

An Exploratory Study to Gauge the Youth's Perception about the Usage of Mobile Apps for Shopping

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ABSTRACT--- *The present study focuses on the perception of youth towards mobile based applications especially towards how useful they find this new app-based marketing especially in terms of usefulness towards various segments and how likely they find marketing and promotional messages helpful in making purchasing decisions based on regional and gender differences. For this, a sample of 120 respondents was selected from Delhi and Jaipur cities. Among each group 30 were males and 30 were females from each city. Perception of consumers towards mobile marketing app was measured using Structured Questionnaire, it measures two dimensions namely perception related to individual factors and perception towards marketing messages. The calculated alpha reliability of the scale is found to be .906 and split half reliability is .947. The content validity was found to be high. Findings of the study reveal that individuals from Delhi consider mobile shopping apps as more time saving as compared to an individual from Jaipur. Whereas no difference was found among individuals from Delhi and Jaipur on the purpose of use, stress, and privacy-related concerns. Males scored higher on perception towards mobile marketing apps on the measures of the purpose of use, significantly differs from that of females, no significant gender was the difference found on perception towards time-saving, privacy and overall individual factors. The regional difference was not found on the perception towards the quality of content, quality of services and relevance of marketing and advertisement related messages. The perception towards the quality of the content of mobile app-based messages differs, male's perception was more favorable as compared to females, whereas no regional difference was found on the measures of quality of services and relevance of marketing and advertisement related messages overall measures of perception towards marketing messages.*

Keywords—Consumer perception, Gender differences, Mobile-based marketing and Regional Differences

I. BACKGROUND OF THE STUDY

The Indian market structure has evolved itself to a great extent in the subsequent years. There was a time when we use to visit the store to purchase goods. We used to visit the different market to buy different categories of products and there were specific markets, which were popular for selling a particular category of products, like Johari Bazar for jewelry, AC market in Patiala is famous for phulkari. Jodhpur is famous for the handicraft market. But gradually the trends changed, and these customized market turned into a general market where different types of customizing goods were made available to the customers at a single market like

Connaught Place, ChandniChowk where all the segments of quality goods are available at a single market. Later, these markets turned into advance supermarkets into malls fully loaded with the latest updated goods with discounted prizes i.e Pink Square, World Trade Park, Promenade mall, Great India Palace mall Noida, East Delhi Mall, Pacific Mall.

Gradually, with the dawn of digitalization the various aspects and functioning of our lives were impacted by the changing technology, similarly these markets no longer remain untouched from the effect of digitalization. Initially, tally- shopping became famous where goods were sold on television while educating consumers about the goods and consumers place orders via toll-free numbers. Here a verity of good was made available via these tally-shopping shows. Today there are a variety of teleshopping channels i.e. Tele brands, HomeShop18 sold variety of goods like Gadgets, Footwear, Clothing, Accessories Cookware & Kitchenware, Home appliances, Home linen, Diamond jewelry, Gold & Artificial jewelry, Insurance policies are all available at your fingertips on one call you can either pay on delivery or pay online.

As we know through retail merchandizing the brands sell their services and goods to the consumer. Retailer tends to promote awareness of goods and services to sell among their consumers. Advertising as a tool is for increasing awareness and considerations among consumers. The right type of strategy for advertisement can influence the consumer to choose their brand over others

In the era of online web-based service, where the people start selling via online websites. It is an enabled merchandising easy and online with the benefits of easy customization, catheterization and with multiple modes of payment. It provides a lot of convenience to the Shoppers as they can check the website online and get a fair idea of product range and prices, just by clicking. It brought a boom in the industry Paytm, Alibaba, Amazon, like many other big companies emerged. New ways to attract sales from customers emerged. They started diverse sources to reach customers at ease and comfort. As Pratminingsih, Lipuringtyas&Rimenta (2013)[10] empirically identified by the impact of satisfaction, trust and commitment on customer loyalty in online shopping, the results of their study diagnosed that satisfaction; trust and commitment

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have a significant impact on student loyalty toward online shopping. It emphasized the mobile-based customization with the advancement in fast mobile-based technology. The research conducted by Jusoh, Z. M., & Ling, G. H. (2012)[4] identified factors that pattern of online buying to a great extent affects the attitude of consumers towards e-commerce

II. DIGITAL MARKETING AMONG YOUTH

The majority of the consumer in the Indian market is the youth population belonging to the age group of 16 -35 years. Majority of consumers of fashion related products, lifestyle products, cosmetic, food industry, gadgets, electronic appliances are these youth. As the advancement in technology emerged, youth become more adaptive to the development of new technology. The introduction of mobile technology brought a boom in the market due to which products at cheaper cost are made available at the doorstep. The new technology is featured with the flexibility of reviving selecting/ classifying goods of our choices and buying them as per our comfort using advance payment mode like hassle-free cashless (Debit & Credit Card) and COD facility. Online says is new concept introduced in mobile app-based marketing introduced by Flipkart, Amazon, Paytm which allows marketers to sell product in a very short duration of time with earning of huge profit and benefitting consumers to get products at heavy discounts while sitting at their home and as well as consumers to get opportunity to review, select, purchase and even return the goods while shopping from home. One should place an order on a single click from mobile apps which very convenient mode of buying a variety of products. The products are easily delivered at the doorstep. Daştan&Gürler (2016)[2] in an empirical study examined and identified that perceived trust, perceived mobility and attitudes positively impacts the adoption of Mobile Payment Systems (MPS); whereas perceived usefulness and perceived ease have no significant relation with the adoption of MPS. The study also proposed that Perceived reputability is directly linked with perceived trust whereas environmental risk inverse relation with perceived trust. The pocket-able device is being used by youth as a ubiquitous part in their lives. As they utilize most of these most of the time on the device for education, shopping, entertain, etc. They also have an opportunity to get their notes from education apps that can download books and study. Interaction with youth reveals that the mobile apps are so helpful for them it is a Stressbuster after their study hours get over by using entrainment apps (games, movies, TV, etc.). For them, it is a quick and handy device from which things can be easily and conveniently done. As per apps like flipchart and Amazon helps youth to buy gifts for their dear one or want to shop for themselves whether they are leaving in the university or outside the university. Sometimes the second option does occur for them as they are not working for them to afford everything is difficult than what mode helps them to get the stuff are mobile apps full of discounts and better deals from which they can buy stuff easily on very less price. Life becomes so easy and comfortable because of mobile technology.

A person sitting at the remote area can plan for international ticket booking and cancellation without being

physically present at booking counters and now consumer no longer must wait in long queues thanks to the reservation booking apps like train, flight, bus ticket booking apps even through movie tickets are also booked by a mobile app. (seats can be explored). Traveling apps like Ola, Uber, rental, RSRTC, Red Bus, Auto apps can also be rented by apps that are provided with the security needs of travelers as they help travelers to locate their destinations and get estimates of the travel eve to help them to check the current location by travel. Even traveling inside the city at narrow routes become adventures with Autorickshaw apps, motorbike/ bicycle rental apps. You want to relax from your hectic schedules, but you can't spare time to plan your trips, traveling apps are ready to serve you 24*7 at your comfort anytime, anywhere make your choices and start booking the place you want to visit and rock your days you have booked. Just download make my trip.com, traveigo.com, yeti booking apps register with your credentials and customize your trip.

Kim, Fiore & Lee (2007)[5] examined the impact of image interactive technology (IIT) on the perception of consumers for the retail environment, shopping involvement, shopping enjoyment, a desire to stay, and patronage intention, the study proposed a pleasure-oriented model of consumer patronage behavior in the online retailing environment.

Nowadays GPS tracking device is an important feature of smartphones. Unni& Harmon (2007)[10] argue that LBA (Location Based Advertisement) was described as a free, opt-in service from cell phone service providers. Trust related concerns were the major concern among consumers as compared to perceived benefits and value. Upon explicit request by the consumer, LBA was relatively more effective, especially in a situation where consumers are alerted for advertising or promoting for preferred product categories appropriate to a specific location. Online food order for hostel. Most of them don't like food in mess or for a change. You are feeling hungry and you want to drink something foods and drinks apps are at your services. Apps like Swiggy, Zomato, food panda, dominos, pizza hut are available to serve at your doorsteps or the location you prefer to deliver on just one click away. Balasubramanian, & Balraja, (2015)[1] argues the considerable increase in the businesses was found among the restaurants linked with a smartphone application.

Life becomes so busy people are alone in crowds. There are people all around but not a single person to connect with whom you can share your comfort because of jobs, separating distances which makes it difficult to have face to face interaction. You are feeling alone, and you want to talk to someone even you don't want to disturb someone thanks to WhatsApp check the last seen identify the friends, relatives, and dear ones. Online Social media apps like Facebook, WhatsApp, google duo, Skype, Instagram share memories connecting with these loved ones so easy you can

chat, calls, interact face to face become so easy that they



no longer feel apart. Gifting becomes so innovative and creative. You are miles away and you can't reach there or you want to surprise your dear ones on Birthday, Anniversary or special occasions Ferns N Petals, Flipkart, Amazon, Myntra, shin, Snapdeal, Paytm, shop clues, etc. According to Koo (2016)[6] nowadays smartphones apps are widely used for online transactions, promoting products, locating consumers and services, entertainment and for content supply.

According to a study conducted by Van Riel, A. C. R., Liljander, V., & Jurriëns, P. (2001)[11], the Customers' overall satisfaction was a resultant of their satisfaction with the core service, supplementary services and the user interface. A study identified a strong positive effect of overall satisfaction on the intention to continue using the portal.

Since of easy accessibility usage of internet in all kind of devices weather, it is a laptop or mobile phone. The convenience factor for youth has occurred likewise the youth' now on one click do online shopping through mobile devices. This is how E-commerce has grown up fast. From which the buying process becomes faster and easy for everyone. The youth has made elder life easy too by helping them in providing online shopping from the new technology that is mobile applications. There is a plethora of mobile application has grown almost every aspect of the market. Whether its clothes apps, travel apps, banking apps, delivery of food apps, etc. It is kind of that E-commerce has offered many opportunities for online marketing. From which the youth are getting more influenced to **shop online by mobile**.

Ngai E.W.T., Gunasekaran A. (2007) [7] coated in their research the significance of IT in providing better logistics services to the customers. Superior value chain has helped a lot in flourishing the e commerce. The handy mobile devices are used for advertising via message mode for consumer Haghirian, & Madlberger (2005)[3] argues that attitude toward advertising using mobile devices are greatly affected by mobile marketing messages of advertising value. Nysveen & Pedersen (2005)[8] investigate the gender differences on mobile chat services results reveal that female users are guided by social norms and intrinsic motivator whereas males focus on external motivators usefulness and expressiveness.

III. OBJECTIVES OF THE STUDY

The paper investigates the perception of consumers towards individual and marketing messages towards mobile apps-based shopping.

Based on the review of the literature we find that mobile technology has boosted the marketing benefiting marketers and consumers as well. The present research attempts to investigate how the youth population perceives the features and comforts of this new mobile-based marketing strategy adopted by marketers. To investigate this following objective were formulated:

1. To investigate the regional difference in consumer perception related to individual factors.
2. To investigate gender differences in consumer perception related to individual factors.

3. To investigate the regional difference in consumer perception related to marketing messages.
4. To investigate gender differences in consumer perception related to marketing messages.

IV. HYPOTHESIS OF STUDY

1. There exists no regional difference in consumer perception related to individual factors.
2. There will be no gender difference in consumer perception related to individual factors.
3. There will be no regional difference in consumer perception related to marketing messages.
4. There will be no gender difference in consumer perception related to marketing messages.

V. METHODS

A. Variables of the Study

Independent variable: Gender differences and regional differences.

Dependent variables: Consumer Perception

B. Sample: A sample of 120 respondents was selected Delhi and Jaipur among which 60 from each city using purposive sampling only selecting who use mobile as a tool for marketing. Among each group 30 were males and 30 were females from each city. The age wise distribution is shown in the table. The mean age of the sample is found to be 23.48.

Table 1: Shows Age wise distribution.

Age	Frequency	Percent
17	4	3.3
18	6	5.0
19	12	10.0
20	14	11.7
21	12	10.0
22	10	8.3
23	3	2.5
24	3	2.5
25	8	6.7
26	14	11.7
27	11	9.2
28	11	9.2
29	8	6.7
30	4	3.3
Total	120	100.0

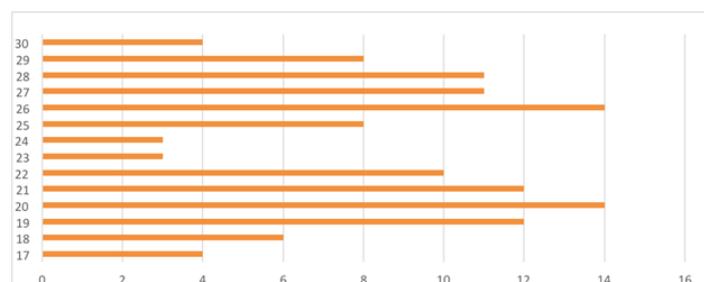


Figure 1: Showing age wise distribution.



Table No. 2 Distribution of population based on marital Status

Marital Status	Frequency	Percent
Single	76	63.3
Married	44	36.7
Total	120	100.0

Table No. 3 Employment Status

Occupation	Frequency	Percent
Employed	46	38.3
Self-Employed	16	13.3
A Homemaker	4	3.3
A student	54	45.0
Total	120	100.0

Table 4: Educational Quality

Education	Frequency	Percent
High School	2	1.7
12th Pass	56	46.7
Bachelor's Degree	12	10.0
Master's Degree	36	30.0
Doctorate	10	8.3
Others	4	3.3
Total	120	100.0

C. Survey Instrument

Structured Questionnaire developed to measure consumer perception was used it measures two dimensions namely perception related to individual factors which include purpose of use, time-saving, stress/ health illness effect privacy and individual factors, and perception related to marketing messages related factors on Quality of content, Quality of Services, Relevance of Notification and Advertisement and which includes in consumer perception. The calculated alpha reliability of the scale is found to be .906 and split half reliability is .947. The content validity was found to be high.

VI. RESULT AND INTERPRETATION

A. Individual Factors and its sub-dimensions

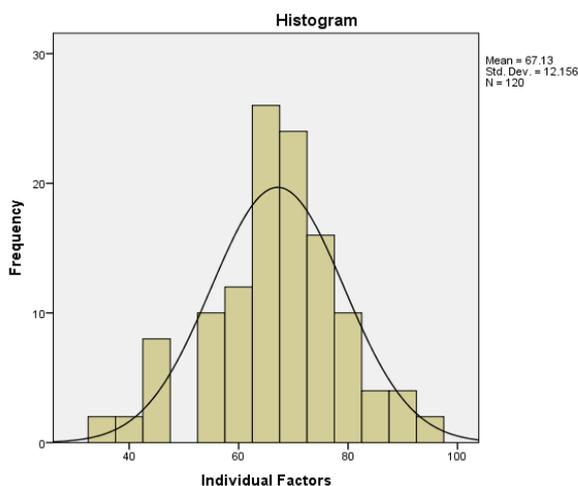
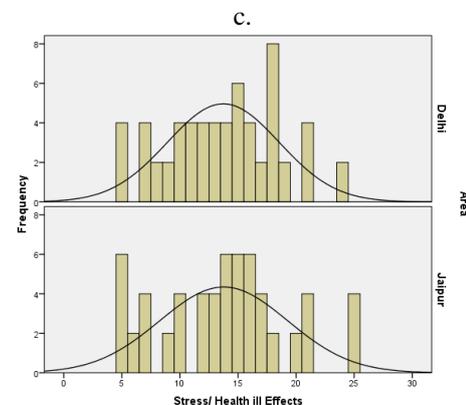
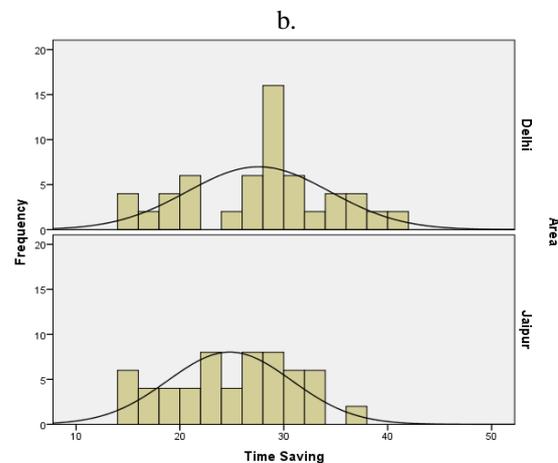
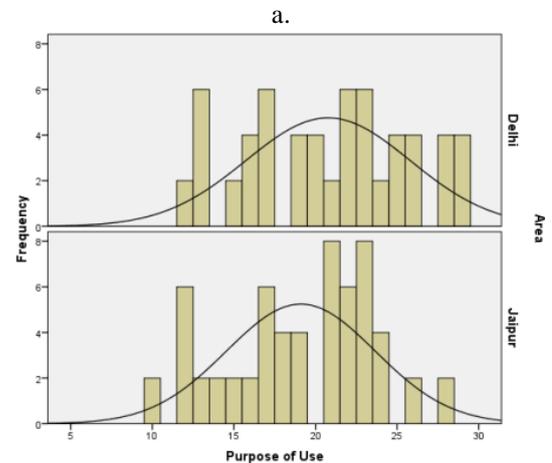


Figure 2: Histogram for Normality of data on the perception of individual factors.

Table 5: Shows Normality of Data

Dimensions	Shapiro-Wilk		
	Statistic	df	Sig.
Purpose of Use	.969	120	.007
Time Saving	.964	120	.003
Stress	.970	120	.009
Privacy	.959	120	.001
Individual Factors	.982	120	.104

1) Homogeneity of equality of error variance distribution perception of Individual Factors based on area.



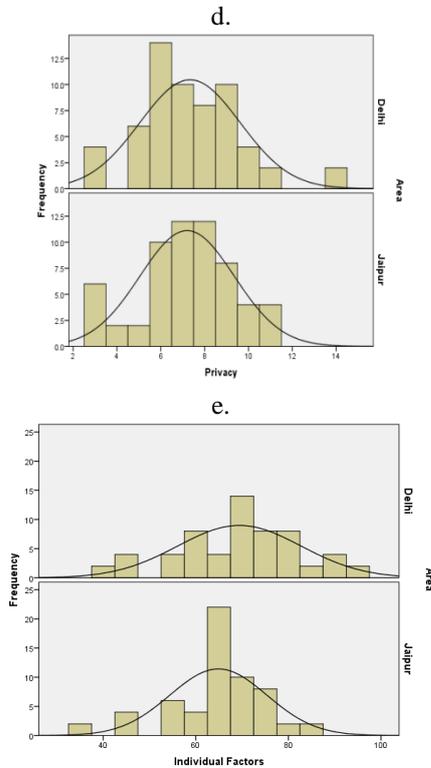


Figure 3: Shows the Homogeneity of Equality of Error Variances between Gender on sub-dimensions (a) Purpose of Use (b) Time-Saving (c) Stress (d) Privacy Concerns and main dimension (e) Individual Factors

Table 6: Area wise Levene’s test for homogeneity of Equality of Error Variances

Dimensions	F	df ₁	df ₂	Sig.
Purpose of Use	.805	1	118	.371
Time-Saving	.184	1	118	.669
Stress	.465	1	118	.497
Privacy	.151	1	118	.698
Individual Factors	4.878	1	118	.029

Table 7: Shows Mann-Whitney-U values perception towards individual factors related to individual preferences based on region.

Dimensions	Area	N	Median	Mean Rank	Sum of Ranks	Mann-Whitney U	Z	Effect Size	Asymp. Sig. (2-tailed)
Purpose of Use	Delhi	60	21.50	66.07	3964	1466.00	-1.758	0.015	.079
	Jaipur	60	20.00	54.93	3296				
Time Saving	Delhi	60	28.50	67.43	4046	1384.00	-2.189	0.018	.029
	Jaipur	60	26.00	53.57	3214				
Stress	Delhi	60	14.00	60.77	3646	1784.00	-.084	0.001	.933
	Jaipur	60	14.00	60.23	3614				
Privacy	Delhi	60	7.00	60.03	3602	1772.00	-.149	0.001	.882
	Jaipur	60	7.00	60.97	3658				
Individual Factors	Delhi	60	70.50	67.07	4024	1406.00	-2.071	0.017	.038
	Jaipur	60	65.00	53.93	3236				

Before conducting the test for identifying significant difference between independent groups the assumption of normality for perception towards individual factors of mobile marketing was evaluated and determined using Shapiro-Wilk, since the p (.007), (.003), (.009), (.001) & (.104) < (.05) for Purpose of Use, Time Saving, Stress, Privacy, Individual Factors, respectively, thus null hypothesis, which stated that the data is normal was rejected an alternative hypothesis that the data is skewed is accepted.

The assumption of homogeneity was not attained, because p (.371), (.669), (.497), (.698) > (.05) for Purpose of Use, Time Saving, Stress, Privacy, Individual Factors, respectively which was found to be homogenous but (.029) > .05 for Individual Factors and it was not found homogenous. This is depicted by the Levene’s Test of Homogeneity of Variances, $F(1, 118) = .805, p = .371$ for purpose of use, $F(1, 118) = .184, p = .669$ for time saving, $F(1, 118) = .465, p = .497$, for stress, and $F(1, 118) = .151, p = .668$ for Privacy, with an alpha level of

.05, because p (.371), (.669), (.497), (.698) < α (.05), which depicts non-significance, the null hypothesis (no variance difference) is accepted – as such, indicating that the assumption of homogeneity of variance is attained. Whereas for perception related to Overall individual factors Levene’s Test of Homogeneity of Variances indicates, $F(1, 118) = .805, p$ (.029) > (.05) which indicates a significant value, the null hypothesis (no variance difference) is rejected – as such, indicating that the assumption of homogeneity of variance is not attained.

As the assumption of normality was not met, thus non-parametric test Mann-Whitney-U was administered. The result shows perception towards individual factors of mobile marketing and sub-dimensions. On perception towards the purpose of using mobile marketing



applications, it was found that individuals from Delhi ($Mdn=21.05$) did not differ significantly from individuals from Jaipur ($Mdn=20.00$), $U=1466.00$, $z=-1.758$, ns , $r=-.015$. Similarly, on the perception of stress and health ill effects individuals from Delhi ($Mdn=14.00$) do not differ significantly from individuals from Jaipur ($Mdn=14.00$), $U=1784.00$, $z=-.001$, ns , $r=-.933$. On perception related to privacy concerns related to mobile marketing apps individuals from Delhi ($Mdn=7.00$) do not differ significantly from individuals from Jaipur ($Mdn=.700$), $U=1772.00$, $z=-.149$, ns , $r=-.001$. Whereas on the perception of time-saving through mobile marketing apps, individuals from Delhi, ($Mdn=28.50$) considers mobile marketing apps more time saving as compared to individuals from Jaipur ($Mdn=14.00$), $U=1384.00$, $z=-2.189$, $p (.029) <.05$, $r=-.018$. Similarly, on the overall perception related to Individual factors of mobile marketing apps, individuals from Delhi ($Mdn.=70.50$) give more importance as compared to individuals from Jaipur ($Mdn.=65.00$), $U=1406.00$, $z=-2.071$, $p (.038) <.05$, $r=-.017$.

2) Homogeneity of equality of error variance distribution perception of Individual Factors based on area.

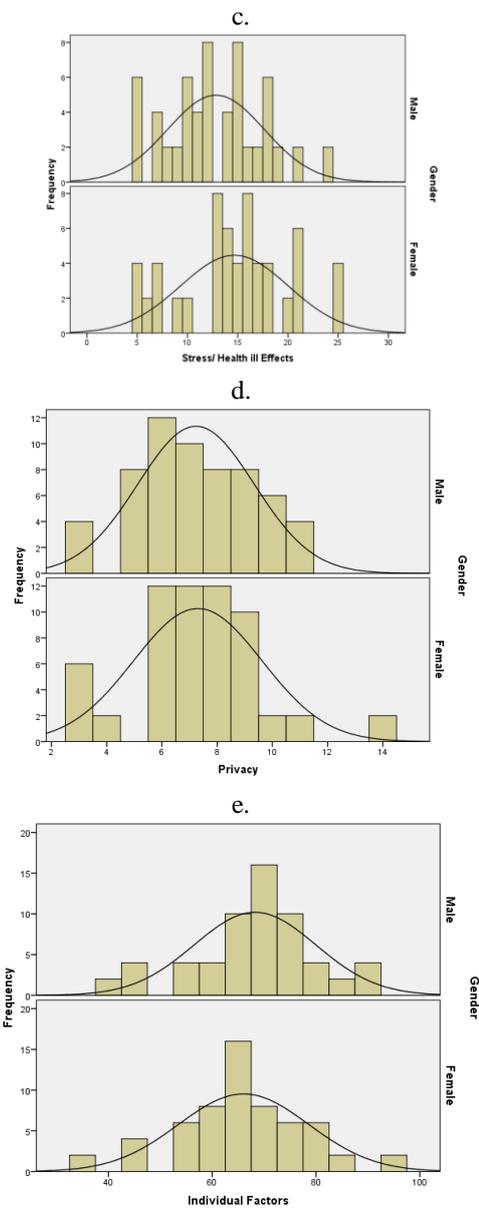
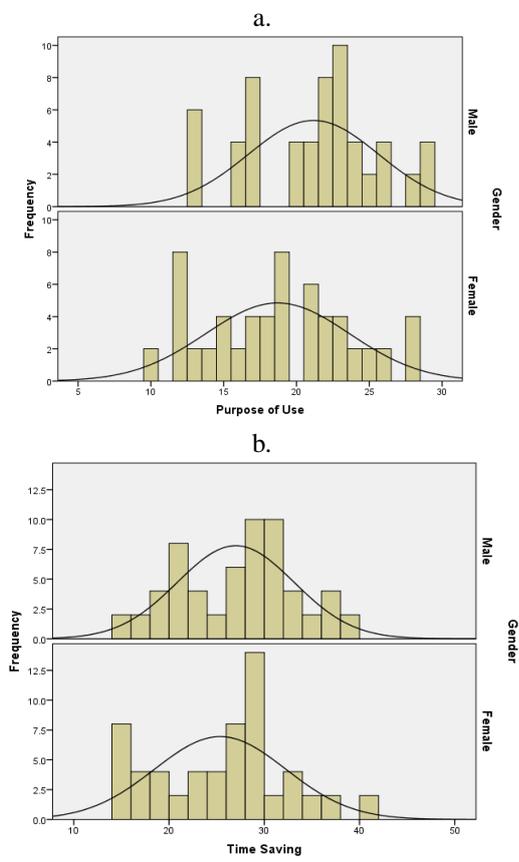


Figure 4: Shows the Homogeneity of Equality of Error Variances between Gender on sub-dimensions (a) Purpose of Use (b) Time-Saving (c) Stress (d) Privacy Concerns and main dimension (e) Individual Factors

Table 8: Gender wise Levene's Test of Equality of Error Variances

Dimensions	F	df ₁	df ₂	Sig.
Purpose of Use	.808	1	118	.371
Time-Saving	.732	1	118	.394
Stress	.130	1	118	.719
Privacy	.002	1	118	.965
Individual Factors	.092	1	118	.762

Table 9: Shows Mann-Whitney-U values perception towards factors related to individual preferences based on gender.

Dimensions	Gender	N	Median	Mean Rank	Sum of Ranks	Mann-Whitney U	Z	Effect Size	Asymp. Sig. (2-tailed)
Purpose of Use	Male	60	22.00	69.43	4166	1264	-2.821	0.024	.005
	Female	60	19.00	51.57	3094				
Time-Saving	Male	60	28.50	65.57	3934	1496	-1.600	0.013	.110
	Female	60	27.00	55.43	3326				
Stress	Male	60	12.00	54.13	3248	1418	-2.010	0.017	.044
	Female	60	15.00	66.87	4012				
Privacy	Male	60	7.00	59.80	3588	1758	-.223	0.002	.823
	Female	60	7.00	61.20	3672				
Individual Factors	Male	60	70.00	64.57	3874	1556	-1.282	0.011	.200
	Female	60	64.50	56.43	3386				

The assumption of homogeneity was not attained, because $p (.371), (.669), (.497), (.698) > (.05)$ for Purpose of Use, Time Saving, Stress, Privacy, Individual Factors, respectively it shows that data was found to be homogenous. This is depicted by the Levene's Test of Homogeneity of Variances, $F (1, 118) = .805, p = .371$ for purpose of use, $F (1, 118) = .184, p = .669$ for time saving, $F (1, 118) = .465, p = .497$, for stress, and $F (1, 118) = .151, p = .668$ for Privacy and $F (1, 118) = .151, p = .668$ for Overall perception towards Individual Factors, with .05 as the level of alpha, because $p (.371), (.669), (.497), (.698) < \alpha (.05)$, which depicts that it is non-significant, the null hypothesis (no variance difference) is accepted – as such, showcasing that the assumption of homogeneity of variance is attained.

As the assumption of normality was not attained, thus non-parametric test Mann-Whitney-U was administered. The result shows perception towards individual factors of mobile marketing and sub-dimensions. On perception towards the purpose of using mobile marketing applications it was found that Males ($Mdn=21.05$) differ significantly from individuals from females ($Mdn=19.00$), $U=1.268.00, z=-2.821, p (.005) < (.01), r=-.024$. Similarly, on the perception of stress and health ill effects male ($Mdn=12.00$) have significantly lower scores of females ($Mdn= 15.00$), $U=1418.00, z=-2.010, p (.044), r=-.017$. Whereas on the perception of time-saving through mobile marketing apps, males ($Mdn=28.50$) do not differ quite significantly for females ($Mdn=27.00$), $U=1496.00, z=-1.784, ns, r=-.013$. Similarly, on perception related to privacy concerns related to mobile marketing apps male ($Mdn=7.00$) does not differ quite significantly from females ($Mdn=.700$), $U=1758.00, z=-.223, ns, r=-.002$. On the overall perception related to Individual factors of mobile marketing apps, males ($Mdn.=70.00$) do not differ quite significantly from ($Mdn.=64.00$), $U=1556.00, z=-1.282, ns, r=-.011$

B. Marketing Messages and its sub-dimensions

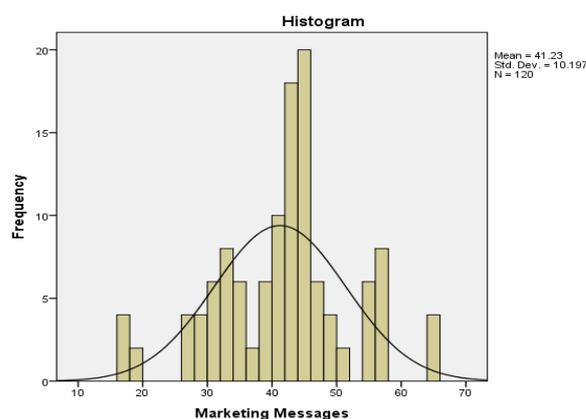


Figure 5: Histogram for Normality of data on the perception of marketing messages.

Table 10: Shows Normality of Data

Dimensions	Shapiro-Wilk		
	Statistic	Df	Sig.
Quality of content	.969	120	.007
Quality of Services	.957	120	.001
The relevance of Notification and Advertisement	.958	120	.001
Marketing Messages	.968	120	.005

1) Homogeneity of equality of error variance distribution perception of Marketing messages based on area.

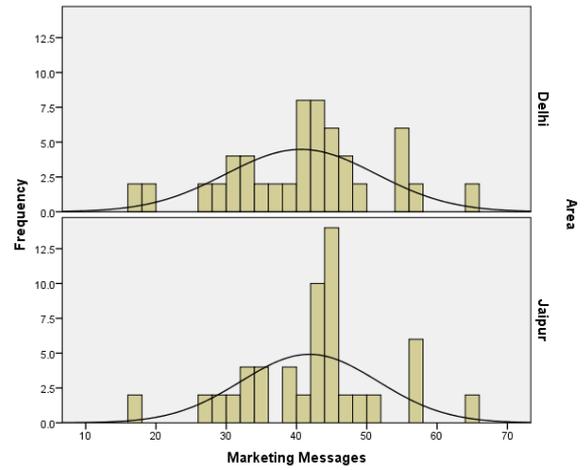
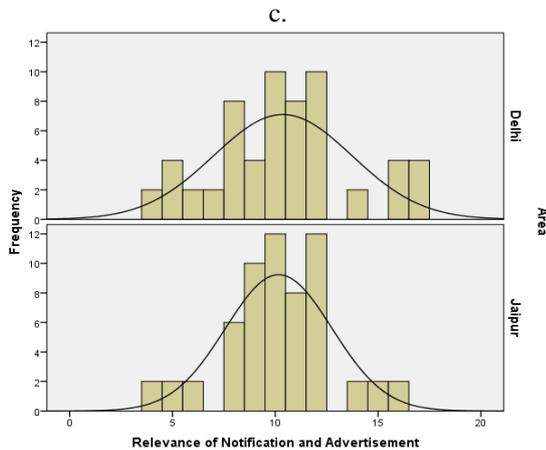
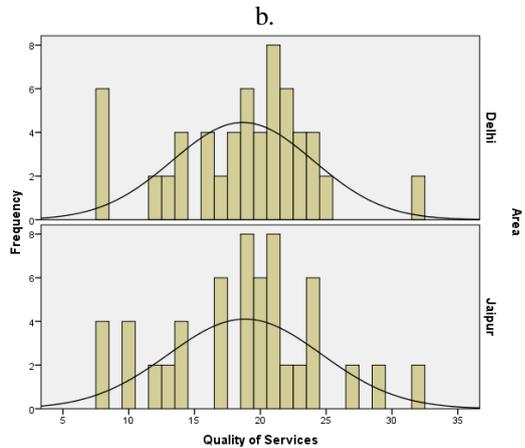
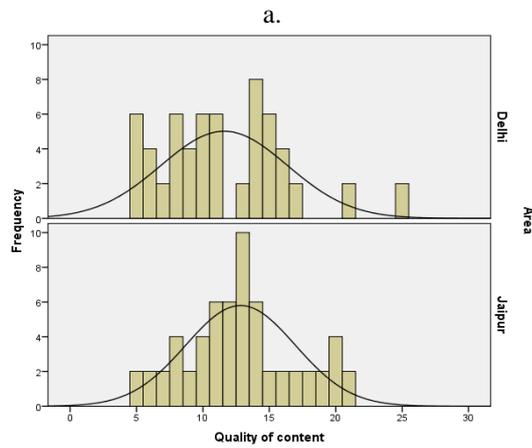


Figure 6: Histogram for Homogeneity of Equality of Error Variance on perception based on region towards sub-dimensions (a) Quality of content (b) Quality of Service (c) Relevance of Notification and Advertisement and the dimension (e) marketing messages.

Table 11: Region Wise Levene’s test for homogeneity of Equality of Error Variance

Dimensions	F	df1	df2	Sig.
Quality of content	2.08	1	118	.151
Quality of Services	.284	1	118	.595
The relevance of Notification and Advertisement	3.58	1	118	.061
Marketing Messages	.626	1	118	.430

Table 12: Shows Mann-Whitney-U values perception towards marketing messages based on region.

Dimensions	Area	N	Median	Mean Rank	Sum of Ranks	Mann-Whitney U	Z	Effect Size	Asymp. Sig. (2-tailed)
Quality of content	Delhi	60	11.00	55.60	3336.00	1506.00	-1.548	0.013	.122
	Jaipur	60	13.00	65.40	3924.00				
Quality of Services	Delhi	60	19.50	60.40	3624.00	1794.00	-0.032	0.000	.975
	Jaipur	60	19.50	60.60	3636.00				
The relevance of Notification and Advertisement	Delhi	60	10.00	60.93	3656.00	1774.00	-0.138	0.001	.890
	Jaipur	60	10.00	60.07	3604.00				
Marketing Messages	Delhi	60	41.50	57.73	3464.00	1634.00	-0.873	0.007	.383
	Jaipur	60	43.00	63.27	3796.00				



Before conducting the test for determining significant difference between independent groups the assumption of normality for perception towards individual factors of mobile marketing was evaluated and determined using Shapiro-Wilk, since the p (.007), (.001), (.001) & (.005) < (.05) for Quality of content, Quality of service, Relevance of Notification and Advertisement, the data sets towards normality was rejected an alternative hypothesis that the data is not a normal one is accepted.

The assumption of homogeneity was not attained, because of p (.151), (.595), (.497), (.698) > (.05) for Quality of Content, Quality of Service, Relevance of Notification, and Marketing messages respectively which was found to be homogenous. This is indicated by the Levene's Test of Homogeneity of Variances, $F(1, 118) = 2.084, p = .151$ for Quality of Content, $F(1, 118) = .284, p = .595$ for Quality of service, $F(1, 118) = 3.585, p = .061$, Relevance of Notification and advertisement, and $F(1, 118) = .626, p = .430$ for Marketing Message, with an alpha level of .05, because p (.151), (.595), (.061), (.430) < α (.05), which depicts that the value is non-significant, thus the null hypothesis (no variance difference) is accepted – as such, indicating that the assumption of homogeneity of variance is attained.

As the assumption of normality was not attained, thus non-parametric test Mann-Whitney-U was administered. The result shows perception towards marketing messages of mobile marketing and sub-dimensions. On perception towards the quality of the content of mobile marketing applications, it was found that individuals from Delhi ($Mdn=11.00$) do not differ significantly from individuals from Jaipur ($Mdn=13.00$), $U=1506.00, z=-1.548, ns, r=-.013$. Similarly, on the perception of Quality of service individuals from Delhi ($Mdn=19.50$) do not differ significantly from individuals from Jaipur ($Mdn=19.50$), $U=1784.00, z=-.032, ns, r=-.000$. For Perception towards the relevance of notification and advertisement of mobile marketing apps of individuals from Delhi ($Mdn=41.50$) do not differ significantly from individuals from Jaipur ($Mdn=43.00$), $U=1634.00, z=.873, ns, r=-.007$. On Marketing Messages related to the relevance of notification and advertisement on mobile marketing apps individuals from Delhi ($Mdn=41.50$) do not vary significantly from individuals from Jaipur ($Mdn=10.00$), $U=1774.00, z=-.873, ns, r=-.007$.

2) Homogeneity of equality of error variance on the perception of marketing messages based on gender.

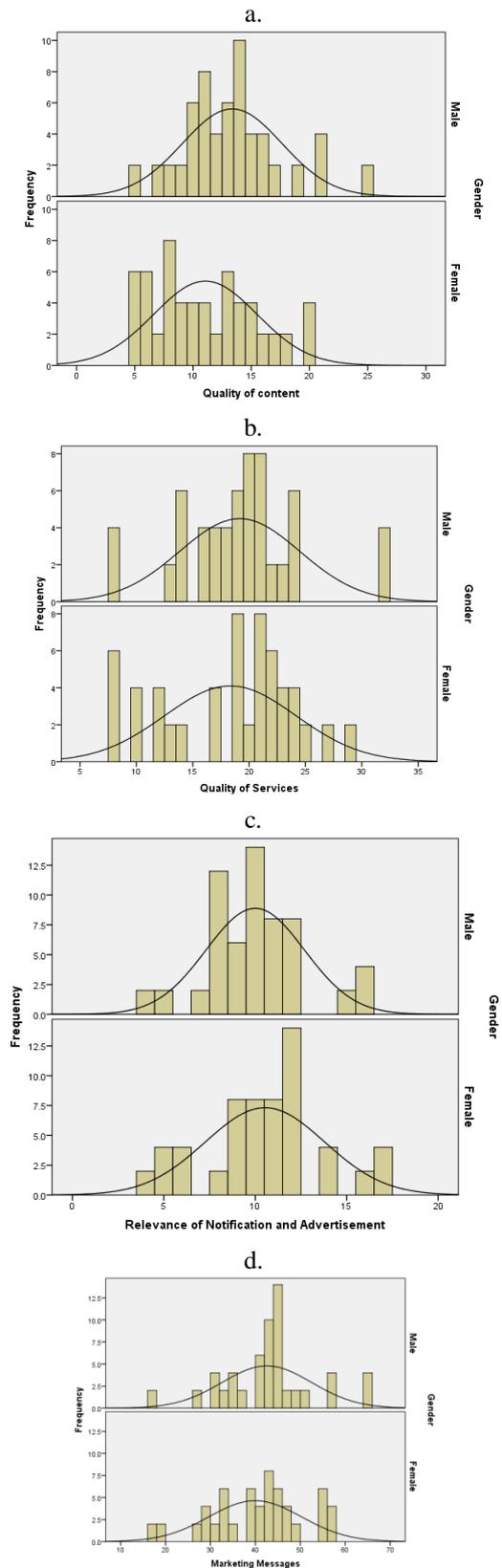


Figure 7: Histogram for Homogeneity of Equality of Error Variance on perception based on region towards sub-dimensions (a) Quality of content (b) Quality of Service (c) Relevance of Notification and Advertisement and the dimension (d) marketing messages

Table 13: Gender Wise Levene’s test for homogeneity of Equality of Error Variance

Dimensions	F	df ₁	df ₂	Sig.
Quality of content	1.374	1	118	.243
Quality of Services	2.593	1	118	.110
The relevance of Notification and Advertisement	2.450	1	118	.120
Marketing Messages	.966	1	118	.328

Table 14: Shows Mann-Whitney-U values perception towards marketing messages based on gender.

Dimension	Gender	N	Median	Mean Rank	Sum of Ranks	Mann-Whitney U	Z	Effect Size	Asymp. Sig. (2-tailed)
Quality of content	Male	60	13	69.30	4158.00	1272.00	-2.780	.023	.005
	Female	60	11	51.70	3102.00				
Quality of Services	Male	60	20	60.67	3640.00	1790.00	-.053	.000	.958
	Female	60	20	60.33	3620.00				
The relevance of Notification and Advertisement	Male	60	10	55.87	3352.00	1522.00	-1.473	.012	.141
	Female	60	11	65.13	3908.00				
Marketing Messages	Male	60	43	65.10	3906.00	1524.00	-1.452	.012	.147
	Female	60	41	55.90	3354.00				

The assumption of homogeneity of equality of error variance was not attained, because of p (.243), (.110), (.120), (.328) > (.05) for Quality of Content, Quality of Service, Relevance of Notification, and Marketing messages respectively which was found to be homogenous. This is indicated by the Levene's Test of Homogeneity of Variances, $F(1, 118) = 1.374, p = .243$ for Quality of Content, $F(1, 118) = 2.593, p = .110$ for Quality of service, $F(1, 118) = 2.450, p = .120$, Relevance of Notification and advertisement, and $F(1, 118) = .966, p = .328$ for Marketing Message, with an alpha level of .05, because p (.243), (.110), (.120), (.328) < α (.05), which indicates a non-significant value, the null hypothesis (no variance difference) is accepted – as such, depicting that the assumption of homogeneity of variance is met.

As the assumption of normality was not met, thus non-parametric test Mann-Whitney-U was administered. The result shows perception towards marketing messages of mobile marketing and sub-dimensions. On perception towards the quality of the content of mobile marketing applications it was found that individuals from male ($Mdn=13.00$) do not differ significantly from individuals from female ($Mdn=11.00$), $U=1272.00, z=-2.780, p(.005) < .01, r=.005$. Whereas, on the perception of Quality of service male ($Mdn=20.00$) do not differ significantly from individuals from female ($Mdn=20.00$), $U=1790.00, z=.053, ns, r=-.000$. For Perception towards the relevance of notification and advertisement male ($Mdn=55.87$) do not differ significantly from individuals from female ($Mdn=65.13$), $U=1522.00, z=1.473, ns, r=-.012$. On Marketing Messages related to the relevance of notification and advertisement on mobile marketing apps males ($Mdn=41.50$) do not differ significantly from individuals from female ($Mdn=10.00$), $U=1524.00, z=1.452, ns, r=.012$.

VII. DISCUSSION

The First objective investigates the regional difference in consumer perception related to individual factors. It was hypothesized that there will be no regional difference in consumer perception related to individual factors. The findings of table 7 show a statistically significant difference in the consumer's perception towards time-saving and overall individual factors related to mobile app-based marketing. Individuals from Delhi consider mobile shopping apps as more time saving as compared to an individual from Jaipur. This may be because in Delhi life is much faster they have no time to buy directly so people think to buy online, then traffic is a big problem lots of population is there so much traffic, shops are still far away no one wants to stuck in traffic and buy stuff for them on one click survival is easy instead of taking out time from busy schedule and buy. The null hypothesis is rejected for these factors and the alternative hypothesis that a significant difference exists on the measures of individual factors was accepted. Whereas on the measures of Purpose of use, stress/health and Privacy related concerns no significant difference was found between the individuals from Delhi and Jaipur. As mobile is a handy-device being mostly used by all, so people felt the same comfort whether it is Delhi or Jaipur. Mobile-apps are commonly used whether they want to buy from apps books, traveling, hotel or movie tickets, regular home utility stuff, lifestyle stuff as it is stress-free helps people at the time of entertainment time, off. Course adaptability towards handy device easy to pay and buying option no significant different differences were found. The null hypothesis was accepted for these factors.

The Second objective of the study aims to investigate gender differences in consumer perception related to



individual factors. It was hypothesized that there will be no gender difference in consumer perception related to individual factors. Findings of table 10 shows males scored higher on perception towards mobile marketing apps on the measures of purpose of use, significantly differs from that of females, working males usually remain too busy at work they have very less time to visit stores for purchasing goods of need, they have very narrow choices so shopping online enables them to place immediately with the help of mobile app while driving or in a meeting. Also, most of the time orders for the family as for partners are also placed by males because of familiarity of choices. Whereas females scored higher on the measures of Stress as compared to males. Because they are so much use to the mobile device for chatting, Messaging, calling while making purchasing online, they get confused, variety of choices so they buy from apps, it happens they want to try clothes and buy stuff, they can't buy immediately few kinds of stuff according to them by the app. Hence the null hypothesis was rejected for these factors and the alternative hypothesis that gender difference exists on perception related to the purpose of use and Stress. On the other hand, there was no significant gender difference found on perception towards time-saving, privacy and overall individual factors. The mobile app is used by everyone whether they are males and females use apps related to payment like Paytm app, Snapdeal, Amazon where privacy is the primary concern. Whereas too many choices sometimes make purchasing decisions difficult and continuous long exposure to bright screen make use of apps stressful among males and females. Thus, the null hypothesis was accepted.

The third objective was to find a regional difference in consumer perception related to marketing messages. It was hypothesized that no regional difference in consumer perception related to marketing messages exists. It was found that no significant regional difference exists on the perception towards the quality of content, quality of services and relevance of marketing and advertisement related messages and overall measures of perception towards marketing messages. Since the messages are centralized and common to all individuals mostly related to promotion and discounts on products, which are equally appealing to people from different regions, in fact, these are also present in regional languages. So, no regional differences were found (See table 13)

The fourth objective was to find gender differences in consumer perception related to marketing messages. It was hypothesized that no regional difference in consumer perception related to marketing messages exists. It was found that the perception towards the quality of the content of mobile app-based messages differs significantly among males and females, male's perception was more favorable as compared to females. This is due to the fact the Quality of content especially for products related to the use of females. They prefer to physically evaluate the goods and thus don't find the quality of content as appealing as compared to males. Whereas it was found that no significant regional difference exists on the measures of quality of services and relevance of marketing and advertisement related messages overall

measures of perception towards marketing messages. Since the quality of services and the relevance of marketing and promotional messages are customized and subjective to consumers, so no gender difference was found (see table 14).

VIII. CONCLUSION

Due to the fast-paced lifestyle where individuals have a shortage of time among the individual factors Delhiite considers mobile shopping apps as more time shaving as compared to an individual from Jaipur who still prefers to purchase goods in person as compared to purchase. Whereas on the measures of Purpose of use, stress/health and Privacy related concerns no significant difference was found between the individuals from Delhi and Jaipur. As Mobile-apps are commonly used for books, traveling, hotel or movie tickets, regular home utility stuff, lifestyle stuff as it is stress-free helps people at the time of entertainment time, equally for males and females. While males mostly have fixed standard choices in different segments of products, they perceive it more convenient due to multipurpose of use, females. Due to the available variety of choices for females and difficulty in decision-making females find mobile-based marketing a bit more stressful in a certain segment of goods where there are a variety of options available. No significant gender difference exists on perception towards time-saving, privacy and overall individual factors as these apps become an integral part of the life of every individual. Whereas it was found that no significant regional difference exists on the measures of quality of services and relevance of marketing and advertisement related messages overall measures of perception towards marketing messages due to centralized and region based customized messages. Males find the quality of content more resourceful and appealing due to narrow and specific information whereas females prefer more detailed information, which they are fulfilling while physically handling products at stores. Due to customized and subjective services of mobile-based apps no gender difference exists on the quality of services and relevance of marketing and promotional messages.

IX. LIMITATIONS

The study mainly focuses on Regional and Gender differences in perception of the utility of mobile-based marketing apps and quality of content services and quality of notification and advertising messages are studied on a sample from Delhi and Jaipur between the age group of 16-30 years consumers

X. SUGGESTIONS

The present study focuses on the perception of consumers towards mobile-based marketing especially towards how useful they find this new app-based marketing especially in terms of usefulness towards

various segments and how likely they find marketing and promotional messages helpful in making purchasing decisions based on regional and gender differences. The existing study can be conducted on other variables such as technological factors, environmental factors, product segment wise perception, socioeconomic factors, and other states and cities can be taken into consideration.

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