# WhatsApp Usage Differences Amongst Genders : An Exploratory Study

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## Abstract

**Technology (telephone and the Internet) has influenced the medium and nature of communication significantly over the last few years. WhatsApp – the dominant mobile instant messaging service provider has become a revolution overnight, offering nothing much, but a 'communication tool' to send and receive text, audio, and visual (pictures) messages between individuals and groups. With over 500 million subscribers around the world, this phenomenon has become a subject of intense study for researchers and academicians from across the world in the area of communication and marketing. The present research paper aimed to study the differences in usage of this communication service (WhatsApp) amongst male and female individuals. Literature that deals with socio-linguistic theories has highlighted differences in the way men and women communicate face-to-face and through other mediums. This study indicated that gender did influence the usage of Whatsapp in some cases, but there were a lot of elements like usage style / pattern / preference that showed little or no difference amongst genders. Gender differences were visible in the area of usage of emoticons (greater number of female respondents agreed to use it often); being part of a larger number of groups (men were part of more groups) ; active time spent during the day (men spent lesser time as compared to women) ; changing profile picture and status often (women had the tendency to change the same more number of times) ; sharing emotional outbursts on Whatsapp (women tended to agree to the same more than men) ; and sending pictures of their shopping (merchandise) to friends and family (more women agreed to do that as compared to the male respondents). The research study also found that in a lot of areas, gender did not make a difference, which corroborated with the results of many of the existing studies in this area.**


***Keywords:*** **mobile application, social, messaging, WhatsApp, chat, social media, mobile media**

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The combined power of Internet connectivity and smartphones has revolutionized communication across the world. It was in the year 1992 that Neil Papworth sent the first text message to Richard Jarvis from a computer keyboard to a cell phone. That text message read as "Merry Christmas". It was estimated that in 2013, almost 9 trillion text messages were shared by mobile phone users (Ahmed, 2002). Today, text messages have become a dominant source of revenue for most telecommunication companies across the world. The Figure 1 depicts an overview of the text messaging revolution ("OMG! Texting turns twenty," 2012).

## The Role of the Mobile and the Internet

In their early days, mobile phone services were limited to the high end users who could afford expensive handsets and even more expensive subscription services. Advancement in technology reduced the cost of mobile phone handsets dramatically. Since more people could afford handsets, mobile phone companies realized the importance of affordable subscription plans to take advantage of economies of scale. The inflection point came in when engineers and scientists made Internet usage possible on mobile phones. Advent of the Internet on mobile phones

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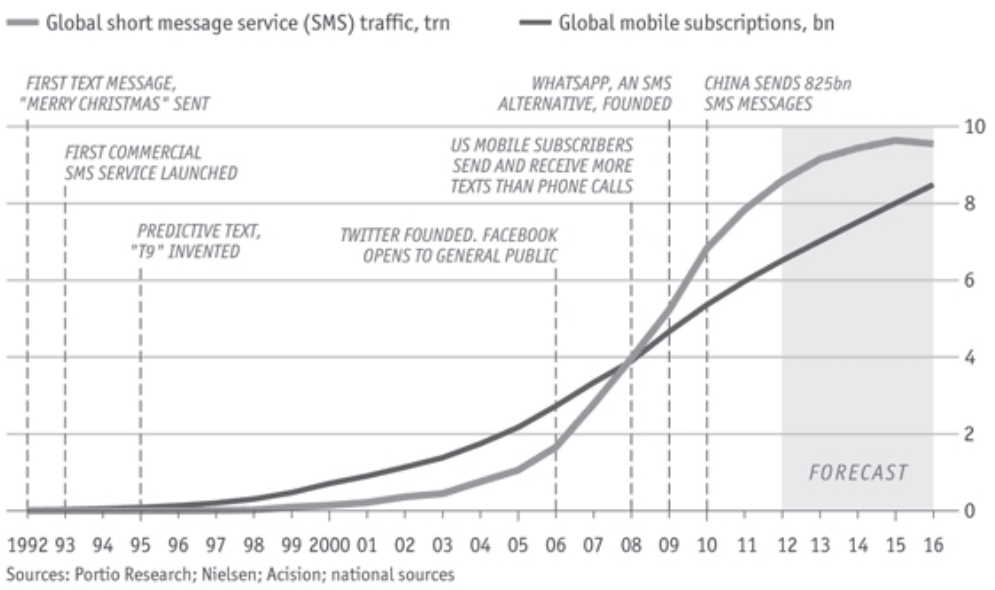
**Figure 1. Text Messaging Revolution**




changed the face of text messaging forever. Social appropriateness, cost, and ease are cited as reasons for its popularity.

↳ **Impact of Mobile Instant Messaging (MIM) :** Despite text messaging being widely used; the medium was considered to be slow, cumbersome, and expensive for a large section of mobile phone users. The arrival of 'smartphones' (read: multimedia functionality) led to the explosion of the so called "mobile instant messaging" applications. Affordable data plans, real time feel, and linkage through mobile numbers made MIM applications popular.

The combination of an explosion in mobile devices and spread of the Internet through telecommunication technologies has overnight created billion dollar enterprises (WhatsApp, Line, WeChat, and others) and billionaires, who, in turn, have changed the face of interpersonal communication forever. Social messaging applications have done the same for mobiles what email and the Internet did for computers.

The International Telecommunication Union stated that nearly 40% of the world population used the Internet in some form (device) or the other. This means that almost 3 billion people had access to the Internet by the end of 2013. The World Bank stated that 75% of the world's population had access to mobile phones, which meant that almost 5 billion people had access to the same. The spread of information and communication seems to have entered a new era. Over 30 billion mobile applications were downloaded in the year 2011 according to an organization called Information and Communication Development (International Telecommunication Union, 2010).

↳ **Usage Pattern of MIM :** Multiple research studies have been undertaken across geographies to understand the usage pattern of mobile instant messaging services. Some of them have focused on analyzing the content, some have studied gender differences, and some have concentrated on the comparison of SMS with MIM. The study of usage pattern served two main purposes; for social scientists, it provided an insight into the changing nature of relationships and communication. For marketers, it provides an insight into usage of a popular ever growing service in the mobile space. Studies have indicated that text messages, over the years, have taken the shape of online chat conversations.

## Research Gap

Studies have been conducted to understand the role of gender in text messaging and gender differences in text messaging. I also analyzed gender differences in the social network structure by comparing face-to-face and mobile-phone-text-messaging based social structures. Studies have indicated that individuals - women and men differ in terms of their usage of MIM. Research studies were undertaken in the U.K. to analyze the content and character of text messaging ; studies were also undertaken in Germany, Norway, Japan, and Finland to analyze differences in text messaging usage. Although usage of mobile and text messaging has been prevalent in India for a decade or more; no significant studies have been undertaken to explore the gender differences in usage of mobile instant messaging. The present study aims to fill this gap.

## Literature Review

With WhatsApp being a recent phenomenon, research and studies undertaken to study it are limited. Test messaging through mobile phones (though) has been around since 1992.

Church and Oliveira (2013) undertook a study to compare behavioral differences in the usage of (MIM) mobile instant messaging and traditional (SMS) short messaging service. Their study revealed that social influence was the primary factor due to which individuals migrated from SMS to MIM. The authors concluded that the nature of messages on MIM tended to be social, informal, and conversational. Their study found that SMSes tend to have more privacy, are formal, and reliability oriented. The study also exhibited that WhatsApp was used more with partners than with any other communities. The authors could not establish any conclusive relationship between cost and usage of WhatsApp or SMS. The authors concluded that WhatsApp was considered more 'real time' and community / group based communication tool vis-à-vis SMS. The results of the study highlighted that younger adults used WhatsApp for a longer time than did their older counterparts. The authors also shared that participants had concerns with regards to privacy with respect to WhatsApp's "online status" and "delivery notifications through two ticks".

Battestini, Setlur, and Sohn (2010) undertook an extensive study of 70 university students over a 4 month period with regards to their usage of text messaging. The authors analyzed approximately 60,000 text messages through custom logging tool on the participants' mobile phones. Their study indicated that the participants indulged in conversations with multiple contacts simultaneously. Their study also revealed that friends and classmates formed the two biggest categories with whom participants conversed using text messaging. Their study, however, did not find any gender differences in terms of the number of messages and length of the messages. The differences between the usage of mobile phone and applications was studied by Baron and Campbell (2012) across five countries. The authors attempted to understand the role of gender and culture on mobile phone usage pattern. The authors felt that despite changes in technology, gender distinctions in terms of usage were likely to remain. The authors said that women were more likely to talk on a mobile phone than men to avoid talking to acquaintances. The study revealed that more women were likely to talk over their mobile phone than text as they desired to hear the voice of the interlocutor.

Economides and Grousopoulou (2008) stated in a study of men and women Greek students that women participants made more calls than the men participants. The authors mentioned that women participants also tended to receive and send more text messages from and to their friends. The study revealed that women tended to spend more time talking to their boyfriends than to their other friends or family. Men tended to spend more time talking to their friends than to their girlfriends or family.

Lee (n.d.) affirmed that men and women used instant messaging distinctly. In her study conducted at the University of Standford amongst students, the author revealed that cars, computers, and video games formed the major content of topics (on instant messaging) discussed by men participants; whereas, emotional support and shared interests were topics popular amongst women students. She also expressed that women participants used smileys (emoticons/symbols of facial expressions) more often than men participants (ratio - 40 women : 9 men).

Christine said that men participants tended to ignore greetings and goodbyes; and women tended to be more polite at the start of the conversation and ended their conversations with pleasantries. The study also exhibited that instant messaging encouraged to switch topics of conversations. She concluded that instant messaging had a greater influence on men's behavior than on women's behavior.

Ceccucci, Peslak, Kruck, and Sendall (2013) stated that gender had no conclusive role to play in terms of the difference in usage of a text messaging service. The author, however, shared that some emotional difference did exist between genders (text messaging usage) which warranted further research. The study showed that women participants appeared to be more pleased, satisfied, contended, and delighted with their usage of text messaging than their men counterparts.

Debrand and Johnson (2008) examined gender differences with respect to the usage and perceived usefulness of instant messaging amongst men and women. Their study concluded that men and women used instant messaging in similar degrees. The authors shared that men and women had a similar perception with regards to the usefulness of instant messaging. The study highlighted that women used instant messaging more when they wanted to communicate with someone who was geographically away from them.

Igarashi, Takai, and Yoshida (2010) conducted a longitudinal study of gender differences in social network development through mobile text messaging. The authors stated that women tended to have larger social networks developed through face to face interactions as compared to their male counterparts. The women participants revealed that their friendships on social networks that had developed through face to face interactions were more important and intimate, and the male participants perceived otherwise. The study revealed that the frequency of contact, intimacy, and importance of friendship developed through mobile text messaging was not influenced by gender. Women had more stable relationships than men within the social network developed through mobile text messaging. The study also revealed that as compared to the male participants, women participants expanded their networks more and were more popular on social networks developed through mobile text messaging.

The review of selected and relevant literature indicates that there existed a gap in terms of research undertaken in India for MIM (mobile instant messaging). Although, such research could have included multiple dimensions and angles, this study focused on the differences that existed in the usage of WhatsApp (the most popular MIM in India) between the two genders (men and women). The insights generated from the study could be useful for marketers / advertisers targeting highly evolved digital consumers. The findings could give them inputs to design better digital campaigns to communicate and sell products and services online.

## Research Design

**Research Statement :** The statement of research for this study was formulated as : "WhatsApp Usage Difference Amongst Gender: An Exploratory Study".

**Research Objective :** To *explore* the differences that exist in the usage of WhatsApp by male and female individuals.

**Research Question :** Does gender influence the 'nature of usage / usage pattern' of WhatsApp text messaging service ?

**Hypothesis :** Women use WhatsApp [mobile text messaging application] differently [purpose/nature/pattern] than men.

**Methodology of Data Collection :** The study used primary data collected via a structured questionnaire. This questionnaire consisted of both open ended and close ended questions. The study was undertaken during August - September 2014.

↳ **Sampling Method and Sample Size :** Convenience sampling method was employed as the target audience was easily accessible and enabled timely completion of the study. One hundred and forty respondents participated in the study (70 men and 70 women). The research study was undertaken in Mumbai metropolitan region.

↳ **Statistical Techniques Used :** SPSS Version 16.0 was employed and statistical techniques such as cross-tabulation, chi-square, and ANOVA were used to analyze and interpret the data. The data is also represented in the tabular form to enable interpretation and comparison.

## Data Analysis and Findings

The basic demographic profile captured in the research consisted of respondents' gender, age, occupational status, type of phone (touchscreen or qwerty keypad), type of subscription (pre paid or post paid), type of Internet speed on phone (2G or 3G), and type of operating system on the phone (iOS, Android, Windows, etc.).

The research study captured responses from 70 men and 70 women. More than 88% of the respondents were in the age group of 19-25 years. Majority of the respondents (94%) were post graduate students. It is interesting to note that most of the respondents (97%) owned a touchscreen phone. Nearly 60% of the respondents had 3G data connection in their handsets ; 68% of the respondents used pre-paid subscription services. Android was the dominating operating system amongst all the respondents, with over 77% saying their handset had android OS; 10% had windows operating system, and the remaining had either iOS or blackberry.

### Basic Findings (Descriptive)

In the survey undertaken during the study, 84% of the respondents shared that they used WhatsApp as the only mobile instant messaging application ; 15% of the respondents, however, said that they used multiple MIM apps ; 66% of the respondents mentioned that they often used emoticons in their WhatsApp communications. When the respondents were asked about their willingness to pay for the WhatsApp subscription service, a large majority of them (75%) shared that they would be willing to pay ₹100 or less per year. More than 75% of the respondents shared that they were part of six or more groups on their WhatsApp account. About 46% of the respondents said that they spent more than 2 hours a day on WhatsApp. More than 98% of the respondents had 10 or more friends on their WhatsApp list. Only 54% of the respondents had 10 or more family members on their WhatsApp list. More than half of the respondents said that they did not change the profile picture of their WhatsApp application frequently. Only 31% said they shared their mood as their status message on WhatsApp. It is interesting to note that almost 85% of the respondents *agreed* or *strongly agreed* that they spent more time on WhatsApp than on Facebook (as they did earlier).

About 51% of the respondents agreed to changing their status message on their WhatsApp profile often. Respondents tended to put short messages on WhatsApp as was evident from 66% of them saying that they used shorter messages. Close to 96% of the respondents revealed that they checked their WhatsApp application for new updates more than 10 times a day; 35% of them checked it every time there was a message notification poping-up. Majority of the respondents (88%) used their WhatsApp during evening or night. A large number of respondents (72%) revealed that they started their WhatsApp conversation with a greeting (Hi, Hello, or How are you?). Half of the respondents admitted that their WhatsApp group consisted mainly of friends.

It was observed that 60% of the respondents had the tendency to share their emotional outbursts on WhatsApp with their friends. Although, only 35% agreed affirmatively to the question that they shared pictures of their dress / footwear while shopping with their friends; a breakup of responses gender-wise presented a different picture. About 35% of the respondents felt uncomfortable when their message, sent to a group on their WhatsApp list, wasn't responded to within 30 seconds. Short cuts seemed to be the preferred way of typing for 68% of the respondents. Another unique finding is that 74% of the respondents acknowledged that they had received a WhatsApp message from an unknown contact.

The perceived level of intimacy provided by WhatsApp as compared to chatting through desktop or SMS was considered to be high amongst 80% of the respondents. One of the findings of the research is in contradiction to research findings published earlier ; where respondents did not want the status indicator or wanted an option to switch off the status indicator; this study showed that only 23% of the respondents would have liked to remove the status indicator.

Some of these basic findings are in line with research undertaken internationally in the area of mobile instant messaging. Some findings, however, are in contradiction or are not in line, which could be due to cultural or socioeconomic differences across geographies.

## Key Findings (Inferential)

Sample data were analyzed through SPSS version 16.0 to test the hypothesis with respect to the gender of the respondents.

➔ **Hypothesis :** Does gender influence the 'nature of usage / usage pattern' of WhatsApp text messaging service ?

The responses of the target audience were tabulated through cross-tabulation into a contingency table and chi-square test was run for each variable with respect to each of the 30 questions, which were formulated to capture the WhatsApp usage behavior between genders. The measurement of the respondents' usage behavior was captured on a 5-point scale (Likert).

The chi-square test applied to sample data shows significant differences / relationships for certain usage behavior and shows no significant differences / relationships for other kinds of usage behavior. The results are presented as follows:

The data presented in the Table 1 has Pearson's chi-square value = 17.714, which is significant at 4 degrees of freedom ($p$ <0.05). The chi-square test suggests that usage of emoticons in WhatsApp messages is influenced by the gender of the respondents. This means that the proportion of respondents who used emoticons differed significantly with respect to their gender. As compared to men, a larger number of women respondents revealed that they used emoticons in their messages on WhatsApp.

The data presented in the Table 2 has Pearson's chi-square value = 8.243, which is significant at 4 degrees of freedom ($p$ <0.05). The chi-square test suggests that the number of groups the respondents were part of on WhatsApp is influenced by the gender of the respondents. A larger number of male respondents shared that they as

**Table 1. Emoticons and Smileys**

| Q.1-- I use a lot of Emoticons / Smileys in my WhatsApp messages | | | | | | |
|---|---|---|---|---|---|---|
| **Gender** | ***Strongly Agree*** | ***Agree*** | ***Neutral*** | ***Disagree*** | ***Strongly Disagree*** | **Total** |
| Male | 9 | 29 | 22 | 8 | 2 | 70 |
| Female | 28 | 28 | 11 | 3 | 0 | 70 |
| **Total** | **37** | **57** | **33** | **11** | **2** | **140** |

**Table 2. Groups**

| Q.2 How many groups are you part of on WhatsApp? | | | | | |
|---|---|---|---|---|---|
| **Gender** | **2 or less** | **3 to 5** | **6 to 10** | **11 or more** | **Total** |
| Male | 1 | 16 | 23 | 30 | 70 |
| Female | 0 | 18 | 36 | 16 | 70 |
| **Total** | **1** | **34** | **59** | **46** | **140** |

**Table 3. Active Time**

| Q. 3 -- Average amount of ACTIVE time spent on WhatsApp throughout the day | | | | | | |
|---|---|---|---|---|---|---|
| **Gender** | **Less than 5 minutes** | **30 Minutes** | **60 Minutes** | **2 to 5 Hours** | **5 Hours or more** | **Total** |
| Male | 3 | 20 | 24 | 17 | 6 | 70 |
| Female | 0 | 9 | 19 | 39 | 3 | 70 |
| **Total** | **3** | **29** | **43** | **56** | **9** | **140** |

**Table 4. Profile Picture**

| Q. 4 -- I change the profile picture of my WhatsApp ID frequently | | | | | | |
|---|---|---|---|---|---|---|
| **Gender** | ***Strongly Agree*** | ***Agree*** | ***Neutral*** | ***Disagree*** | ***Strongly Disagree*** | **Total** |
| Male | 9 | 18 | 17 | 20 | 6 | 70 |
| Female | 17 | 25 | 17 | 11 | 0 | 70 |
| **Total** | **26** | **43** | **34** | **31** | **6** | **140** |

**Table 5. Profile Status**

| Q.5 -- I often change my profile status message | | | | | | |
|---|---|---|---|---|---|---|
| **Gender** | ***Strongly Agree*** | ***Agree*** | ***Neutral*** | ***Disagree*** | ***Strongly Disagree*** | **Total** |
| Male | 5 | 24 | 13 | 21 | 7 | 70 |
| Female | 13 | 30 | 18 | 7 | 2 | 70 |
| **Total** | **18** | **54** | **31** | **28** | **9** | **140** |

**Table 6. Emotional Outbursts**

| Q. 6 -- I share my emotional outbursts on WhatsApp with (some) friends | | | | | | |
|---|---|---|---|---|---|---|
| **Gender** | ***Strongly Agree*** | ***Agree*** | ***Neutral*** | ***Disagree*** | ***Strongly Disagree*** | **Total** |
| Male | 8 | 19 | 16 | 17 | 10 | 70 |
| Female | 9 | 32 | 15 | 12 | 2 | 70 |
| **Total** | **17** | **51** | **31** | **29** | **12** | **140** |

compared to the women respondents, they were part of more groups on WhatsApp.

The data presented in the Table 3 has Pearson's chi-square value = 17.397, which is significant at 4 degrees of freedom ($p$ <0.05). The chi-square test suggests that the amount of active time spent by respondents on WhatsApp is influenced by the gender of the respondents. A larger number of female respondents shared that as compared to men, they spent a greater amount of active time on WhatsApp.

The data presented in the Table 4 has Pearson's chi-square value = 12.214, which is significant at 4 degrees of freedom ($p$ <0.05). The chi-square test suggests that the tendency to change the profile picture often on WhatsApp is influenced by the gender of the respondents. A larger number of women respondents (60%) shared that as compared to the men (38%), they changed their profile picture frequently on WhatsApp.

The data presented in the Table 5 has Pearson's chi-square value = 14.806, which is significant at 4 degrees of freedom ($p$ <0.05). The chi-square test suggests that the tendency to change profile status often on WhatsApp is influenced by the gender of the respondents. A larger number of women respondents (61%) shared that as compared to the men (41%), they changed profile status more frequently on WhatsApp.

The data presented in the Table 6 has Pearson's chi-square value = 9.600, which is significant at 4 degrees of freedom ($p$ <0.05). The chi-square test suggests that the tendency to share emotional outbursts on WhatsApp is influenced by the gender of the respondents. A larger number of female respondents (58%), as compared to their

**Table 7. Sending Pictures**

| Q.7 -- I often send pictures of my shopping (dress / footwear) to my friends / family on WhatsApp | | | | | | |
|---|---|---|---|---|---|---|
| **Gender** | ***Strongly Agree*** | ***Agree*** | ***Neutral*** | ***Disagree*** | ***Strongly Disagree*** | **Total** |
| Male | 5 | 9 | 10 | 21 | 25 | 70 |
| Female | 11 | 24 | 15 | 14 | 6 | 70 |
| **Total** | **16** | **33** | **25** | **35** | **31** | **140** |

male counterparts (38%), shared emotional outbursts on WhatsApp.

The data presented in the Table 7 has Pearson's chi-square value = 23.113, which is significant at 4 degrees of freedom ($p$ <0.05). The chi-square test suggests that the tendency to send pictures of shopping to friends / family on WhatsApp is influenced by the gender of the respondents. A larger number of women respondents (50%) - as compared to their male counterparts (20%) - sent pictures of shopping to friends / family on WhatsApp.

## Hypothesis Testing

Based on the above findings and interpretations, I feel that the hypothesis is proved correct, that is, women users use WhatsApp differently from their male counterparts.

## Other Findings

No differences were found between genders for usage of WhatsApp and agreement in terms of :

**(1) Willingness to pay an Annual Subscription Fee :** Majority amongst both the genders indicated that they would be ready to pay ₹ 500 or less per annum.

**(2) Sending Pictures to Friends :** Both genders shared that they sent lots of pictures to friends and family regularly.

**(3) Number of Friends on WhatsApp :** Most respondents of both genders had 10 or more friends.

**(4) Family Members on WhatsApp List :** Most respondents of both the genders had equal number of family members on their WhatsApp list.

**(5) Video Downloads on WhatsApp :** The chi-square results showed that there was no significant difference with respect to gender and intent to download videos on WhatsApp.

**(6) Sharing 'Good' and 'Bad' Moods on WhatsApp :** The chi-square results show that the proportion of respondents who shared 'good' and 'bad' moods on WhatsApp did not vary significantly with gender.

**(7) Making Spelling Errors on WhatsApp :** There was no significant difference in the proportion of men and women respondents with respect to making spelling errors on WhatsApp.

**(8) Spending More Time on WhatsApp Instead of on Facebook :** No significant difference is found in the proportion of men and women respondents who agreed to spend more time on WhatsApp instead of on Facebook.

**(9) Posting Pictures and Videos on WhatsApp Group :** The results of the chi - square test suggest that posting pictures and videos on WhatsApp groups show no significant difference in terms of the gender of the respondents.

**(10) Length of WhatsApp Messages is Short :** Both genders showed no significant difference in proportion with respect to the tendency to write short messages on WhatsApp.

**(11) Time (Period) of the Day When WhatsApp was Used :** The chi-square results show no significant difference in the proportion of both the genders and their agreement to the usage of WhatsApp during a particular period of the day.

**(12) Usage of WhatsApp When at Home (with Family) :** No significant difference was found between genders in terms of usage of WhatsApp while being at home with family.

**(13) Starting Text Messages with a Greeting (Hi, Hello, How are you?) :** There is no significant difference in the proportion of men and women respondents in terms of their agreement to starting a conversation on WhatsApp with a 'greeting'.

**(14) Most of the Groups on WhatsApp Consisted of Friends / Family / Colleagues :** The chi-square test results indicate that no significant difference exists in terms of proportion between gender in terms of the composition.

No significant difference is found in terms of the proportion of male and female respondents with respect to sending messages to wrong contacts erroneously; feeling uncomfortable when messages were not replied to within 30 seconds; using shortcuts; receiving WhatsApp messages from unknown individuals; finding WhatsApp as a more intimate form of conversation as compared to desktop based chats; wanting WhatsApp to remove status indicator ; and expressing feeling (happy, thrilled, sad, or excited) on WhatsApp.

## Discussion and Conclusion

Overall, this study did provide some insights into the usage of WhatsApp amongst both the genders. The study indicates that women tend to use more emoticons, spend more active time, and are part of a lesser number of groups on WhatsApp. This could be a significant insight in terms of understanding their needs for being more social, but at the same time, more intimate and more expressive.

Women also tend to change profile pictures and status messages more frequently than men; this again could be interpreted as their greater need for acknowledgment and attention from their friends. The same conclusion could be drawn from the finding that they tend to send pictures of their shopping (merchandise) frequently to their social groups (family / friends / colleagues). This finding could be relevant for marketers tracking customer feedback and recommendation.

WhatsApp can act an important medium to ignite and drive word of mouth for a brand or a store. The fact that a larger number of women respondents agreed to share emotional outbursts on WhatsApp could provide insights in terms of the tone of communication by brands attempting to use WhatsApp as a communication medium.

This study also corroborates the findings of earlier studies (Battestini et al., 2010 ; Church & Oliveira, 2013; Debrand & Johnson, 2008 ; Economides & Grousopoulou, 2008; Igarashi et al., 2010) undertaken in the area of text messaging and gender differences in terms of both genders having a large number of friends ; having family members on WhatsApp ; both genders spending more time on WhatsApp than on Facebook; usage of shortcuts ; usage of WhatsApp while being at home and ; tendency to send pictures and videos often through WhatsApp. The results of the study implicitly indicate that operating WhatsApp as an application showed no gender biases, but the purpose of usage (expression, seeking approval) showed a difference between genders, which is important for marketers designing communication strategies for gender specific products and services.

This study indeed provides insightful and important pointers and directors towards the area which could be explored. However, a most extensive and diverse study would be advisable to draw conclusions with regards to the motives that drive certain usage patterns or behaviors.

## Managerial Implications

Managers in the field of marketing and advertising have to deal with challenges with respect to eye balls shifting

from traditional media to mobile and social media. Understanding the nature of usage of social and mobile media could provide insights into methods to integrate brands with the social media platforms and messaging applications. Brands could consider becoming platform partners or sponsor elements within the application to create space for themselves. Both male and female consumers are using WhatsApp extensively. Understanding of behaviours and content of consumers' communication would provide advertisers inputs to design their communication campaigns in a customized manner. Differences in usage of WhatsApp between genders would enable marketers to understand the role of emotions and motives amongst consumers.

With increased international trade and technology, product parity has become the norm. Hence, brands have started differentiating themselves by building emotional connect with the consumers. WhatsApp is fast becoming a leading medium of emotional expression, especially for female users. This study suggests that female consumers use WhatsApp extensively to express themselves and brands could find a lever to connect with them there.

The findings of this study would give directional indicators to managers in the field of HR too. The HR departments could undertake profiling of employees and prospects based on their WhatsApp usage patterns. The study could provide a framework to managers in the field of social media marketing to conduct similar studies to map gender differences in the e-commerce environment. Managers could also borrow insights in terms of which elements of a gender's personality are more vibrant on WhatsApp and match the product category and its advertisement accordingly.

## Limitations of the Study and the Way Forward

Like most research studies, this study also has its own limitations. The study was conducted in a limited geographical area and hence, the results may not be representative of the larger section of the population. The study was undertaken by considering respondents in a certain age group, and hence, the findings may not correspond with results or patterns from other age brackets. The sample size was limited and a larger sample size would provide a better or different insight into the subject matter. The study did not attempt to analyze or track the content of the communication messages and hence provides, at best, a partial picture of the usage pattern.

A similar study could be conducted in different / multiple geographical locations to corroborate with the findings presented here. Studies could also be undertaken across populations using variables other than gender; such as age, profession, income, marital status, and ethnicity. Other MIM services like Line or WeChat could also be included in the study to present a comparative picture. Studies could also be undertaken based upon the psychographic profile of the target group, since personality affects interpersonal communication too. Other methods of research like observations, in-depth interviews, and focus group studies could provide a deeper insight into the motives and trends in usage of MIM services.

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