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Mobile messaging through android phones: an empirical study to unveil the reasons behind the most preferred mobile messaging application used by college going students

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Abstract

Mobile chatting is the most popular services over mobile phone networks. This paper intended to explore customers' intention to use Mobile Messaging Applications (MMA) in India. The current study found that perceived expressiveness, perceived usefulness, perceived enjoyment and assortment of services to have significant relationship with intention to use MMA. This indicates that Indian students use mobile messaging to express themselves, to pass the time and assortment of the services in MMA. Perceived usefulness also plays a significant role in student's intention to use MMA.

Keywords: *Mobile Messaging Applications, Mobile Messaging Apps, MMA, expressiveness, usefulness, enjoyment, assortment of services.*

1. Introduction

"The recent convergence of communication and information technologies has created possibilities unthinkable only a few years ago" Venkatesh(1998). "Mobile phones, email, SMS (Short Message Service) and Instant Messenger are new communication technologies, which all contribute to the "death of distance" Cairncross (2001). Instant Messenger is a proprietary, simplified version of Internet Relay Chat, which allows two or more people to carry on a conversation, in real-time, using text based messages with context awareness. Instant Messenger is used to avoid boredom, to socialize, Lai et. al. (2002) and to maintain contact with casual acquaintances, Lee et. al. (2002). Leung (2001) found seven motives for messenger use among college students: affection, inclusion, sociability, entertainment, relaxation, escape and fashion. Mathieson (1991) found people use these mediums to sustain a sense of connection.

A lot of portals are available which provide messengers free of charge. Since they are free of charge, they are the preferred services by millions of people around the world. Some of the Mobile Messaging Applications those are generally used are (in an alphabetical manner):

1. BBM
2. Chat On
3. Chat Plus
4. E-buddy messenger
5. Facebook Messenger
6. G Talk
7. Go SMS Pro
8. Hike
9. Kik
10. Line
11. Message Me
12. Nimbuzz
13. Skype
14. Tango
15. Text Plus
16. Twoo
17. Viber
18. We Chat
19. WhatsApp
20. Yahoo Messenger

2. Conceptual And Theoretical Framework

Nurvitadhi (2002), reported that each country had a unique characteristics of mobile phone usages, such as the differing reasons for mobile phone ownership and showed that respondents think that their mobile phone is very useful with e-mail/SMS capability as the most popular features used. According to Hoflich (2005), SMS is very popular among teenagers where it is seen as a low-priority channel of communication. Kopomaa (2005) argued that due to the cheapness and asynchronous text messaging is priority channel of communication. In addition, Donna and Fraser (2004) reported that using

SMS indirectly changes respondents' attitude. It also revealed that SMS service is easy to use, useful and the texts received from friends are able to affect their emotions and feelings. Another study by Pedersen and Nysveen (2002) found that factors such as easy to use, useful, fun and expressive nature are the main determinants for using messengers. Anckar et al. (2002) found that willingness of mobile applications usage like SMS services has been very high. Mobile messaging services can be defined as mobile person-to-person text messages being mediated or displayed on a medium. A few years back, the most popular mobile chat services were accessed using SMS-based text messaging. Users intend to use mobile chat services because of several factors that can change their attitude and behavior. Intention to use the service is based on the behavioral intention, and is defined as "the strength of one's intention to perform a specified behavior" (Fishbein and Ajzen, 1975). Perceived expressiveness is defined as individual's ability to express their emotions or identity (Cassidy et al., 1992). Perceived Expressiveness influences intention to use mobile chat services. Perceived enjoyment refers to the extent to which the activity of using the technology is perceived to be enjoyable in its own right. (Davis et al., 1992). Perceived enjoyment influences intentions to use mobile chat services are stronger for women as compared to man. The effects of perceived usefulness on intention to use a technology are related to instrumental behavior (i.e., sociability, flirting and enjoyment). Cavus (2010), found that the Live Messenger free service is the most preferred messenger by the participating students. Wel et. al. (2012), found that perceived expressiveness, usefulness, ease of use, trust and assortment to have significant relationship with intention to use mobile chatting services.

3. Statement of Research Problem

This study has been undertaken in order to quantify the percentage of android users using Mobile Messaging Applications. Furthermore, I wanted to figure out most preferred Mobile Messaging Application used by college going students and to explore the reasons behind most preferred Mobile Messaging Application. In the end, I shall try to rank the top five Mobile Messaging Applications used by college students.

4. Research Methodology

For the current study, college students in the age group of 18 to 25 were chosen. This category was chosen on the basis of observations and available literature. Communication tools such as the Messenger, e-mail, and forums are becoming very attractive means of establishing low-cost and reliable communication across the Globe among students. It was indicated that the Live Messenger free service is the most preferred messenger by the participating students. (Cavus 2010). Online questionnaires prepared in Google Drive were sent to the target population. A pilot study was carried out among 20 respondents, the questionnaire was revised after careful consideration of the comments and suggestions from the pilot sample. Further testing was carried out in finalizing the questionnaire before final administration. 100 completely filled questionnaires were obtained in the time lag of three months. The universe chosen for this study was Patiala city. Data analyses were done with the help of SPSS 20.0. The reliability of the scale (Table I) was established by using Cronbach's Alpha which came out to be 0.905 that clearly described that the scale was reliable.

Table I: Reliability Statistics for Scale Used

Cronbach's Alpha Based on Standardized Items	N of Items
.891	15

Data were collected using a research instrument which was divided into several sections. 50% students were those who were pursuing post-graduation and rest 50% were from graduation. For all concepts, the respondents were asked to rate their level of agreement with statements using five-point scales ranging from "strongly agree" as '1' to "strongly disagree" as '5'. In consumer research, perceived expressiveness has been extended from individuals to products, indicating how well a product expresses values beyond instrumental utility (Mittal, 1994).

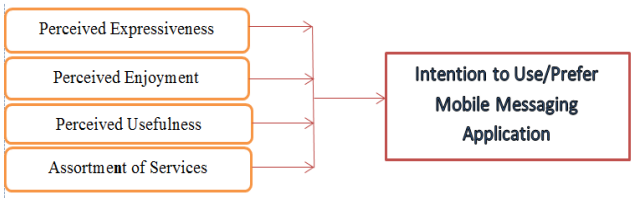

Figure I: Proposed Model for Research

Figure I demonstrates the proposed model for research, which clearly indicates that level of perceived expressiveness, perceived enjoyment, perceived usefulness, and assortment of services will decide the intention of customer to use or prefer Mobile Messaging Applications. The more you will feel expressiveness, enjoyment, usefulness and miscellaneous services are being provided with the MMA, more the customer will intend to use or prefer an MMA.

5. Results and Discussion

The variable set was examined by Exploratory Factor Analysis (EFA). It was performed with Principal Component Analysis followed by Varimax Rotation that allowed the resulting factors to correlate. The analysis results for rotated factor matrix are displayed in Table 2. Seven variables (i.e. ability items) did not obtain loadings

Table II: Rotated Component Matrix[a]

Phrases	Component			
	1	2	3	4
I use this App; [To pass the time when bored]	0.981			
I use this App; [To be entertained]	0.947			
I use this App; [To entertain others]	0.925			
I use this App; [To talk to someone special]	0.924			
I use this App; [To show off]	0.874			
I use this App; [To talk to groups formed in MMA]	0.84			
I use this App; [To feel less lonely]	0.741			
I use this App; [To get people to do something for me]	0.681			
I use this App; [To stay in touch]		0.935		
I use this App; [Easy to use]		0.801		
I use this App; [To communicate easily]		0.763		
I use this App; [To talk to people around the world.]			0.944	
I use this App; [To provide information]			0.934	
I use this App; [To share memories (pictures, videos etc.)]				0.914
I use this App; [It is free]				0.68
Coefficient alpha	0.96	0.825	0.913	0.733

of 0.40 or higher and thus those two factors were eliminated. Items had to obtain factor loadings of .40 or higher to be considered for inclusion in a particular factor (Garson, 2010; Hair, Anderson, Tatham & Black, 1998). Six factors were initially extracted but two factors did not obtain loadings of 0.40 or higher and hence those two factors were eliminated. Examination of the rotated factor loadings, the scree plot and eigen values indicated the optimal number of factors for the variable set was four. The four factors were as: 1) Perceived Enjoyment 2) Perceived Expressiveness 3) Perceived Usefulness 4) Assortment of Services.

Extraction Method: Principal Component Analysis

Rotation Method: Varimax with Kaiser Normalization

a. Rotation converged in 8 iterations.

Note: The phrases found in this table are the verbatim phrases found in the survey for the ability item. Although six factors were extracted, but two factors could not obtain loadings of 0.40 or higher, hence those two factors were eliminated and are not displayed in this matrix. Coefficient alpha reliability estimates for the factors are presented in the last row of the pattern matrix.

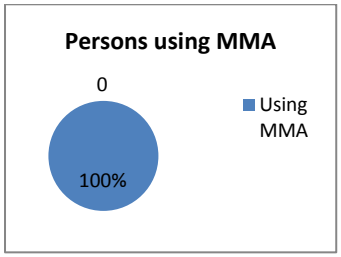

Figure II: percentage population using MMA on android phones

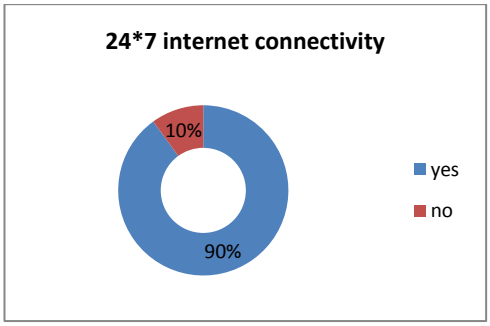

Figure III: percentage population having 24*7 internet connectivity

As shown in figure II that all the respondents were using Mobile Messaging Applications. 90% of the respondents were having 24*7 internet connectivity to their mobile phones so that they could use the MMAs anytime (refer Figure III).

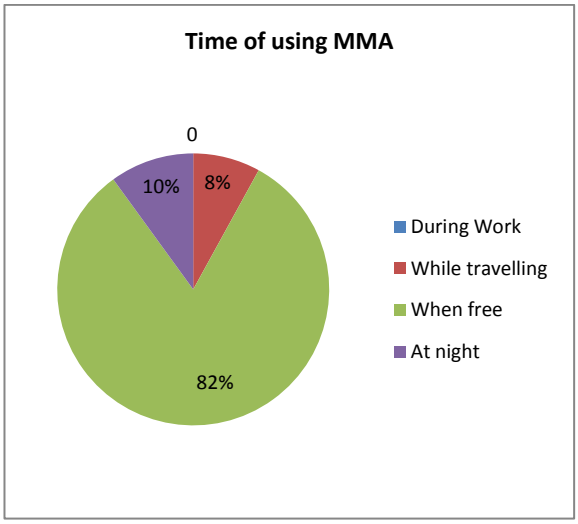

Figure IV: time when they use MMA most

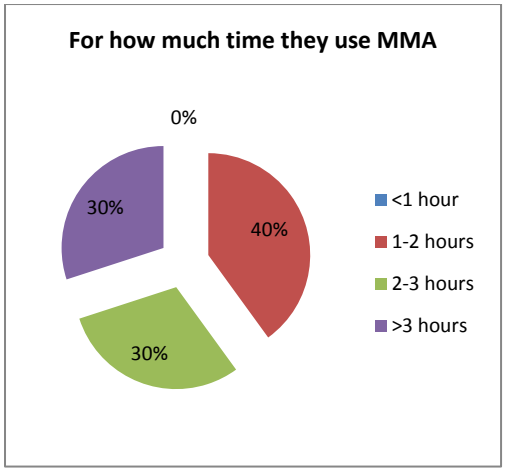

Figure V: percentage usage of MMA in hours

these Applications while they travel to places or at the time of night, Surprisingly, no respondent used MMAs for less than an hour, here amount of time, respondents used MMAs varied among them (Figure V).

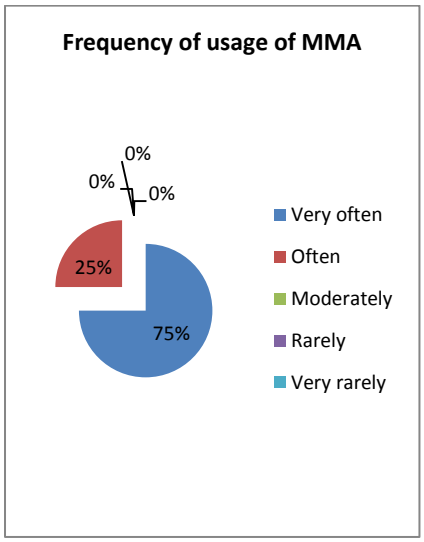

Figure VI: percentage frequency of using MMA

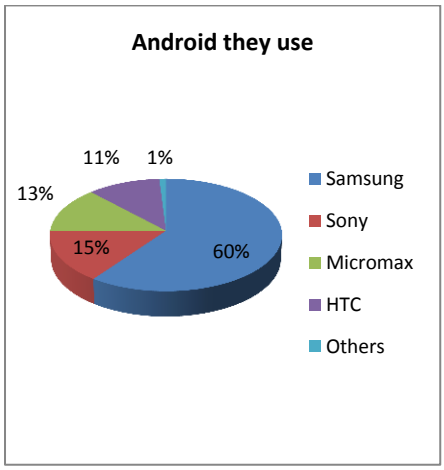

Figure VII: mobile brand they use

Another surprise was that most of the population was using MMAs too often, no moderately using or rarely using respondent was figured out (Figure VI). A large number of respondents were using Samsung android phones and a few were using Sony, HTC and Micromax. 1% of population was using other brands that are not so known (Figure VII). Most of the persons were using android phones from the last 2-3 years (Figure VIII).

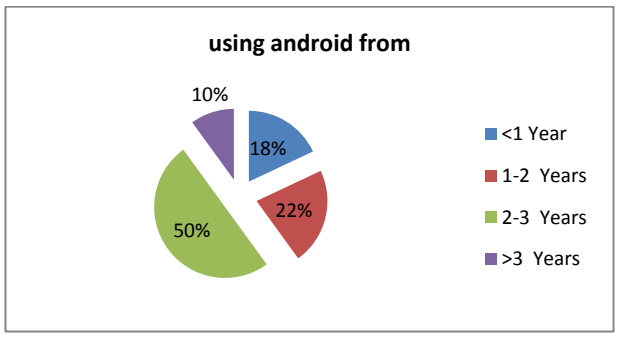

Figure VIII: for how long they have been using an android

After comparing male and females, I found almost same kind of response towards android phone usage while talking in context of Gaming, Messaging, Social Networking and Calling; a noticeable difference was there in context of using android for entertainment and informational purposes (Figure IX).

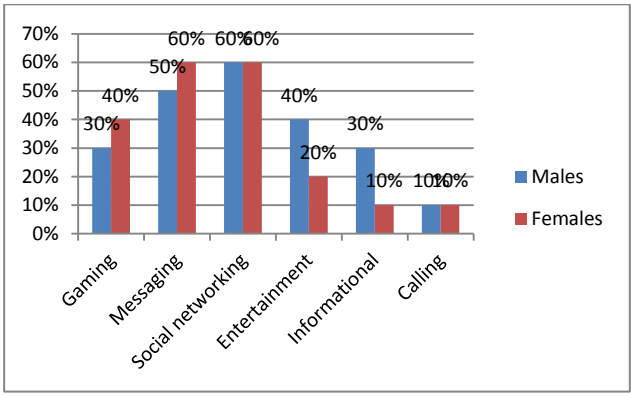

Figure IX: various services used through android phones

For the purpose of ranking the top five MMAs, on the basis of usage, it was viewed that which MMA is used mostly by respondents to communicate and to share pictures and other stuff, most popular MMA was "WhatsApp" and least popular was "hike". When asked about the favorite MMA from students, 98% of them answered WhatsApp. However, a list of top five MMAs can be generated with the help of Figure X, and the list is:

1. *WhatsApp* (as every android user is using this MMA): WhatsApp got the First rank! It is a cross platform messaging app founded in 2009 by veterans of yahoo! In addition to normal chat and instant messaging, one can exchange music, pictures, videos

and other media messages over mobile internet or connecting to Wi-Fi.

2. *Facebook Messenger*: Second rank went to Facebook Messenger is an instant messaging service and software application which provides text and voice communication. Integrated with Facebook's web-based Chat feature and built on the open-source., Messenger lets Facebook users chat with friends both on mobile and on the main website.
3. *Viber & Line*: (Third rank went to two Apps-as data showed that both these MMAs were used in same proportion):
   a) *Viber*: Developed by Viber Media, it is a proprietary cross platform messaging and voice over internet protocol designed for BlackBerry, Windows, Mac, Android, iOS, Symbian, BADA and recently launched its desktop version which syncs your contacts from your smartphone device and allows user to chat through desktop without using the smartphone.
   b) *Line*: Originally created for Android and iOS phones, it's extension is now available to windows phone and desktops also. BlackBerry version was made available in October 2012. Currently 150 million users are using this app which allows texting, exchange of pictures, audio messages and even crystal clear voice calls over internet all for free in over 230 countries. Compared to other apps, Line has better outreach when it comes to exchanging messages in colorful font with an option of using emoji and stickers.
4. *WeChat*: WeChat is at Fourth position. This app was designed in China for platforms like Symbian, Windows phone, Android and iOS with multiple language support and requires any network of 2G, 3G, 4G or even WiFi. Features like hold-to-talk voice messaging, broadcast messaging, photo video and location sharing can be done from this new app.

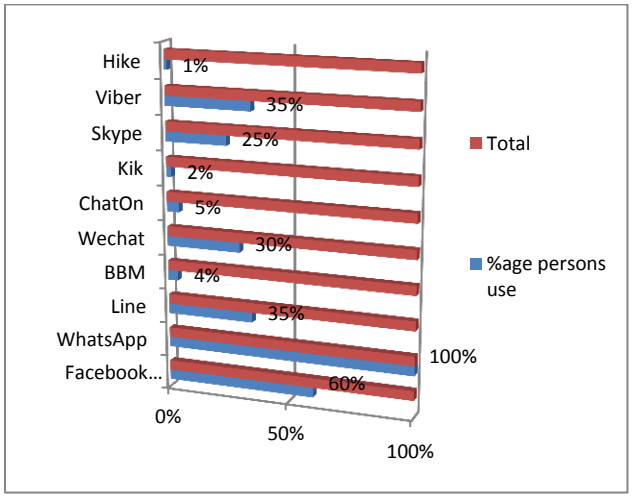

Figure X: percentage use of various MMAs

5. *Skype*: Last but not the least, Skype, makes voice calls and instant messages to anyone on Skype which supports many platforms like Android, iOS and personal computers. The network is operated by Microsoft and it features file sharing and videoconferencing. Skype to Skype calls are free over 3G and WiFi, while calling to landline and mobile phone are charged via debit based account system. If your device features front camera then enjoy live video chat and moreover it synchronize user's Microsoft accounts like Windows live messenger, Hotmail and Outlook accounts so that you can chat with the contacts from these accounts also.

Conclusions

The research was done to test the theoretical framework based on the previous study. Exploratory Factor Analysis extracted six factors initially, but two factors did not obtain loadings of 0.40 or higher and hence those two factors were eliminated. Examination of the rotated factor loadings, the scree plot and eigen values indicated the optimal number of factors for the variable set was four. The four factors were as: 1) Perceived Enjoyment 2) Perceived Expressiveness 3) Perceived Usefulness 4) Assortment of Services. Students are educated and aware with Mobile Messaging Applications and had adopted it in their daily routine. The most popular MMA was "WhatsApp" and least popular was "hike". Most of the respondents were having 24*7 internet connectivity to their mobile phones so that they could use the MMAs anytime. All possible variables were analyzed in the most appropriate ways in achieving success. In a nutshell, the Mobile Messaging Applications provider should have a thorough understanding of the factors influencing consumers' perception towards the Mobile Messaging Applications.

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