Frequency of using WhatsApp Messenger among College Students in Salem District, TamilNadu

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Abstract

In the present scenario a transformation of the mobile phone from a status symbol to a necessity has occurred because of the countless benefits that a mobile phone provides as a personal diary, email dispatcher, calculator, game player, camera, music player, etc. The younger generation is the latest consumer of the mobile phones, user of different applications in mobile phones and under the age group of 25 years. Thus the researcher decided to conduct the study in different colleges as the college going students started using mobile phones quite frequently as most of them reside in the hostels. Day-scholar students also want to be in constant touch with their family members and friends while studying in colleges. Therefore, the aim of this study is to analyze the frequency of using WhatsApp Messenger by college students for different purposes. This study focused on six purposes like Sending Images, Sending Videos, Chatting, Group Chatting, Voice Chatting and International Chatting. Hence, a descriptive research was conducted to find out the frequency of using WhatsApp Messenger by college students who use mobile phone and internet connection in Salem District, TamilNadu and the findings of this study would be beneficial to the application developers and mobile phone marketers.

Keywords: Mobile Phone, Mobile Application, WhatsApp Messenger

Introduction

The latest research from GlobalWebIndex shows that Chinese messaging platform WeChat has seen the most rapid growth in active users aged between 16 and 19. The other big wins have been for video sharing app Vine, owned by Twitter and the mobile app for photo-sharing app Flickr. The ephemeral photo-sharing app Snapchat is also growing strongly. "There is a very clear story with the big winners being closed messaging and video-and-photo sharing apps," said Tom Smith, CEO of GlobalWebIndex. Even Facebook Messenger sees more active usage (an 86 per cent increase), than Facebook itself, where teenage active users fell by 17 per cent in the same period, according to the estimates. Instagram saw an 85 per cent

increase in active users and messaging tool WhatsApp saw an 81 per cent growth. Active usage of WhatsApp, the messaging application that Facebook acquired for $19 billion, grew 230 per cent in North America in 2013, according to a recent report by GlobalWebIndex. WhatsApp Messenger is a mobile application which provides instant messaging subscription service for smartphones. In addition to text messaging, users can send each other images, videos; audio media messages as well as they could share their location using integrated mapping features. According to Parmy Olson (2013), as of November 10, 2013, WhatsApp had over 190 million monthly active users, 400 million images are shared each day and the messaging system handles more than   10 billion messages each day. This shows that the usage of WhatsApp Messenger is growing very fast.

Review of Literature

Olanof, Drew (2012) highlighted the fact that competing with a number of Asian-based messaging services (like LINE, KakaoTalk, WeChat), WhatsApp handled ten billion messages per day in August 2012, growing from two billion in April 2012. According to 'The Financial Time – London' (2013), WhatsApp has done with SMS on mobile phones as what Skype did to international calling to landlines. Olanof, Drew (2012) indicated that WhatsApp is a frequent case study of networks that grows on top of the phone book and messaging apps have gained rapid traction by using the native phone book network to grow rapidly. According to Jon Rusell (2013) WhatsApp was first launched in 2009, the service has a simple design that makes it easy for even the least tech-savvy folk to use. According to Jan Koum (2013), WhatsApp has claimed that 400 million active users use the service each month.

Objective of the Study

To study the frequency of using WhatsApp Messenger among college students in Salem District.

Statement of the Problem

The survey of mobile internet users found that the WhatsApp has its active user base in Asia (101 million), Europe (45 million), Latin America (38 million), and the Middle East/Africa (15 million). In terms of active use—those who say they have used the app in the last month, rather than just having it installed on their phone—WhatsApp can now boast more than 200 million users globally. That is an impressive 175 per cent rise in 2013. Hence the researcher wants to study the frequency of using WhatApp Messenger among college going students. So, this paper examines the variation in the 'Period of using WhatsApp Messenger', 'Number of friends using WhatsApp Messenger' and 'Time of using WhatsApp Messenger' by college going students in Salem District, TamilNadu.

Research Methodology

The study is descriptive in nature. Only primary data have been used for the purpose of analysis and these data have been collected through a field survey with the help of questionnaires. The questionnaire covers the frequency of using WhatsApp Messenger for six different purposes like 'Sending Images, Sending Videos, Chatting, Group Chatting, Voice Chatting and International Chatting. For the selection of the sample respondents, the researcher approached 20 colleges in and around Salem District. The sample size of the study was 270 respondents. The researcher has used simple random sampling for the study. The sample area is Salem District, Tamil Nadu. The sample unit is the students of 20 different colleges in Salem district. A five point Likert Scale was used and the respondents were required to give scores of '5' for 'Always' or '4' for 'Very Often' or '3' for 'Sometimes' or '2' for 'Rarely' or '1' for 'Never' for each purpose mentioned in the questionnaire. The Multiple Regression Analysis has been used to analyze the collected data.

Data Analysis and Interpretation

In this section, an attempt has been made to examine the frequency of using WhatsApp Messenger among college going students in Salem District. To examine this, the researcher has used Multiple Regression Analysis. The results of this analysis are as follows:

Predicting *'Frequency of using WhatsApp Messenger'* based on the combination of *'Period of using WhatsApp Messenger'*, *'Number of Friends using WhatsApp Messenger'* and *'Time of using WhatsApp Messenger'*

Multiple Regression is a statistical technique that allows us to predict someone's score on one variable on the basis of their scores on several other variables. Hence, the researcher is interested in predicting the 'Frequency of using WhatsApp Messenger' with the help of Multiple Regression Analysis and for this purpose the researcher has framed the following hypotheses:

$H_0: \beta_1 = \beta_2 = \beta_3 = 0$
$H_1:$ *At least one $\beta_i \neq 0$*
Where, β_1 = Period of using WhatsApp Messenger;
β_2 = Number of friends using WhatsApp Messenger; and
β_3 = Time of using WhatsApp Messenger.

The table given below discloses the variation in the '*Frequency of using WhatsApp Messenger*' (dependent variable) with the combination of '*Period of using WhatsApp Messenger*', '*Number of friends using WhatsApp Messenger*' and '*Time of using WhatsApp Messenger*' (independent variables):

Table 1 : Model Summary

Category	Frequency of using WhatsApp Messenger for:	R	R Square	Adjusted R Square	Std. Error of the Estimate	Variance (%)
1	Sending Images	.541[a]	.293	.285	.972	29.3
2	Sending Videos	.507[a]	.257	.248	1.013	25.7
3	Chatting	.458[a]	.210	.201	1.044	21.0
4	Group Chatting	.570[a]	.325	.317	1.111	32.5
5	Voice Chatting	.561[a]	.315	.307	.907	31.5
6	International Chatting	.610[a]	.372	.365	1.185	37.2

The model summary table above clearly states that, out of six categories under '*Frequency of using WhatsApp Messenger for*', the highest co-efficient of multiple determinations are 0.372, 0.325, 0.315 and 0.293. This indicates that, about 37.2 per cent, 32.5 per cent, 31.5 per cent and 29.3 per cent of the variation in the 'Frequency of using WhatsApp Messenger' (dependent variable) categories like 'International Chatting', 'Group Chatting', 'Voice Chatting' and 'Sending Images' are explained by '*Period of using WhatsApp Messenger*', '*Number of friends using WhatsApp Messenger' and 'Time of using WhatsApp Messenger*' (Independent Variables).

The table given below provides the statistical inference for predicting the '*Frequency of using WhatsApp Messenger*' based on the combination of '*Period of using WhatsApp Messenger*', *'Number of friends using WhatsApp Messenger' and 'Time of using WhatsApp Messenger*'.

Table 2 : Predicting 'Frequency of using WhatsApp Messenger' based on the combination of
'Period of using WhatsApp Messenger', 'Number of friends using WhatsApp Messenger' and
'Time of using WhatsApp Messenger'
ANOVA[b]

Category	Regression and Residual	Sum of Squares	df	Mean Square	F	Sig.	Statistical Inference
	Frequency of using WhatsApp Messenger:						
1	Regression	104.128	3	34.709	36.734	.000[a]	$F(3, 266) = 36.734$,
	Residual	251.339	266	.945			$P< 0.05$
	Total	355.467	269				Significant
2	Regression	94.281	3	31.427	30.601	.000[a]	$F(3, 266) = 30.601$,
	Residual	273.185	266	1.027			$P< 0.05$
	Total	367.467	269				Significant
3	Regression	77.147	3	25.716	23.583	.000[a]	$F(3, 266) = 23.583$,
	Residual	290.053	266	1.090			$p < 0.05$
	Total	367.200	269				Significant

4	Regression	158.203	3	52.734	42.706	.000[a]	$F(3, 266) = 42.706$,
	Residual	328.464	266	1.235			$p < 0.05$
	Total	486.667	269				Significant
5	Regression	100.403	3	33.468	40.688	.000[a]	$F(3, 266) = 40.688$,
	Residual	218.797	266	.823			$p < 0.05$
	Total	319.200	269				Significant
6	Regression	221.670	3	73.890	52.581	.000[a]	$F(3, 266) = 52.581$,
	Residual	373.797	266	1.405			$p < 0.05$
	Total	595.467	269				Significant

Source: Computed from Primary Data;

a. *Predictors: (Constant), 'Period of using WhatsApp Messenger', 'Number of friends using WhatsApp Messenger' and 'Time of using WhatsApp Messenger';*

b. *Dependent Variable: Frequency of using WhatsApp Messenger.*

The ANOVA table above insisted to reject the null hypothesis for all categories since their p-values are < 0.05 and it is clear that at $\alpha = 0.05$ level of significance, there exists enough evidence to conclude that at least one of the three predictors is useful for predicting all categories of 'Frequency of using WhatsApp Messenger' and therefore the model is considered useful.

The table given below helps to determine the usefulness of variables like *'Period of using WhatsApp Messenger', 'Number of friends using WhatsApp Messenger' and 'Time of using WhatsApp Messenger'* in predicting the '*Frequency of using WhatsApp Messenger' for* various purposes:

Table 3 : Determining the usefulness of the variables 'Period of using WhatsApp Messenger', 'Number of Friends using WhatsApp Messenger' and 'Time of using WhatsApp Messenger' in predicting the 'Frequency of using WhatsApp Messenger for different purposes'

Coefficients[a]

Category	Variables	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Statistical Inference
		B	Std. Error	Beta			
	Determining the usefulness of Independent Variables in predicting the 'Frequency of using WhatsApp Messenger for':						
1	(Constant)	3.971	.182		21.820	.000	
	Period of using WhatsApp Messenger	-.181	.059	-.159	-3.051	.003	Significant
	Number of friends using WhatsApp Messenger	-.358	.040	-.486	-8.851	.000	Significant
	Time of using WhatsApp Messenger	-.013	.028	-.027	-.487	.627	Not Significant
2	(Constant)	4.841	.190		25.514	.000	
	Period of using WhatsApp Messenger	-.288	.062	-.250	-4.664	.000	Significant
	Number of friends using WhatsApp Messenger	-.288	.042	-.384	-6.830	.000	Significant
	Time of using WhatsApp Messenger	-.028	.029	-.055	-.976	.330	Not Significant
3	(Constant)	3.657	.196		18.705	.000	
	Period of using WhatsApp Messenger	-.360	.064	-.312	-5.648	.000	Significant
	Number of friends using WhatsApp Messenger	-.082	.043	-.109	-1.878	.062	Not Significant
	Time of using WhatsApp Messenger	-.124	.030	-.241	-4.171	.000	Significant

4	(Constant)	4.438	.208		21.331	.000	
	Period of using WhatsApp Messenger	-.420	.068	-.316	-6.196	.000	Significant
	Number of friends using WhatsApp Messenger	-.360	.046	-.418	-7.793	.000	Significant
	Time of using WhatsApp Messenger	-.021	.032	-.036	-.677	.499	Not Significant
5	(Constant)	5.220	.170		30.736	.000	
	Period of using WhatsApp Messenger	-.251	.055	-.233	-4.541	.000	Significant
	Number of friends using WhatsApp Messenger	-.172	.038	-.246	-4.555	.000	Significant
	Time of using WhatsApp Messenger	-.161	.026	-.335	-6.236	.000	Significant
6	(Constant)	5.218	.222		23.509	.000	
	Period of using WhatsApp Messenger	-.250	.072	-.170	-3.451	.001	Significant
	Number of friends using WhatsApp Messenger	-.569	.049	-.597	-11.544	.000	Significant
	Time of using WhatsApp Messenger	.097	.034	.149	2.890	.004	Significant

a. *Source: Computed from Primary Data;*

b. *Predictors: (Constant), 'Period of using WhatsApp Messenger', 'Number of friends using WhatsApp Messenger' and 'Time of using WhatsApp Messenger';*

The coefficient table above clearly states that, the variable *'Period of using WhatsApp Messenger'* is useful for predicting all the categories of 'Frequency of using WhatsApp Messenger' as their p-values are < 0.05. But the variable *'Number of friends using WhatsApp Messenger'* is useful for predicting 'Frequency of using WhatsApp Messenger' categories 1,2,4,5 and 6. In the same way, the variable *'Time of using WhatsApp Messenger'* is useful for predicting 'Frequency of using WhatsApp Messenger' categories 3, 5 and 6 as their p-values are < 0.05.

This shows that, the variable 'Period of using WhatsApp Messenger' is a good predictor of the categories 'Sending Images', 'Sending Videos', 'Chatting', 'Group Chatting', 'Voice Chatting' and 'International Chatting'. The variable 'Number of friends using WhatsApp Messenger' is also a good predictor of all categories except the category 'Chatting'. But, the variable 'Time of using WhatsApp Messenger' is a good predictor of only a few categories like 'Chatting', 'Voice Chatting' and 'International Chatting'.

The sign of the co-efficient of the variable 'Period of using WhatsApp Messenger' is negative in all categories. The sign of the co-efficient of the variable 'Number of friends using WhatsApp Messenger' is negative in the categories 1,2,4,5 and 6. But the sign of the co-efficient of the variable 'Time of using WhatsApp Messenger' is negative in the categories 3 and 5 and it is positive in the category 6. This helps us to predict the following equations based on the unstandardized coefficient:

$$SI_i = 3.971+(-0.181)Period_i+(-0.358)Friends_i+(-0.013)Time_i \, ;$$
$$SV_i = 4.841+(-0.288)Period_i+(-0.288)Friends_i+(-0.028)Time_i \, ;$$
$$C_i = 3.657+(-0.360)Period_i+(-0.082)Friends_i+(-0.124)Time_i \, ;$$
$$GC_i = 4.438+(-0.420)Period_i+(-0.360)Friends_i+(-0.021)Time_i \, ;$$
$$VC_i = 5.220+(-0.251)Period_i+(-0.172)Friends_i+(-0.161)Time_i \, ;$$
$$IC_i = 5.218+(-0.250)Period_i+(-0.569)Friends_i+(-0.097)Time_i \, ;$$

Where,

   $i = 1 \ldots\ldots\ldots 270 \, ;$

Period$_i$ = 1 for < 2 months, 2 for 2 – 4 months, 3 for 5 – 6 months, 4 for 7 – 8 months, 5 for 9 – 10 months and 6 for >10 months ;

Friends$_i$ = 1 for < 20 friends, 2 for 21– 40 friends, 3 for 41– 60 friends, 4 for 61 – 80 friends, 5 for 81 –100 friends and 6 for >100 friends ;

Time$_i$ = 1 for 6.01 am – 9.00 am, 2 for 9.01 am –1.00 pm, 3 for 1.01 pm –5.00 pm, 4 for 5.01 pm – 9.00 pm, 5 for 9.01 pm – 1.00 am and 6 for 1.01 am – 6.00 am.

The variable 'SI_i - Sending Images' highlights that for every one unit decrease in '$Period_i$' and '$Friends_i$', the predicted SI_i decrease by 0.181 and 0.358. This means that the beginners of using WhatsApp Messenger usually send images to minimum number of friends and the long-time users of WhatsApp Messenger usually send images to a maximum number of friends.

The variable 'SV_i - Sending Videos' indicates that for every one unit decrease in '$Period_i$' and '$Friends_i$', the predicted SV_i decrease by 0.288 each. This insists that the beginners of using WhatsApp Messenger usually send videos to minimum number of friends and long-time users of WhatsApp Messenger usually send videos to a maximum number of friends.

The variable 'C_i – Chatting' denotes that for every one unit decrease in 'Period$_i$' and 'Time$_i$', the predicted C_i decrease by 0.360 and 0.124. This has confirmed that the students using WhatsApp Messenger for < 2 months, usually do chatting during 6.01 am – 9.00 am and students using WhatsApp Messenger for more than 10 months usually do chatting during 1.01 am – 6.00 am.

The variable 'GC_i - Group Chatting' indicates that for every one unit decrease in 'Period$_i$' and 'Friends$_i$', the predicted GC_i decrease by 0.420 and 0.360. This means that the beginners of using WhatsApp Messenger usually do group chatting with minimum number of friends and long-time users of WhatsApp Messenger usually do group chatting with maximum number of friends.

The variable 'VC_i - Voice Chatting' indicates that for every one unit decrease in 'Period$_i$', 'Friends$_i$' and 'Time$_i$', the predicted VC_i decrease by 0.251, 0.172 and 0.161. This means that the students using WhatsApp Messenger for < 2 months and having < 20 friends usually do voice chatting during the time period 6.01 am – 9.00 am and students using WhatsApp Messenger for > 10 months having more than 100 friends usually do voice chatting during 1.01 am – 6.00 am.

The variable 'IC_i - International Chatting' denotes that for every one unit decrease in 'Period$_i$' and 'Friends$_i$', the predicted IC_i decrease by 0.250 and 0.569 after controlling for 'Time$_i$'. This highlights that the students using WhatsApp Messenger for < 2 months and having < 20 friends usually do international chatting during the time period 1.01 am – 6.00 am and students using WhatsApp Messenger for > 10 months and having more than 100 friends, usually do international chatting during 6.01 am – 9.00 am.

Findings of the Study

➢ Beginners of using WhatsApp Messenger usually send images, videos and do group chatting with minimum number of friends and long-time users usually send images, videos and do group chatting with maximum number of friends.

➢ Beginners of using WhatsApp Messenger usually do chatting through WhatsApp Messenger during 6.01 am to 9.00 am and long-time users usually do chatting during 1.01 am to 6.00 am.

➢ Beginners of using WhatsApp Messenger, having less number of friends usually do voice chatting through WhatsApp Messenger during 6.01 am to 9.00 am and long-time users usually do chatting during 1.01 am to 6.00 am.

➢ Beginners of using WhatsApp Messenger, having less number of friends usually do international chatting through WhatsApp Messenger during 1.01 am to 6.00 am and long-time users having more friends usually do international chatting during 6.01 am to 9.00 am.

Suggestions

This research clearly indicates that, college going students are started sending images and videos with the help of WhatsApp Messenger. Further, they do chatting, group chatting, video chatting and international chatting regularly through WhatsApp Messenger. Hence, it is suggested that, awareness could be created among all the people irrespective of their age, educational background, gender, occupation etc. If this could be done, not only the college going students but all the people could reap the benefit of using WhatsApp Messenger.

Conclusion

WhatsApp Messenger is a simple, fast and reliable service used by over 500 million people on every major mobile phone platform. More than one million people sign up for WhatsApp Messenger every day and it is on its way to connect more people in the world. The critical issue that was researched into is the frequency of using WhatsApp Messenger for different purposes among college students. This study concludes that frequency of using WhatsApp Messenger among college students is growing very fast. The study would be highly useful to researchers and mobile phone application developers in overcoming the problems of present WhatsApp Messenger application and in formulating strategies for their further application developments.

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