USERS' ACCEPTANCE OF MOBILE INSTANT MESSAGING: AN EMPIRICAL APPROACH TO IDENTIFYING THE CRITICAL SUCCESS FACTORS

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ABSTRACT-In recent time, a new wave of mobile communication service called Mobile Instant Messaging (MIM) has gained considerable momentum. MIM is a cutting edge technology that allows individual to communicate instantly with people all over the world in everyday life. Human communication is constantly changing; face to face communication is affected by the introduction of technology in communication. Mobile Instant messaging Application like WhatsApp, Facebook Messenger etc. allow mobile users to send real time text messages to individuals or group of friends at almost no cost. Fueled by mobile internet and smartphone growth, mobile messaging applications offers users an alternative to SMS based texting paired with social media element and increased features. Instant messaging market is considerably increasing. MIM application providers are giving various features to retain its users in this competitive environment. There are various factors which affect the user's satisfaction towards using a particular MIM application, so it is important to understand such factors. This study is an effort to explore the most preferred factors that influences the users' satisfaction towards particular Mobile Instant Messaging Application. A survey will be conducted among youngsters using MIM application of Patiala city using structured self-administered questionnaire to identify such factors. On the basis of analysis some valuable suggestions and recommendations will be put forward.

1.0   INTRODUCTION

India has become the world's second-largest smartphone market after China. The global telecommunications market is a fast-paced environment and companies are ensuring that they are right up-to-date with the latest technological developments if they want to remain competitive. Wide penetration of smartphones and mobile broadband access has increased the competitiveness of mobile instant messaging (MIM) as a significant communication alternative to the traditional short messaging system (SMS) (Ha et al., 2015). One of the biggest challenges facing telecom providers is dealing with soaring mobile traffic levels. Smartphone sales have risen sharply and while growth in this area is predicted to tail off in the coming years, firms will still find it difficult to keep their clogged networks running smoothly. The huge popularity of instant messaging has certainly had a major impact on the sector of late. Consumers all over the world are frequently using services such as WhatsApp and social media chat platforms to send free messages to their friends and colleagues. Video services like Skype and Google Hangouts have also revolutionized the communications industry in recent years. The dynamics of the mobile communication landscape have also led MIM to become the platform for entertainment, commerce, and work (Wu and Lu, 2013).

As the Internet is expanding the territories of communication for all its users, many researchers are exploring the impact of it on people. Nie and Erbring (2002) suggested that Internet users spend more time on the Internet than they did on the telephone, an estimated 25 percent less time. This implies that Internet communication is rising at the expense of old technologies, this is called displacement. They also compared the impact of the Internet on users socializing, sleeping and television habits. And it was found that the average respondent who reported spending 55 minutes a day on the Internet encounters a 22 minute reduction with face–to–face time spent with family, a 10 minute reduction in time spent watching television and an 8 minute a day less sleep.

Mobile Instant Messaging (MIM) is the ability to engage in Instant Messaging (IM) services from a mobile phone. "It is a presence enabled messaging service that facilitates social interactions among mobile phone users. It is an example of a highly synchronized one-to-one text based communication" (Hung, Duyen, Kong, & Chua, 2006). Most IM applications are freely downloadable applications for mobile phones that enable users to send IM for free to users of the same application, through their mobile data plan or Wi-Fi. However, some third-party MIM providers such Yahoo, MSN, Skype, and Google Talk, will allow mobile phones users to interact independently of their carrier or mobile phone manufacturer. The freely available IM applications are contributing to the rapid growth of MIM. Using MIM, users are able to update real-time information anywhere, anytime. Since MIM is different from other online services (Ogara et al., 2014; Schneider and Goto-Jones, 2014), the factors that influence user satisfaction to use MIM will likely be different from the technology examined previously, and therefore should be investigated.

1.1 MOBILE INSTANT MESSAGING

Communication between people has changed due to advent of technology; it has taken face-to-face communication and letter writing, to inventions such as the telephone, the cell phone, online chat rooms, and finally, one of the newest and fastest growing forms of communication, Instant Messenger. Deng, et al. (2010) provide that mobile instant messaging (MIM), such as "WhatsApp", is an integrated messaging system that includes: the application for mobile device, network and mobile instant messaging service. IM is becoming far more than text-only communication and is more properly understood as a multimedia messaging and sharing platform with a robust feature set. According to the Juniper Research's report in 2017, the number of global mobile IM user will exceed 5.3 billion by 2018. It is almost the three times of the current market capacity (Juniper- Research, 2017).

SMS or Short Message Service has revolutionized the way people communicate. SMS is a mass communications medium used by billions of people around the globe. In recent times, however, a new wave of mobile communications services called mobile instant messaging (MIM) applications have gained considerable momentum. There is no doubt that instant messaging has already overtaken SMS as the consumer's favored form of communication, although the latter will continue to be far more profitable. Conversations that used to take place via SMS or inside social networks will continue to migrate to mobile messaging tools. IM will not replace them altogether but will account for an increasing proportion of the communication taking place. Mobile IM (MIM) allows users to view the presence and status of their communication partners; set personal status and presence; and send and receive chat messages while managing several conversations at the same time (Cameron & Webster, 2005).

1.2 FEATURES OF MOBILE INSTANT MESSAGING

There are many advantages to using Mobile Instant Messenger. It connects people regardless of where they are actually located. People can speak to multiple people in the virtual conference, share ideas and get conclusions. Instant messaging has been widely used with the power of internet, people can use an IM talk to family, friends, co-workers, even make new friends, join an interesting discussion or chat room through internet, in this way, people can talk to anyone in the world. The user of MIM application looks for various features while using it. These features act as important factors which influences the users to use particular MIM application. In this study such various factors are studied. These factors are peer influence, multi-tasking, perceived enjoyment, technology compatibility, relative advantage and ubiquitous connection, perceived control, easy face to face interaction.

Peer influence means the degree of influence that users perceive from peers in the same social group in deciding the use of mobile IM. Multi-tasking involves users to have several text conversations at the same time (like in Skype, Facebook Messenger, or WhatsApp). Compatibility refers to the extent to which the technology fit users' experience with their needs for technology. Relative advantage means when the technology has more advantages than the other technology, which could provide users with more profit. Perceived enjoyment is the users' level of enjoyment when he/she uses mobile IM service. Perceived control refers to users' perception about the capability of the control over the service process of mobile IM. The ubiquitous connection refers to users' perception about the extent to which the mobile IM facilitates the experience of connectedness all over the world.

2.0   LITERATURE REVIEW

Nysveen, et al. (2005) classified mobile services in accordance with the interactive means and interactive objectives (Table 1). For the interactive means, the Person-to-Person interactive includes the usage of mobile service is mainly conducted between persons and Person-to-Machine interactive means the communicating parts of using the mobile service is human and machine. For the interactive objectives, the Goal-directed refers to the usage of mobile service is goal driven and experiential-directed refers to the usage of mobile service is aiming for acquiring the experiential feedback from using the mobile service.

Table 1: Classification of mobile services

	Person-to-Person interactive	Person-to-Machine interactive
Goal-directed	Text Messaging (SMS)	Payment
Experiential-directed	Contact (Mobile IM)	Gaming

In the study it was found that the mobile IM service is different from other mobile services, such as mobile payment and mobile gaming and SMS mobile service is mainly used for delivering instrumental communications to accomplish a task, such as informing news and accessing mobile end user services.

Bryant, et al., (2006) in the research context found out the role of integrated users as a network member and with mobile IM, users utilize the mobile IM to build/maintain relationship with friends and facilitate the interpersonal communication. It was found that when users use the IT-based messaging tools to communicate more frequently, they would build the friendship network more easily.

Hameed, Badii and Mellor (2006) studied that whether instant messaging displaced some of the students' normal amount of traditional social communication thus negatively impacting the students' social integration. The sample frame for the research comprised 250 people, consisting of 50% male and 50% female users and in-depth surveys including both questionnaire and semi-structured interviews was done. It was found that Instant Messaging had not had a negative impact on users offline relationships although it had helped them reduce the time spent on the phone.

Prior studies made significant contribution to the understanding of users' satisfaction and loyalty of the mobile IM. Kim, et al., (2010) anchored on the utilitarian value perspective to examine the mobile IM usage satisfaction and loyalty. They found the perceived effectiveness of the mobile IM functions (functional value) positively influence users' satisfaction of using mobile IM.

Huang, P. and Li, M., (2013) based their study on integrated users' role framework which constituted three multiple roles of users: the technology user, the service consumer, and the network member. In summary, these three roles of users in the mobile context encompass the possible roles that users encounter with the use of mobile technology. Each of them explicitly represents one of the specific usage aspects.

3.0 OBJECTIVE OF THE STUDY

To explore the most preferred factors that influence the users' satisfaction towards Mobile Instant Messaging.

For exploring the most and least preferred antecedents that students believe influences their satisfaction towards MIM Application is assessed using weighted average score and then ranking of various statements is done, statements are assessed on 5 point Likert scale ranging from strongly disagree to strongly agree. Each statement reflects one different factor.

Test of Hypothesis: Two most preferred factors by students are assessed by finding its association with gender of students.

a. H_{01}: There is no association between gender of students and Mobile IM helps in creating and maintaining social groups.

b. H_{02}: There is no association between gender of students and ease to perform multiple activities while active on Mobile IM

4.0 RESEARCH METHODOLOGY:

4.1 Research Design

In order to have a meaningful answer to the research problem; a qualitative descriptive research methodology was employed to achieve the stated objective of the present study. Descriptive research design was adopted in the study as an attempt was made to explore the most preferred factors that influence the users' satisfaction towards particular MIM Application through survey method by using structured questionnaire.

4.2 Sampling Design:

For the purpose of study, sample of 200 students of age group 20-25 pursuing post-graduation in Business Administration and Economics were taken using simple random sampling technique. The sample was taken from three departments' i.e. (a) School of Management Studies (b) School of Applied Management (c) Department of Economics of Punjabi University, Patiala Campus and L.M Thapar School of Management of Thapar University, Patiala. Structured questionnaires were used to gather information from the students.

4.3 Data Analysis and Interpretation

The method of scaling was employed to explore preferred antecedents that influence the users' satisfaction towards particular Mobile IM App. The data was arranged in Tabular form for better understanding of relationship between different variables. Data was analyzed using appropriate statistical techniques including weighted average score, ranking, percentage analysis etc. **Chi-Square (χ^2)** was used comprehensively for analyzing association among various parameters. Various hypotheses were tested at 95% confidence level or 5% level of Significance.

5.0 RESULTS AND DISCUSSION

The results shows 188 students (94%) are found familiar with Mobile IM Applications. Regarding time period since students have been using MIM apps, it is found that 96 students (48%) responded less than 2 years followed by 72 (36%) ranged between 2-4 years. 60 students are of the opinion that they are active for 1-3 hours in a day on these applications. Gossiping is found to be main purpose of using MIM by students as 128 students' (50.79%) believes it.

1. Mobile Instant Messaging Applications students presently using.

Table 2: MIM Applications presently in use

Mobile IM in present use	No. of Responses	Rank
1. WhatsApp	168	1
2. Hike	16	4
3. WeChat	8	5
4. Line	20	3
5. Facebook Messenger	84	2

Table 2 indicates from among different MIM apps, Whatsapp is most popular among students as 168 (56.75%) students are presently using it followed by Facebook Messenger as 84 (28.37%) students using it. Least popular among students is WeChat as only 8 i.e. 2.70% students are presently using this application.

2.   Features holding importance among students while using Instant Messaging Apps in comparison to other Communication Media.

Table 3: Different features holding importance while using Instant Messaging Apps

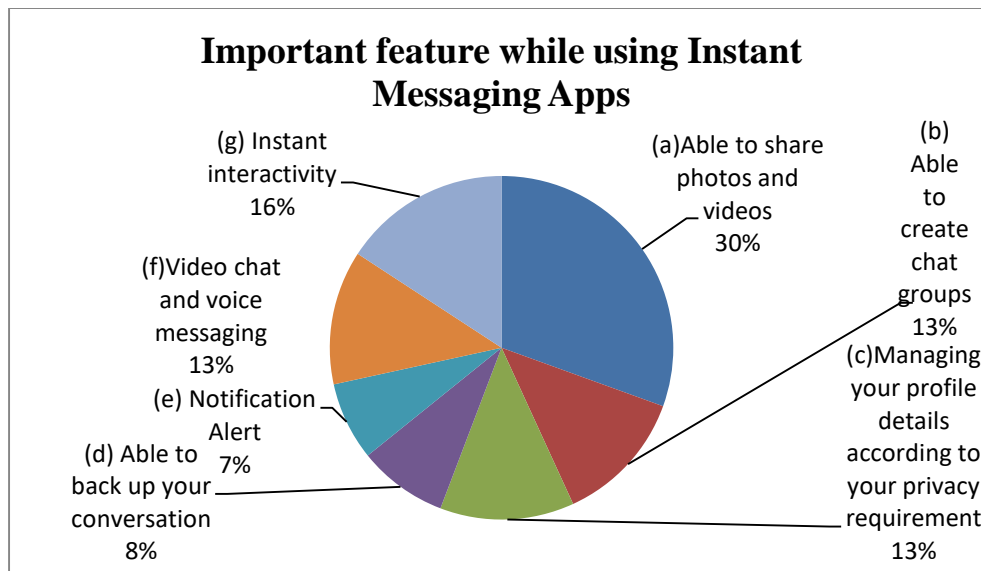| Feature	No. of Responses	Rank
(a)Able to share photos and videos	116	1
(b) Able to create chat groups	48	3
(c)Managing your profile details according to your privacy requirement	48	3
(d) Able to back up your conversation	32	6
(e) Notification Alert	28	7
(f)Video chat and voice messaging	48	3
(g) Instant interactivity	60	2

Figure 1: Different features holding importance while using Instant Messaging Apps

Table 3 and Figure 1 indicates that majority students' i.e. 116 believes feature of MIM's ability to share photos and videos as most important one followed by instant interactivity by 60 students. Notification alert is considered least important as only 28 students while using instant messaging apps in comparison to other communication media.

3. Most and Least Proffered Satisfaction Factor:

For exploring the most and least preferred factors that students believe influences their satisfaction towards particular MIM Application was assessed using weighted average score and then ranking of various statements was done, statements were assessed on a 5 point Likert scale ranging from strongly disagree to strongly agree. Each statement reflects one different factor. Based on weighted average score (WAS) and ranking of different statements, each statement is converted into factor to whom it represents according to ranking from most preferred factor to least preferred factor

Table 4: Factors represented by statements & WAS and ranking of statements

Statements	Weighted Average Score	Rank	Factors
1. Mobile IM supports different operating systems.	53	4	Technology Compatibility
4. Mobility of mobile IM is superior to the traditional IM.	52.5	5	Relative Advantage
5. It is easy to perform multiple activities while you are active on mobile IM.	55.7	2	Multi- Tasking
7. It is a convenient tool that can ease potentially awkward face to face interaction.	47.7	9	Ease Face to Face interaction
8. Using Mobile IM service for interacting and chatting gives you enjoyment.	54.4	3	Perceived Enjoyment
9. You are able to effectively adapt the service provided by Mobile IM to meet your own needs.	50.1	7	Perceived Control
10. It facilitates the experience of connectedness world over.	52.5	5	Ubiquitous Connectedness
11. Mobile IM helps in creating and maintaining social groups.	56.8	1	Social Group creation & maintenance
12. Peers influence you to join groups in mobile IM applications	49.06	8	Peer Influence

From the **Table 4** it can be interpreted that social group creation and maintenance is the most preferred factor followed by multi-tasking among students that increases their satisfaction towards MIM App. Least preferred factor is MIM eases face to face interaction.

4. Test of Hypothesis:

Two most preferred factors by students are assessed by finding its association with gender of students.

    a.   **H$_{01}$: There is no association between gender and MIM helps in creating and maintaining social groups.**

Table 5.1: Association between gender and MIM helps in creating and maintaining social groups.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Total
Male	0	8	0	16	36	60
Female	4	4	4	72	56	140
Total	4	12	4	88	92	200

$\chi^2 = 20.57$ (For df= 4, χ^2=9.48 at 95% confidence level i.e. at 0.05)

Table 5.1 indicates the relationship between gender of students and MIM helps in creating and maintaining social groups. Calculated value of χ^2 is 20.57. It has been observed that critical table value of χ^2 is 9.48 at level of significance 0.05 and degrees of freedom (df= 4). As calculated value is more than table value thus the *null hypotheses is rejected.* Therefore, there exists significant association between gender of students and MIM helps in creating and maintaining social groups i.e. gender of students play an important role in determining whether MIM helps in creating and maintaining social groups or not.

    b.   **H$_{02}$: There is no association between gender and ease to perform multiple activities while active on MIM**

Table 5.2: Association between gender and ease to perform multiple activities while active on MIM

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Total
Male	0	4	4	16	36	60
Female	4	8	8	72	48	140
Total	4	12	12	88	84	200

$\chi^2 = 14.25$ (For df= 4, χ^2=9.48 at 95% confidence level i.e at 0.05)

Table 5.2 indicates the relationship between gender of students and ease to perform multiple activities while active on MIM. Calculated value of χ^2 is 14.25. It has been observed that critical table value of χ^2 is 9.48 at level of significance 0.05 and degrees of freedom (df= 4). As calculated value is more than table value thus the *null hypotheses is rejected.* Therefore, there exists significant association between gender of students and ease to perform multiple activities while active on MIM i.e. gender of students play important role i.e. male and female youngsters might think in same way or they may have different opinion regarding it is easy to perform multiple activities while active on MIM.

6.0 MAJOR FINDINGS

Social group creation and maintenance was found to be the most preferred factor followed by multi-tasking by majority of students that increases their satisfaction towards Mobile IM Application.

MIM's ability to share photos and videos was found to be the most important feature and notification alert was considered least important while using instant messaging apps in comparison to other communication media. Two most preferred factors by students are assessed by finding its association with gender of students. Significant association is found between two most preferred factors by students and their gender.

Limitation of this study is that it was restricted to 200 students of age group 20-25 pursuing post-graduation in business administration and economics from only two institutes i.e. Punjabi University and L.M Thapar School of Management of Thapar University in Patiala city. However, research has no limit and there is a room for extensive research in this regard in future. Future researchers can include more factors that influences user's satisfaction towards MIM. Future research can also focus on large sample size by taking samples from multi-cities.

7.0   CONCLUSION

Instant Messaging has changed the way students communicate. Interaction via it is as varied as conversation itself. Some students use it to interact with others residing nearby while others use it as a means of communicating with their friends thousands of miles away from their college. It allows for immediate interaction as well as constant accessibility for contact between people. The solitary nature of IM enables users to perform multiple tasks while carrying on multiple conversations - something that is not possible with face-to-face conversations and much more difficult when on the telephone. This research also proposes that creation and maintenance of social group by MIM is most preferred factor that influences students' satisfaction towards MIM apps. With this study it is found that the MIM has become imperative part of every student's life. Any user of MIM can have easy and convenient communication with anyone at any time. With availability of mobile internet and smartphone growth, mobile messaging applications offers users an alternative to SMS based texting which has become a thing of past.

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