricted set of users, which were given rights to read the contents, or which subscribed to the feed. The messages are not necessarily answered by the recipients directly, as the main idea is to make messages available to many people at the same time. In 2003 and 2004, two of the most popular online social networks, MySpace and Facebook, were launched. This development increased the desire of users to publish messages within their social environment [19].

2.2 Studies on the usage of social networking sites among college Students

Since the last decade the usage of Social Networking Sites among college students is increasing rapidly throughout the world. Evidently Social Networking Sites have become a significant part of the lives of these youth Compared with any other group of people the usage of Social Networking Sites among college students is more, mainly because they are attracted extensively to the new technology and particularly to the opportunity it offers for creating social networks. It also refers to psychological experiences of international students such as disorientation, nostalgic depressive reactions, and feelings of isolation, alienation and powerlessness. However, international students may have limited ways to cope with stress, which could lead to stress-related illnesses such as anxiety or depression. Hence these limitations make it hard for international students to acclimatize themselves new circumstances. Respondents in the study used Social Networking Sites in various ways and the tools played an important role in their adaptation to a new life in the United States. Findings of the study clearly showed that the respondents benefitted from their use of social networking sites and that the interactions helped to decrease their anxiety in the new culture by providing them with a means of connecting to their parents and friends in Korea. At the end it also stressed on the need of more research to identify the potential of Social Networking Sites in contributing to the affective and cognitive adaptation for international students including the connection between Internet use and academic achievement. It says though usage of Social Networking Sites is often treated as a monolithic activity, in which all time is equally social and its impact the same for all users. The study primarily examines how Facebook affects

social capital depending upon: types of site activities, contrasting one-on-one communication, broadcasts to wider audiences, and passive consumption of social news, and individual differences among users, including social communication skill and self-esteem. The study states that college students are motivated by social information-seeking, using Social Networking Sites to learn about people they have met offline, and expressive information sharking, feeling greater to bridge social capital. The study revealed the constructs: relative advantage, complexity, and observe ability of Social Networking Sites do not positively affect the attitude towards using the technology while the compatibility and trial ability of Social Networking Sites does positively affect the attitude towards using the technology [15].

2.3 Studies on the influence of social networking sites on consumption patterns and style of Students

The classification of Social Networking Sites resulted in four distinct segments: The Beginners, Average Users, Outstanding Users and Expert Users. The results revealed that behavior and. motivation is the best criteria of users for the markets when using such -applications. The study (2010) reveals in this sense the specific behavioral characteristics of these segments and provides marketers with- important information as to designing marketing programs making use of Social Networking Sites. He stated that Social Networking Sites allow users to collect information about companies and brands. Further, 70% of the respondents of his study used Social Networking Sites to investigate companies or products while considering a purchase, suggested by any friends or companies. The positive reviews of a particular product on Social Networking Sites influence the choice of purchase of the college students [15].

2.4 Indian Studies of social networking sites

The contents of three Social Networking Sites to study the effectiveness of brand communication strategy followed in these sites which are mainly accessed by Indian users. The study attempts to find out the effectiveness of brand communication strategy in promoting and advertising their brand in social networking sites. They suggested some method to make advertisement more interactive among the target audience. This paper discussed the legal implications of social networking sites in USA and India, impact of Social Networking Sites on social life, laws pertaining to social networking sites in India and USA and legal obligations for social networking users and sites. The facts revealed that Indian are less aware regarding the legal implications of these sites than USA [15].

2.5 Whatsapp Impact on interpersonal relationships

The popularity of IM has grown due to various factors like features, usability, functions and convenience. but they could also encompass issues regarding social intimacy and negative feelingsThis Research give us the idea about the Statistical analysis done on Whatsapp application, the main purpose of the research is to know Number of users who use this service Following are the sections in which in which Research is being carried:

1. Number of Users using Whatsapp worldwide
2. Number of users using Whatsapp according to their Age Group
3. Average number of Messages sent by the user per day and type of Messages sent

2. Brief Timeline of whatsapp growth

June 2009: Whatsapp is incepted by 2 of former Yahoo workers Brain Acton and Jan Koum, to supply an alternative of SMS services to users. The messenger app permits users to send unlimited messages over net affiliation while not having the regular prime up credits. Most significantly, the service is launched at a nominal one-time payment of $0.99

April 2011: whatsapp grows as a well-liked empirical electronic communication services and received $8 million in funding from investors, that's helps the corporate grow additional.

October 2011: Whatsapp continues to grow stronger, and therefore the variety of messages sent through the app bit a million messages per day mark. Despite in style services like iMessages on Apple devices and BlackBerry messenger Whatsapp continues to grow.

August 2012: It's absolutely was not even a year since Whatsapp had achieved the 1 billion messages per day ,ark, and Whatsapp recorded 10 billion messages being send per day, ringing danger bells for different firms.

December 2012: Rumors emerges regarding Facebook being in talks with the electronic communication platform for a potential acquisition.

January 2013: Whatsapp announces its processed 18 billion messages on a New Year's Eve that reflects its quality among its users. The amount additionally shows that the platform has become an ideal substitute for sums.

April 2013: once more rumors of Whatsapp acquisition connected talks emerge, but now its Google that reported to possess created a $1 billion provided for purchasing out the services.

June 2013: even with the arrival of new app in the market the Whatsapp continues to grow. It breaks its own records and processes jump of 27 million messages per day.

October 2013: Whatsapp user bas e grows by another fifty million to achieve 400 millions monthly active users. Create a replacement record by 54 billion messages sent over daily on New Year's Eve.

February 2014: Facebook finally acquires Whatsapp over a year when reports regarding the potential acquisition talks surface on net. The deal is price a staggering $19 billion that involves $4 billion in money, regarding $12 billion in Facebook stokc and $3 billion in restricted shares.

III. Usage of whatsapp

Comparing the usage of Whatsapp to SMS, the survey showed that Whatsapp is used significantly more often than SMS. 85.17% of the participants use Whatsapp at least once or twice a day, whereas only 6.69% use SMS so frequently. This leads to the conclusion that Whatsapp communication was preferred considerably to SMS communication by the participants. The participants also had to indicate if and which other mobile messaging applications they use besides Whatsapp. Most participants (81.82%) also use other MMAs showing that Whatsapp is not the only well-established MMA. The reason is that competitive mobile messaging applications (e.g., Facebook Messenger, Skype) provide additional or different features than Whatsapp [19].

Users	Purpose
98%	Private
92%	Organization
75%	Fun/Entertainment
50%	Important Issues
33%	Profession

IV. Studies and Findings

1. The number of users using whatsapp mobile application
2. Age groups of users using whatsapp
3. Average message users prefer more to use in whatsapp like text messages, audios messages and calling features

Age	Type of users	Results in %
17-25	College Students	18%
26-35	Working Peoples	29%
36-45	Business Peoples	24%
46-65	Retired Jobs	11-13%
65 +	Very Old aged	5%

3.1 Internet Users in India

As a Gregorian calendar month 2016, India has Quantifiable 432 million net users. This except, doesn't take into account the impact of termination. It's quantifiable that by 2017, net users in India square measures most likely to be in an exceedingly

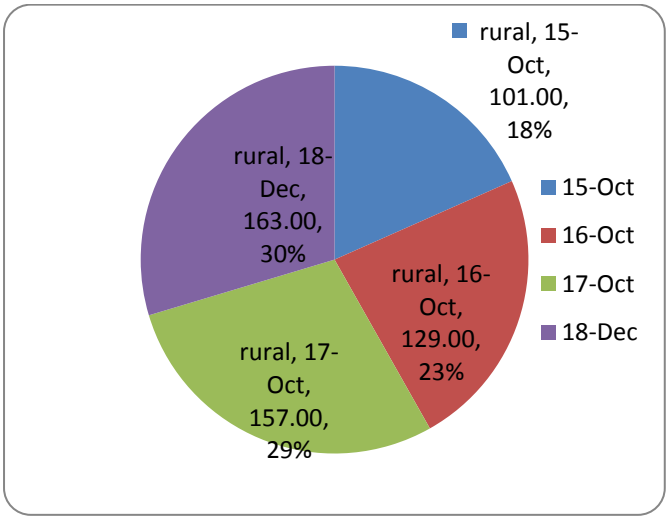
vary of 450-465 million. The report finds that the general net penetration in India is around 31 presently [26].

3.2 Internet Users in Rural and Urban Areas

In Urban India, the web users has adult by 7% from October 2015-2016 to succeed in associate degree estimated 263 million. It's expected to growth to succeed in user base in the range of 275-285 million by June 2017 [26].

Rural Areas:

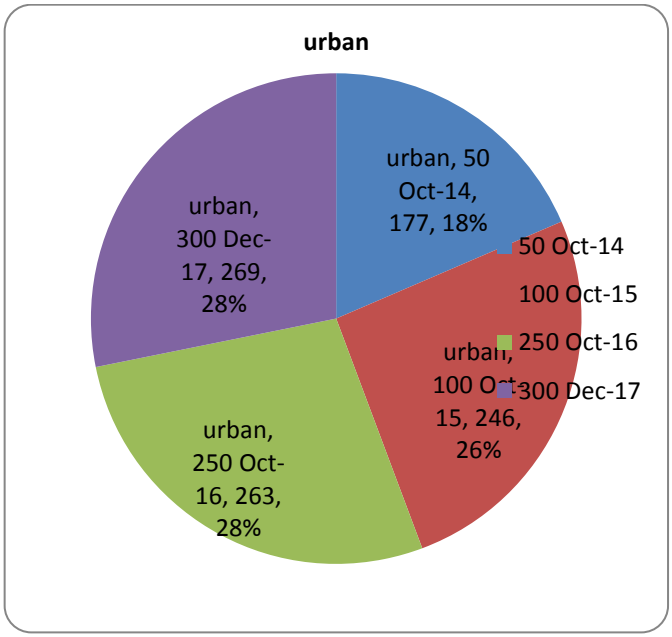
Estimated Range	Year	Rural (Results in millions)
50	Oct 2014	101
100	Oct 2015	129
250	Oct 2016	157
300	Dec 2017	163



Urban Areas:

Estimated Range	Year	Urban (Results in millions)
50	Oct 2014	101
100	Oct 2015	129
250	Oct 2016	157
300	Dec 2017	163

Estimate Range	Years	Usages (In millions)
100	Oct 2014	278
200	Oct 2015	375
300	Oct 2016	420
400	Dec 2016	432
500	June 2017	465

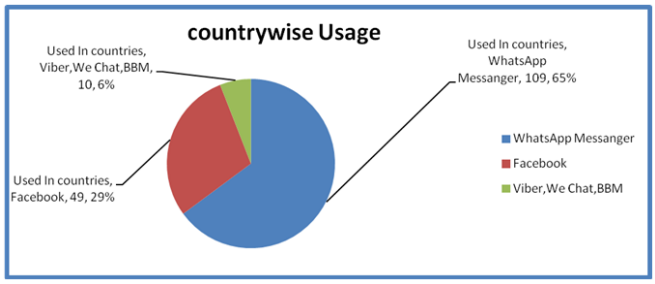


In Rural Asian Country, the net users have matured at the speed of 22% form 2015-2016, to reach associate degree quantifiable 157 million. The numbers area unit expected area unit expected to achieve in the range of 170-180 million by June 2017 [26].

INDIA	PENETRATION IN	
	59 % Urban Ever internet uses	17% Rural

3.3 Analyses Based on World Wide

Whatsapp is that preferred app everywhere the globe and is employed in 109 countries or 55.6% of the globe. The countries embody Asian nation, Brazil, Mexico, Russia and plenty of different countries in South America, Europe, Africa, Asia and Oceania presently has over one billion monthly active users. In India over 70 million individuals use the electronic communication service. Of the 187 countries that similar net a Britain based data Technology Company examined; Whatsapp was a globe leader claiming 109 countries. "Facebook messenger app came in second overall, claiming 49 countries as well as Australia, Canada and also the US, Viber was the sole different electronic communication app to say 10 or a lot of countries," the report aforementioned Viber has sturdy quality in Japanese Europe and is that the high app in Belorussia, Moldova, Ukraine, among other countries and as of April 2016, viber was put in on sixty five % of all golem devices in state. Line, Wechat and wire are 3 different electronic communication apps claiming multiple countries with china, Iran and Japan representing exploitation one among these apps.



Instant Messaging App	Used In countries per time	Countries
WhatsApp Messanger	109 (leader in apps)	India, Brazil, Mexico, Russia and many other countries in South America, Europe, Africa, Asia and Oceania.
Facebook	49 second	Australia, Canada and the US
Viber,We Chat,BBM	10	China, Iran , Japan ,Indonesia

3.4 Monthly active user of only whatsapp worldwide between april 2013 to july 2017

This particular data depicts the usage how many users actively used this particularly app according to month wise.

3.5 Whatsapp messenger – combined ios and google play downloads by various countries between januray 2012 and 2014

month	users(in milloion)	result
april(2013)	250	200
august(2013)	500	330
apri(2014)	750	500
jan(2015)	1000	725
feb(2016)	1250	1000
july(2017)	1500	1300

This particular data analysis states that's how much amount of users have downloaded this app for the usage purpose from various sources. This particular data shows the percentage of downloads.

countries	Downloads
BRAZIL	10
INDIA	10
UNITED STATES	9
MEXICO	9
SPAIN	6
GERMANY	6
OTHERS	50

3.6 Analysis of whatsapp message reply time

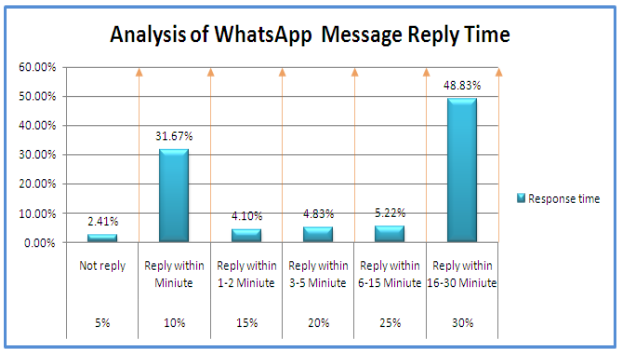
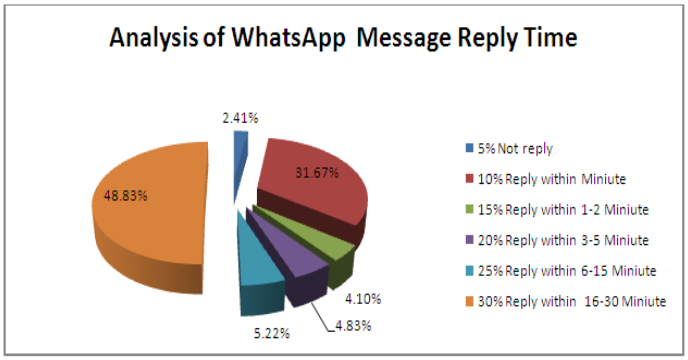


Fig Analysis of Whatsapp Message Reply Time

0%	Analysis of Whatsapp Message Reply Time	Response time
5%	Not reply	2.41%
10%	Reply within Minute	31.67%
15%	Reply within 1-2 Minute	4.10%
20%	Reply within 3-5 Minute	4.83%
25%	Reply within 6-15 Minute	5.22%
30%	Reply within 16-30 Minute	48.83%

Analysis of Whatsapp Message Reply Time

We then studied the statistical distribution of the messages' attributes starting with the average response time (time elapsed between a message and a consecutive one when in conversation). Please note that the average response time is quite short. Nearly 1/3 (31.67%) of all messages are responses that were composed within 1 minute! This finding again confirms previous claims that Whatsapp has become a replacement to traditional SMS messaging, as most participants answer their messages quite quickly, some- thing that is expected within SMS messaging.



3.7 The distribution of messages per time of day

The distribution of the messages throughout the day, which is visually represented in Figure As expected, very few messages were sent overnight with under 5% (4.36%) being sent between midnight and 4:00 A.M. and only 2.37% being sent between sent between 4 and 8 A.M. Note that fewer number of messages were sent between 8:00 and noon (18.04%) compared to approximately 25% of all messages being sent in the other 4 hour intervals. In fact, we note no significant difference in the number of messages being sent in these three intervals (p-score>0.1)while a significantly smaller number messages were sent between 8:00 and 12 P.M. (p-score<<0.01).

	Total	Male	Female	Higher Value
Participants	92	37.00	55	Female
AvgSent/Day	42.97	33.42%	49.4	Female
AvgRec/Day	103.15	97.18%	107.17	Female
AvgMsg/Day	146.13	130.60%	156.57	Female
Ratiosen/Rcv	0.52	0.48%	0.54	Female
AvgNumgroup	73.62%	75.24%	72.53	Male
% Group of 2	73.41%	72.53%	74.01%	Female
% Group of 3-5	9.64%	9.96%	9.43%	Male
% Group of 6-10	6.36%	5.85%	6.71%	Female
% Group of 11-20	5.27%	5.86%	4.87%	Male
% Group of 21-50	4.52%	4.57%	4.49%	Male
% Group of 51+	80.00%	1.23%	0.50%	Male

Table contains several additional gender related in sights. First, we found that women on average sent and received more messages than men. Women sent and received nearly 150 messages a day while men sent and received approximately 130 messages, a difference of 15%. Of these messages, women sent on average almost 50 messages a day and received over 107 messages while men sent on average 33.4 messages a day and received about 97. Both genders have a similar 1:2 ratio between sent and received messages. Second, while on average both genders participate in a similar number of conversations, the distribution of the various group sizes between the genders is different. Women are active in more smaller conversation groups (74.01% versus 72.53% in groups with two participants), but men are more active in larger groups (5.86% for men versus 4.87% for women in groups of 11-20, 4.57% versus 4.49% in groups of 21-50 and 1.23% versus 0.5% in groups bigger than 50). Overall, we found that there were significantly different Whatsapp usage patterns between different genders and age groups. Table provides details to support this claim where we present the general statistics of two different demographic groups:

1) Men and Women

2) Whatsapp users younger than 25 (the median age) and older than 35 (significantly above the median age).

V. CONCLUSION

Social media has emerged as a cloud nine in disguise and helps us to take care of the updates from friends, family and associates. Social media is evolving within the world at in no time pace and affecting individuals in varied ways. It has created a way of belongingness, closeness and effectiveness with friends and relatives. This study has open that being a medium of mass communication; it additionally has adverse impact on the life style and culture of youth particularly in their studies. It affects their language and moreover spoils their writing skills and grammatical construction of sentences. This work represents the analysis of Whatsapp messages. We tend to collect the millions of messages from the participants and differentiated between different varieties of users and group usages of network. Through this analysis we tend to found that several of messages and group characteristics significantly differed across users of different demographics like gender and age. The distribution of the message throughout the day was seen as very few messages were sent overnight with under 5% (4.36%) being sent between midnight and 4 am and only 2.37% being sent between sent between 4 A.M and 8 A.M if we come to the parameters of male female bases it's been overviewed that females tend to use whatsapp more with comparison of males now, generally concluded from the reviews the age group 21 to 37 tends to take more advantage of this app.

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