

“WHATSAPP USAGE DIFFERENCES AMONGST GENDER : AN EXPLORATORY STUDY”**Prof. Dr. SHRAVAN RUNGTA****Abstract**

Technology (telephone and 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 individual 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.

This research paper was aimed to study the differences in usage of this communication service (WhatsApp) amongst male and female individuals. Literature that deals with socio-linguistic theories have highlighted differences in the way male and female 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 where usage style / pattern / preference showed little or no difference amongst gender. Gender differences were visible in the area of usage of emoticon (Greater number of female respondents agreed to use it often); being part of larger number of groups (Male were part of more groups), active time spent during the day (Male spent lesser time as compared to Females), changing profile picture and status often (Female tended to change more number of times), sharing emotional outbursts on WhatsApp (Females tended to agree more than Males) and sending pictures of their shopping (merchandise) to friends and family (More females agreed to do that as compared to male respondents).

The research study also found that in lot of area gender did not make a difference; which corroborates with existing study in the area.

Keywords:

Mobile Application, Social, Messaging, WhatsApp, Chat.

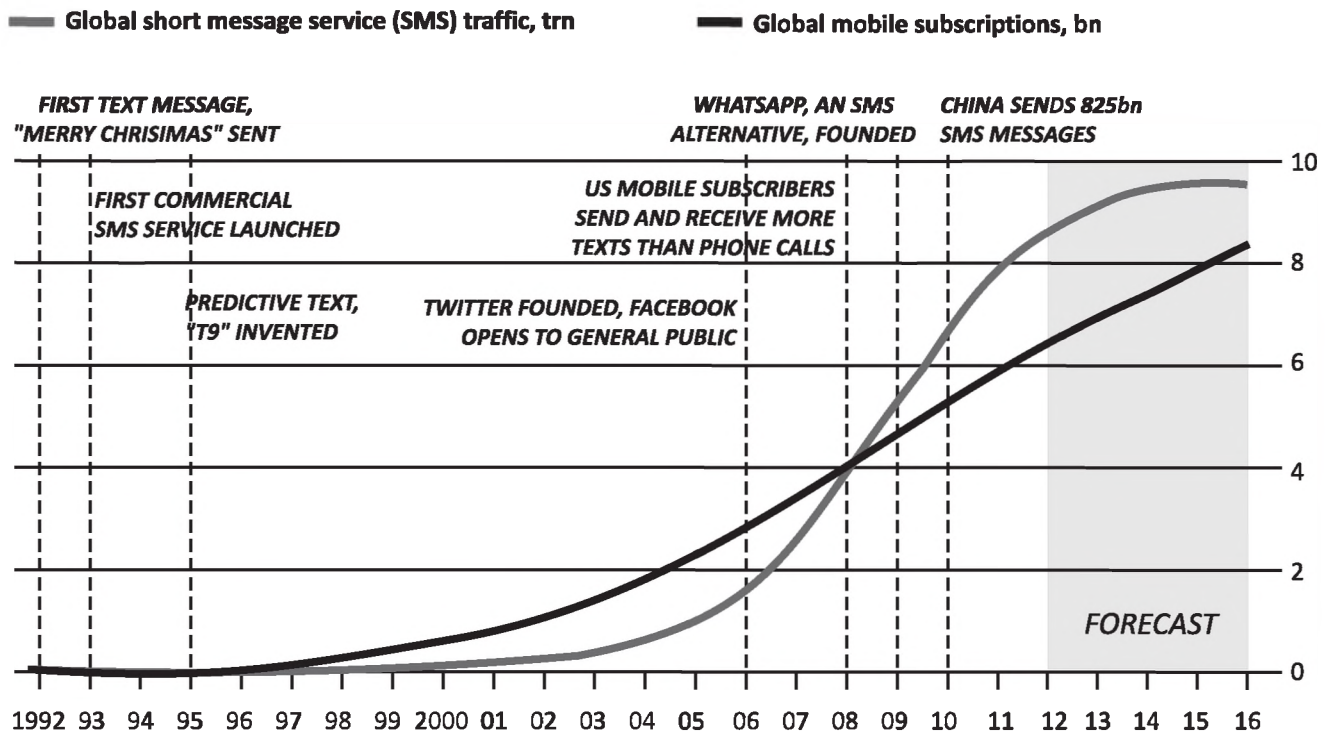
Operational Definitions:

MIM — Mobile Instant Messaging; SMS — Short Messaging Service; Participants – Those who were part of the study, Mobile – Wireless Telephonic Handsets, Smartphones – Mobiles with internet and multi-media capabilities.

Introduction

The combined power of internet connectivity and smartphones have 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 is estimated that in 2013 almost nine trillion text messages were shared by mobile phone users. Today, text messages have become a dominant source of revenue for most telecommunication companies across the world. The chart below gives an overview of the text messaging revolution.

Text messaging



Sources : Portion Research: Nielsen: Acision: national sources

Role of Mobile and Internet

In its 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 internet on mobile phones changed the face of text messaging forever. Social appropriateness, cost and ease of 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 application popular.

The Combination of explosion in mobile devices and spread of internet through telecommunication technologies has overnight created billion dollar enterprises [WhatsApp, Line, WeChat and others], billionaires, and in turn have changed the face of interpersonal communication forever. Social messaging applications have done the same for mobile what, email and internet did for computers.

The International Telecommunication Union stated that nearly 40% of the world population used internet in some form (device) or the other. This meant 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 phone, which meant that almost 5 billion people have access. 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.

Usage Pattern of MIM

Multiple research studies have been undertaken across geographies to understand the usage pattern of mobile instant messaging service. Some of them have focused on analysing the content, some have studied gender difference and some have concentrated on the comparison of SMS with MIM. Study of usage pattern served two main purposes; for social scientists it provided an insight into the changing nature of relationship 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 on online chat conversations.

Research GAP

Studies have been conducted to understand the role of gender in text messaging and gender differences in text messaging. The researcher has 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 female and male individuals differed in terms of their usage of MIM.

Research studies have been undertaken in UK to analyze the content and character of text messaging, studies were also undertaken in Germany, Norway, Japan and Finland to analyze difference 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 gender difference in usage of mobile instant messaging. This study was aimed to fill that GAP.

Literature Review

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

Church and Oliveira (2013) undertook a study to compare behavioral difference in the usage of (MIM) mobile instant messaging and traditional short messaging service (SMS) . Their study revealed that social influence was the primary factor due to which individuals have 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 SMS tended to be more privacy, formal and reliability oriented. The study also exhibited that WhatsApp was used more with partners than 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 longer than 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 2 ticks".

Agathe, 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 participants' mobile phones. Their study indicated that 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 number of messages and length of the messages.

The difference 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. Baron, Naomi and Campbell 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 Amalia (2008) stated in a study of Male and Female Greek Students that Female participants made more calls than Male participants. The authors mentioned that female participants also tended to receive and send more text messages from their friends. The study revealed that female tended to spend more time talking to boyfriend than their friends or family. Men tended to spend more time talking to their friends than their girlfriends or family.

Christine (2003) affirmed that male and female used instant messaging distinctly; in her study conducted at the University of Stanford amongst students. The author revealed that Cars, Computers and Video games formed the major content of topics (on instant messaging) discussed by male participants; where Emotional Support and shared interests were topics popular amongst female students. She also expressed that female participants used smileys (emoticons / symbols of facial expressions) more often than male participant ratio (40 female: 9 male). Christine said that male participants tended to ignore greetings and goodbyes; and females tended to be more polite at the start of the conversation and ended their conversation with pleasantries. The study also exhibited that instant messaging encouraged to switch of topics of conversations. She concluded that instant messaging influenced male behavior more than female behavior.

Ceccucci (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 female participants appeared to be more pleased, satisfied, contented and delighted with their usage of text messaging than their male 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 degree. 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, Jiro and Yoshida (2010) revealed that female participants in their longitudinal study of gender differences in social network development through mobile text messaging. The authors stated that females tended to have larger social networks developed through face to face than their male counterparts. Female participants shared that their friendships on social network developed through face to face was more important and intimate, male participants perceived otherwise. The study revealed that the frequency of contact, intimacy and importance of friendship developed through mobile text messaging had no influence of gender. Female had more stable relationships than male within the social network developed through mobile text messaging. Female participants expanded their networks more and were more popular on social networks developed through mobile text messaging than male.

Review of selected and relevant literature indicated 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 (Male and Female).

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 existed in usage of WhatsApp by male and female individuals

Research Question

- Did gender influence the 'nature of usage / usage pattern' of WhatsApp text messaging service?

Hypothesis

"Females used **WhatsApp** [mobile text messaging application] differently [purpose/nature/pattern] than Males"

Methodology of Data Collection

The Study used primary data collected via structure questionnaire. This questionnaire consisted on both open ended and close ended questions.

Sampling Method and Sample Size

Convenience sampling method was employed as the target audience was easily accessible and enabled timely completion of the study. Total 140 samples were collected (70 Males & 70 Females).

Statistical Technique 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. Some data was represented graphically to enable interpretation and comparison.

Data Analysis and Findings

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 phone (iOS, Android, Windows etc.)

The research study captured responses from 70 male and 70 females. More than 88% of respondents were in the age group of 19-25 years. Majority of the respondents (94%) were post graduate students. It was interesting to note that most of the respondents (97%) owned a touchscreen phone. Nearly 60% of the respondents had 3G data connection on their handsets. 68% of them used pre-paid subscription service.

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 balance had either iOS or blackberry.

Basic Findings (Descriptive)

In the survey undertaken during the study 84% respondents shared that they used WhatsApp as the only mobile instant messaging application. 15% however said that they used multiple MIM apps. 66% of the respondents mentioned that they used emoticons often in their WhatsApp communication. 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 Rs. 100 or less per year. More than 75% of the respondents shared that they were part of 6 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 respondents had 10 or more friends on their WhatsApp list. Only 54% of respondents had 10 or more family members on their WhatsApp list. More than half of the respondents said that they did not change their profile picture of their WhatsApp application frequently. Only 31% said they shared their mood as their status message on WhatsApp. It was interesting to note that almost 85% respondents agreed or strongly agreed that they spent more time on WhatsApp, than on Facebook than they did earlier.

About 51% of the respondents agreed to change 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 popping-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 outburst on their 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. It was seen that 35% of the respondents felt uncomfortable when their message, sent to a group on their WhatsApp list, wasn't responded within 30 seconds. Short cuts seemed to be the preferred way of typing for 68% of the respondents. Another unique finding was that 74% of the respondents acknowledged that they have received 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 was in contradiction to research findings published earlier; where respondents did not want the Status Indicator or wanted an option to switch off 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 not in line; which could be due to cultural or socio-economic differences across geographies.

Key Findings (Inferential)

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

Hypothesis

- Did 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 response’s usage behavior was captured on a 5 point scale (Likert).

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

Table 1

Q. I use a lot of Emotions / 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

Pearson’s Chi-Square Value = 17.714, which was significant at 4 degrees of freedom (p<0.05)

The Chi-square test suggested that usage of emoticons in WhatsApp messages was influenced by the gender of the respondents. This meant that the proportion of respondents who used emoticons differed significantly with their gender. Larger number of female respondents shared that they used emoticons in their message on WhatsApp, than their female counterparts.

Table 2

Q. 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

Pearson’s Chi-Square Value = 8.243, which was significant at 4 degrees of freedom (p<0.05)

The Chi-square test suggested that the number of groups that respondents were part of on WhatsApp were influenced by the gender of the respondents. A larger number of Male respondents shared that they were part of more groups on WhatsApp, than their female counterparts.

Table 3

Q. Average amount of ACTIVE time spent on WhatsApp through 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

Pearson’s Chi-Square Value = 17.397, which was significant at 4 degrees of freedom (p<0.05)

The Chi-square test suggested that the amount of active time spent by respondents on WhatsApp was influenced by the gender of the respondents. A larger number of female respondents shared that they spent greater amount of active time on WhatsApp, than their male counterparts.

Table 4

Q. I change the profile picture of my WhatsApp ID frequently						
Gender	Strongle 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

Pearson’s Chi-Square Value = 12.214, which was significant at 4 degrees of freedom (p<0.05)

The Chi-square test suggested that the tendency to change profile picture often on WhatsApp was influenced by the gender of the respondents. A larger number of female respondents (60%) shared that they changed profile picture frequently on WhatsApp, than their male counterparts (38%).

Table 5

I often change my profile status message						
Gender	Strongle 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

Pearson’s Chi-Square Value = 14.806, which was significant at 4 degrees of freedom (p<0.05)

The Chi-square test suggested that the tendency to change profile STATUS often on WhatsApp was influenced by the gender of the respondents. A larger number of female respondents (61%) shared that they changed profile STATUS more frequently on WhatsApp, than their male counterparts (41%).

Table 6

Q. I share my emotional outburst on WhatsApp with (some) friends						
Gender	Strongle 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

Pearson’s Chi-Square Value = 9.600, which was significant at 4 degrees of freedom ($p < 0.05$)

The Chi-square test suggested that the tendency to share emotional outbursts on WhatsApp was influenced by the gender of the respondents. A larger number of female respondents (58%) shared that they shared emotional outbursts on WhatsApp, than their male counterparts (38%).

Table 7

I often send pictures of my shopping (dress / footwear) to my friends / family on WhatsApp						
Gender	Strongle 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

Pearson’s Chi-Square Value = 23.113, which was significant at 4 degrees of freedom ($p < 0.05$)

The Chi-square test suggested that the tendency to send pictures of shopping to friends/family on WhatsApp was influenced by the gender of the respondents. A larger number of female respondents (50%) shared that they send pictures of shopping to friends / family on WhatsApp, than their male counterparts (20%).

Other Findings

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

- Willingness to pay an annual subscription fee :-
 - ◆ Majority amongst both the genders indicated that they would be ready to pay Rs. 500 or less per annum.
- Sending pictures to friends :-
 - ◆ Both genders shared that they sent lots of pictures to friends and family regularly.
- Number of friends on WhatsApp :-
 - ◆ Most respondents of both genders had 10 or more friends.
- Family members of WhatsApp list:-
 - ◆ Most respondents of both the gender had equal numbers of family members on their WhatsApp list.
- 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

- Sharing 'Good' and 'Bad' moods on WhatsApp :-
 - ◆ Chi-Square results showed that the proportion of respondents who shared 'Good' and 'Bad' moods on WhatsApp did not vary significantly with gender.
- Making spelling errors on WhatsApp :-
 - ◆ There was no significant difference in the proportion of male and female respondents with respect to making spelling errors on WhatsApp.
- Spending more time on WhatsApp instead of Facebook than earlier
 - ◆ No significant difference was found in the proportion of male and female respondents who agreed to spend more time on WhatsApp instead of Facebook.
- Posting pictures and videos in WhatsApp group
 - ◆ The results of the Chi - square test suggested that posting pictures and videos in WhatsApp groups showed no significant difference in terms of the gender of the respondent.
- Length of WhatsApp message is short
 - ◆ Both genders showed no significant difference in proportion with respect to the tendency to write short messages on WhatsApp.
- Time (Period) of the day when WhatsApp was used
 - ◆ The Chi-square results showed no significant difference in the proportion of both the gender and their agreement to usage of WhatsApp during a particular period of the day.
- 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.
- Starting text messages with a greeting (Hi, Hello, How are you?)
 - ◆ There was no significant difference in the proportion of male and female respondents in terms of their agreement to starting a conversation on WhatsApp with a 'Greeting'.
- Most of the groups on WhatsApp consisted of (Friends / Family / Colleague)
 - ◆ Chi-square test results indicated that no significant difference existed in terms of proportion, between genders in terms of the composition.

No significant difference was found in terms of the proportion of male and female respondents in terms of 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.

Conclusion

Overall, this study did provide some insights into the usage of WhatsApp amongst both the gender. The study indicated that females tended to use more emoticon, spent more active time and were part of a lesser number of groups on WhatsApp; this could be a significant insight in terms of understand their need for being more social but more intimate and more expressive. Females also tended to change profile picture and the status message than male respondents; this again could be interpreted as their greater need for acknowledgment and attention from their friends. The same conclusion could be drawn from the findings that they tended to send pictures of their shopping (merchandise) frequently in their social group (family / friend / colleagues). This finding could be relevant for marketers tracking customer feedback and recommendation. WhatsApp could be an important medium to ignite and drive word of mouth for a brand

or a store. The fact that a larger number of female respondents agreed to share emotional outburst 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 undertaken in the area of text messaging and gender differences in terms of both genders having large number of friends, having family members on WhatsApp, both genders spending more time on WhatsApp than Facebook; usage of shortcuts, usage of WhatsApp while being at home and tend to send pictures and videos often through WhatsApp. The results of the study implicitly indicated that operating WhatsApp as an application showed no gender biases, but the purpose of usage (expression, seeking approval) showed a difference between gender; which is important for marketers designing communication for gender specific products and service.

Although, a most extensive and diverse study would be advisable to make conclusion with regards to the motive that drives a certain usage pattern or behavior. A larger number of representative inquiries into usage pattern could this study indeed provides insightful and important pointers and directors towards the area which could be explored.

Limitations

Like most research studies, this study also had its own limitations. The study was conducted in a limited geographical area and hence may not be representative of the larger section of the population. The study was undertaken in a specific age group of respondents and hence may not correspond with results or pattern from other age bracket. 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.

Scope of Further Research

A similar study could be conducted in different / multiple geographical locations to corroborate with the findings presented here. Studies could also be undertaken across population 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 on 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 in the motives and trends in usage of MIM services.

Gratitude

This research effort would not have been possible without the able and timely guidance of my research guide Dr. Gulab Mohite – Dean (N L Dalmia Institute of Management Studies and Research, Mumbai).

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