Are Brands Influencing Us through Social Networks ?andCategorical Variables and their Effect on our Digital Behaviour – A Study

Sanskritirani Desai,
Research Scholar, K J. Somaiya Institute of Management, Vidyavihar(E), Mumbai 400077

DrVandanaTandon Khanna,
Professor, K. J. Somaiya Institute of Management, Vidyavihar(E), Mumbai 400077

Abstract
The power of digital is growing, internet is all pervading, not only in the developed countries but also in the developing countries. Social platforms of various types are growing. The number of hours spent on social media by people is growing too, smartphone and internet connectivity is getting cheaper. Social is not just social but is now getting exploited by companies to reach customers for brand awareness, customer engagement, intention to share and ultimately purchase intention. The number of Internet users has reached 4.80 billion in the world and India has 825.30 million users. 57% people on the earth use social media and Indians are spending 2.25 hours on social media daily. Facebook ad spend has reached 2.26 billion in 2020 from 135 million US dollars in 2015. The digital advertising market is set to become the largest in all media.

Companies want to increase brand awareness, intention to share and purchase intention. There was a pilot study done in Mumbai, using a structured questionnaire, with purposive sampling.

Factor analysis was done to reduce a large number of variables to fewer factors. It resulted in five factors. The first was Special Services, second factor was Reviews and Ratings affect, third factor was How much time and How many times, fourth factor was Community, Share and Post, and fifth was Purchase amount.

The factors were then tested to find out whether they were affected by categorical variables like, gender, employment status and age groups. It was found through Mann Whitney test and ANOVA that Working people are more influenced by the Special Services in completing a purchase than Nonworking people and the younger age group spend more time on social media than people above 30 years. As the age increases the time spent on social media reduces.

Key words: *Social Networks, Brands, Social Media Behavior, Purchase Intention, Social Media*

Date of Submission: 10-10-2021   Date of Acceptance: 24-10-2021

I. Introduction

Internet use is steadily growing in the world since the last few years. The number of Internet users in the world has reached 4.80 billion. The total number of Internet users around the world grew by 257 million new users in the past twelve months. More than 700,000 new users each day (Kemp Simon, 2021, July 21).

In India, the total number of Internet users which was 795.18 million in December 2020 has reached 825.30 million in March 2021. That is a quarterly growth rate of 3.79 per cent the data released by Telecom Regulatory Authority of India (TRAI) in August 2021, that is about 60 per cent of the population (ManchandaMegha, 2021, August 27), in 2007 it was just 4 per cent (KeelerySandhya, 2021).

Kemp Simon's (2021 July 21) report states, that the number of Internet users has increased, the number of mobile users has increased and so also the number of Social Network users also calledSocial Media users has increased. If we see the statistics below :

Total population of the world	7.87 billion
Unique mobile users	5.27 billion (66.9% of the population)
Number of Internet users	4.80 billion (60.9% of the population)
Active Social Media users	4.48 billion (56.8% of the population)

If we see the population of India and the mobile phone users and social media users, it would give an interesting picture, as we see in the table below - India Social Media Statistics (2021).

Total population	1.39 billion
Number of Internet users	.624 billion (roughly 45% of the total population of India)
Number of Mobile Internet users	.572 billion
Active Social Media users	.448 billion
Social media users via mobile	.444 billion

Most of the Internet users (92.1 per cent) use mobile devices to go online. Social Media use continues to grow with global users reaching 4.48 billion in July 2021. That is equal to 57 per cent of all people on the earth.

As they said, the Indian population has taken to social media like a duck to water. Indians on an average spend about 2.25 hours on social media daily and the average time spent on the Internet is 6 hours and 36 mins per day, states the India Social Media Statistics 2021.

The prices of smartphones are reducing and high speed internet is available at very affordable prices, this is the reason for such a huge growth of social media users in India also reported by India Social Media Statistics 2021.

The young adults in the age group of 18 to 29 years, the millennials in US were online nearly continuously and they were online via the mobile said a survey of February 2019. It was also found that these youngsters unlocked their devices 63 times in a day (Johnson Joseph, 2021, April 29)

In India also it is these millennials and centennials who consume video content the most on their smartphones. It was expected that the number of such people would reach 103.5 million in 2018 and will reach 225 million by 2022. (Digital Content in India: For millennials, by millennials, 2020, February 13).

The youth believe that Social Networks or Social Media is very important as it gives them awareness, news and a global source of information.

In the year 2020 the Facebook Ad spend had increased to 2.26 billion a huge increase from 1.57 billion in the previous year 2019. If we see the figure as to how it has grown, it was only 135 million US dollars in 2015 (Tankovska H, 2021) published by Statista Research Department. The digital advertising market is set to become the largest among all media – TV, print, radio, Out of home – at $5.89 billion by FY23 as ad-spend gets increasingly redirected towards digital media from traditional formats (http://dcac.du.ac.in).

Thus we see that the importance of Social Networks that is Social Media has grown, its audience has grown and companies have understood its power to use it as a medium to reach more users at a much lesser cost than the other mediums. Using Social media the companies try to bring brand awareness, brand engagement which ultimately could lead to purchase intention. They use various methods to come closer to the customer, post interesting content, create communities, where the user gets advice, can share his thoughts, get information and also get entertained.

II. Literature Review

People spend a lot of time on brand pages on social networks, they go to social media pages frequently, they are influenced by ratings and reviews, they like to be a part of the brand community, and they share the posts they like with their friends. All this is what the company likes as it increases brand awareness. But what they are most interested in, is when the people make the purchase. What are the reasons which makes people complete the purchase ? Is it the free shipping offer ? Is it the exclusive discount offer ?or the Daily Deal ? Rewards and Loyalty points or a friend has liked a product ?All these points are noted in the various research papers that discuss it, as we see below.

There are many research papers where it is checked whether there is any variation in behaviour between males and females. Korgaonkar and Oleary's study (2003) gives a lot of results. In the paper on web usage among Hispanics in the South Florida region it was noted that Hispanic males use the web more than the females.

As far as purchases is concerned, it was found that there is no significant difference between Hispanic males and Hispanic females.

As is a general conclusion that millennials are heavy users of internet and social media, the same is found from this study, that the younger Hispanics are heavy users of the web and more than half the time it is for personal use.

As can be naturally thought, that if a person is rich he can naturally purchase more, so is the result from the study on Hispanics, that if the household income is more, the frequency of their purchasing on the web is more.

There are many research papers on the usage of time on Social Networks or Social Media. In a study in October 2021, it was found that people spent on an average 2 hours and 24 minutes per day on social media in 2020. Out of which 50.1 per cent of the time spent on the mobile was done using apps in 2020. Facebook was the most popular and on Youtube people spent on an average 40 minutes per day (Devyan G, 2021).

As is amply evident from many research papers, the age group of 18 – 34 years accounts for more than half of Facebook users. In the age group of 16 – 29 years, they spend three hours daily on Social Networking platforms while the corresponding figure for the age group 45 to 54 years is one hour and thirty nine minutes every day (Devyan G, 2021).

Are people affected by ratings and reviews in their opinion about a product or service? Does it impact their purchase decision ? Do they also get involved in rating or reviewing a product ?Do opinions of the brand community they belong to, impact their decision ? The article by Heidi Cohen gives the answers. Consumer review sites are visited by 47% people, to get product information. 61% of people have written a review, and 87% of multi-channel buyers write online reviews. Thus it is an important area, which can influence people's decision and companies need to keep an eye on it & do the needful if the reviews are coming negative due to any reason and correct the problems soon (Heidi Cohen, 2014).

The amount of purchases on the net has increased over the number of years. Even when in 2017, the figure was $ 2.2 trillion, that itself was huge. But in 2021, the global ecommerce sales is expected to increase to $4.5 trillion (Frisby Joshua, 2021). Thus companies and brands cannot ignore the people surfing the net and visiting social media pages, as there is a huge potential of purchase there.

When people were asked, how many of them had purchased products on social media, 50% had said that they had already purchased on social media. Out of the 49.5% who had not yet purchased, 9 % said that they plan to purchase. Even though 9% may seem small, but as shopping tools on social media, gain the trust and popularity and use, the percentage would increase (Bump Pamela, 2021, Sept 9).

It is important for the people to feel part of the brand community, there develops an emotional bond due to the sharing or posts etc., it would go a long way in developing a relationship with the brand, ultimately helping the company with purchases which the person will make. A research paper on effects of social media on emotions in music festivals states that brands should have emotional content on their social media pages. But the emotional content should be subtle, as the consumers should not be aware of it that it is specifically put there for them (Hudson Simon, 2015).

When a friends shares something about a brand then the person is impacted more than when a company shares about its products or services. Thus the importance of sharing posts with friends, commenting on them or creating posts for the brands by the consumers. Someone will share a post with a friend only when it is compellingly enjoyable or an involving ad. Thus it is very important for a company to make ads or posts which are highly enjoyable and involving. This is what is conveyed in the research paper on the effect of advertising awareness by Abdullah AwadAlhaddad (2015).

Consumers may like a product, they may be fans of the brand on social media pages, they may share the posts with friends, but what the company ultimately wants is the purchase to happen, as a result of all this. It is thus important for the company to know, what is it that helps a person complete a purchase. There are a lot of such temptations which the company offers.

Sterling Greg (2014) states in his paper that, Free shipping offer had the highest percentage with 66% consumers choosing that option. In 2013 the figure was 62%, but it increased to 66% in 2014. Next came Exclusive discount (only for members of Social network) with 59% (in 2014) which was 56% in 2013.

Then came Rewards and Loyalty points which was opted for by 58% people (in 2014) which was 55% in 2013. And Daily Deal was chosen by 56% people in 2014, as compared to 53% people in 2013.

All these options are more than 50%. Thus a learning from this can be that consumers are always looking for something extra, and they will make the decision of purchase if the company gives them something additional.

There are different strategies that companies use to generate a response from customers, either as User generated content (UGC), or by actual purchase by customers. Non alcoholic beverage company Coca Cola elicits UGC and builds positive brand associations. Consumers post on their Facebook page, saying 'I love Coca Cola" or "Coca Cola is the best !". While clothing and mobile network operators use the strategy of providing information about their products to the customers and generate sales promotions in the form of discounts or coupons (Schivinski Bruno&DabrowskiDariusz, 2013). Using Discounts to tempt customers to make the purchase is a tactic used by many companies and it does yield results.

To the question, why did you join the fan page of a brand, 58.4% respondents said they joined to get discounts. 54.7% said they joined to get updates on future products (Cheung , Fanny Sau-Lan; Leung, Wing-Fai, 2016).

"Likes" play an important role on social networks. Either a friend has liked a product so the person decides to buy it or gets interested in it. Or there are a lot of likes for a product. So one thinks that this may be because the product is really good. "Likes" play a very powerful role when a company shares some ad or a post on its social media page. It is the secondary effect which is powerful. Fans of

the brand are the easiest to reach, but the friends of fans is a much larger group, 34 times larger on an average for the top 100 brands (Lipsman, Andrew and Mudd Graham, 2012) .

Objectives
* To reduce the large number of questions (variables) to fewer factors by using Factor Analysis.
* To see whether consumers visit social media pages of brands now in the form of fewer factors are influenced by different demographic variables like gender, employment status and Age.

III. Research Methodology
Research Design
It is a quantitative primary research. A pilot study had been conducted where primary data had been collected by using a questionnaire. The demographic variables were gender, employment status (Working / Not working), and Age.
The primary purpose is to find out whether the behavior of people on Social Media is different based on the demographic variables gender, employment status (Working / Not working) and Age.
Further, also to find out what would influence them to complete a purchase.
As there are many variables, factor analysis was done to reduce the variables to fewer factors.
The purpose then is to find out whether categorical variables like gender, employment status (Working / not working people) and Age groups make any difference on the factors. A five point Likert scale was used.

Sample Design
The pilot study was done in Mumbai by using purposive sampling. The respondents were well represented by both genders, Working and Not working people and different age groups. The sample size was 121. Only those respondents who followed any company or brand on social media were to answer the questionnaire. Filling the questionnaire was voluntary. The response rate was 37 per cent.

Questionnaire Design
Primary data was collected by using a structured questionnaire.
Scales with the Likert –type response format can generate higher reliability coefficients than those with other response formats (Churchill & Peter, 1984; Hayes, 1998). So, this study also used a five point Likert scale.
Data collection: Secondary data was first collected from research papers obtained using EBSCO, Proquest and Google Scholar. Based on the responses of the questionnaires conclusions have been drawn and recommendations made.

IV. Data Analysis
Kaiser-Meyer-Otkin Measure (KMO) statistic is .759 as seen in Table 1 below, any value >.7 indicates that there is sampling adequacy.

Table 1 – KMO and Barlett's Test

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.759
Bartlett's Test of Sphericity	Approx. Chi-Square	535.149
	df	91
	Sig.	.000

To ensure reliability of the questionnaire, Cronbach's Alpha is found out and is found to be .734 as seen in Table 2 below, which is greater than 0.7, which confirms the reliability of the questionnaire.

Table 2 Cronbach's Alpha Reliability Statistics

Reliability Statistics

Cronbach's Alpha	N of Items
.734	14

Table 3 Total Variance Explained

Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	4.037	28.833	28.833	4.037	28.833	28.833	3.472	24.800	24.800
2	2.017	14.408	43.240	2.017	14.408	43.240	2.069	14.778	39.578
3	1.381	9.864	53.104	1.381	9.864	53.104	1.467	10.482	50.060
4	1.133	8.092	61.197	1.133	8.092	61.197	1.463	10.450	60.511
5	1.033	7.376	68.572	1.033	7.376	68.572	1.129	8.061	68.572

6	.879	6.279	74.851										
7	.701	5.008	79.859										
8	.619	4.419	84.278										
9	.575	4.106	88.384										
10	.411	2.933	91.317										
11	.391	2.791	94.107										
12	.324	2.311	96.418										
13	.272	1.944	98.362										
14	.229	1.638	100.000										

Extraction Method: Principal Component Analysis.

It is seen in Table 3 above that the Eigen values associated with each factor represent the variance explained by that particular factor and SPSS also displays the Eigen value in terms of the percentage of variance explained (so, factor 1 explains 28.833 per cent of total variance. The first few factors explain relatively large amount of variance, (especially factor 1) whereas subsequent factors explain only small amount of variance. SPSS has then extracted all factors with Eigen values greater than 1, thus there are five factors with Eigen value > 1. The five factors explain 68.572 per cent of the variance.
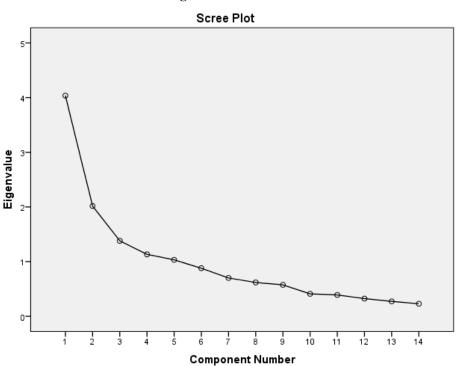
Figure 1 : Scree Plot

It is also seen from the scree plot Figure 1 above, that there are five factors, where it has reached to Eigen value 1.

Table 4 Rotated Component Matrix

Rotated Component Matrix^a					
	Component				
	1	2	3	4	5
What would Influence You to Complete a Purchase - Rewards / Loyalty points	.840				
What would Influence You to Complete a Purchase - Exclusive discount (only for members of social network)	.822				
What would Influence You to Complete a Purchase - Access to exclusive products	.762				
What would Influence You to Complete a Purchase - Free shipping offer	.761				
What would Influence You to Complete a Purchase - Daily Deal	.736				
What would Influence You to Complete a Purchase - Ability to vote on which promotion company offers to social network	.516			.426	
What would Influence You to Complete a Purchase - A friend has "liked" a product		.851			

What would Influence You to Complete a Purchase - A product has received numerous "likes"	.815			
Do Reviews and Rating affect your buying decision ?	.493			-.423
How many times a day do you check your social media (Facebook, Twitter, Youtube etc.) pages ?		.773		
How much time do you spend on Social Media ?		.742		
How important is it for you to be a part of Social Media community on a brand / company page or a web site ?			.781	
How often if ever do you share, post or comment on Facebook as opposed to reading or viewing content ?	.450		.490	
Amount spent on buying on Internet in the last 12 months				.867
Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization.				
a. Rotation converged in 8 iterations.				

It is seen from Table 4 above that there are five factors which have resulted from the Rotated Component Matrix. The factor loading which were less than 0.4 have been supressed as the factors would be very clearly visible and they will have a lesser impact on the factor.

The first factor has the following items, What would influence you to complete a purchase ? Reward and Loyalty Points, Exclusive Discount, Access to Exclusive Products, Free Shipping Offer, Daily Deal, and Ability to Vote. The first factor can be named Special Services, as that is what all the six variables are related to. The second factor has the following items, What would influence you to complete a purchase – 'A friend has liked the product, - A product has received numerous likes and Reviews and Ratings affect the buying decision. The second factor can be named Reviews and Rating affect, as all the three variables are related to it. The Third factor has the items, How much time do you spend on Social Media and How many times a day do you check your social media. The third factor can be named How much time and How many times. The fourth factor has the items How important is it to be part of the Social Media Community and How often do you share, post or comment on Facebook as opposed to reading to viewing content. The fourth factor can be called Community – Share and Post. The fifth factor has the item Amount spent on buying on the Internet in the last 12 months. The fifth factor can be named Purchase Amount. Thus 14 variables are reduced to five factors. After arriving at five factors, it will be checked whether these factors are significantly different for the categorical variables Gender, Working/ Not working and Age groups. Hypothesis are thus framed and written below.

Hypotheses
The hypothesis for all the categorical variables are written together to avoid making it too lengthy, as is seen below.
H1: There is no significant difference between males and females, Working and not working people and Age groups with regard to the first factor Special services which they get when they visit brand pages on Social Media
H2: There is no significant difference between males and females, Working and not working people and Age groups with regard to the second factor Reviews and Ratings affect, which happens when they visit brand pages on social media
H3: There is no significant difference between males and females, Working and not working people and Age groups with regard to the third factor How much time and How many times theyvisit brand pages on social media
H4: There is no significant difference between males and females, Working and not working people and Age groups with regard to the fourth factor Community, Share and Post when visiting brand pages on social media
H5: There is no significant difference between males and females, Working and not working people and Age groups with regard to the fifth factor Purchase Amount when visiting brand pages on social media
Each of the variables is then checked for Normality and homogeneity of variance. For testing the normality of the variables Kolmogorov- Smirnov test is used. For testing the homogeneity of variance, Levene's statistic is used. If both the conditions of normality and homogeneity of variance are satisfied, we can use the parametric tests, t test and the Analysis of variance (ANOVA).

Table 5 Test of Normality

Tests of Normality

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Factor score 1 – Special Services	.088	121	.022	.930	121	.000
Factor score 2 – Reviews and Ratings affect	.091	121	.015	.970	121	.009

Factor score 3 – How much time and How Many times	.048	121	.200*	.994	121	.874
Factor score 4 - Community – Share and Post	.056	121	.200*	.984	121	.156
Factor score 5 – Purchase Amount	.072	121	.183	.967	121	.005

*. This is a lower bound of the true significance.

a. Lilliefors Significance Correction

It is seen in Table 5 above that as the p value for Factor 1 and Factor 2 is .022 and .015 respectively, which is < .05. Thus Factor 1 and Factor2 do not follow normal distribution. Also, it is seen from the Levene's test of Homogeneity of varianceTable 6, that the p value is not significant for all the factors. But as both conditions of normality and homogeneity of variance has to be satisfied to use the t test and ANOVA, thus t test and Analysis of Variance (ANOVA) cannot be used for Factor 1 and Factor 2. Thus Mann Whitney test and Kruskal Wallis test is used instead. Factor 3, Factor 4 and Factor 5's p value > .05, so it is not significant, and therefore it follows normal distribution, so the t test and ANOVA can be used for them.

Table 6 Test of Homogeneity of Variances

Test of Homogeneity of Variances

	Levene Statistic	df1	df2	Sig.
Factor score 1 - Special Services	.513	3	117	.674
Factor score 2 - Reviews and Ratings affect	.101	3	117	.959
Factor score 3 - How much time and How Many times	.128	3	117	.943
Factor score 4 - Community – Share and Post	.203	3	117	.894
Factor score 5 - Purchase Amount	.870	3	117	.459

First the Mann Whitney test is done for Factor 1 and Factor 2 with categorical variable Gender. As seen from the table 7 below, the p value in the table below, for factor 1 is .292 and for Factor 2 is .074. Both are > .05, thus both are not significant.

Table 7 Mann Whitney test for Gender for Factor 1 and 2

Test Statistics[a]

	Factor score 1 - Special Services	Factor score 2 - Reviews and Ratings affect
Mann-Whitney U	1575.000	1436.000
Wilcoxon W	4131.000	3992.000
Z	-1.053	-1.784
Asymp. Sig. (2-tailed)	.292	.074

a. Grouping Variable: Gender

Now the Mann Whitney test is done for Factor 1 and Factor 2 with categorical variable Employment status (Working / Not working). As seen from the table 8 below, the p valuefor Factor 1 is .028 and for Factor 2 is .392. As p value for Factor1 is .028 which is < .05, thus it is significant. P value of Factor 2 is .392 which is > .05, so it is not significant.

Table 8 Mann Whitney test for Employment Status for Factor 1 and 2

Test Statistics[a]

	Factor score 1 - Special Services	Factor score 2 - Reviews and Ratings affect
Mann-Whitney U	1347.000	1602.000
Wilcoxon W	3975.000	2827.000
Z	-2.202	-.855
Asymp. Sig. (2-tailed)	.028	.392

a. Grouping Variable: Are you Working ? Employed - Self Employed - Or Student-Housewife-Not Working

Table 9 Ranks for Employment Status for Factor 1

Ranks			
Are you Working ? Employed - Self Employed - Or Student-Housewife-Not Working	N	Mean Rank	Sum of Ranks
Factor score 1 - Not working Special services	72	55.21	3975.00
Working	49	69.51	3406.00
Total	121		

As p value for Factor 1 Special Services is significant for Working and Not working people, it means there is a significant difference between Working and Not working people in they being influenced to complete a purchase because of getting Special Services. The mean rank of working people is 69.51 which is much higher than mean rank of not working people which is 55.21 as is seen in the table 9 above. So the Working people are influenced more to complete a purchase.

The KruskalWallis test's p value in Table 10 below for Factor1 is .839 and for Factor 2 is .656, both are > .05, so they are not significant.

Table 10 Kruskal Wallis test for Age group – Factor 1 and Factor 2

Test Statistics[a,b]

	Factor score 1 - Special Services	Factor score 2 - Reviews and Ratings affect
Chi-Square	.845	1.614
df	3	3
Asymp. Sig.	.839	.656

a. Kruskal Wallis Test
b. Grouping Variable: Age Group

For the Factors 3, 4 and 5, as they follow normal distribution and their variances are homogenous, the t test and ANOVA is done. It is seen from the tables 11 below, that for the t test and categorical variable gender, the p values for Factor 1, Factor2 and Factor3 are > .05. So the Factors are not significant.

Table 11 t test for Gender and Factor 3, 4 and 5

Independent Samples Test						
		Levene's Test for Equality of Variances		t-test for Equality of Means		
		F	Sig.	t	df	Sig. (2-tailed)
Factor score 3 - How much time and How Many times	Equal variances assumed	.796	.374	-.518	119	.606
	Equal variances not assumed			-.502	93.573	.617
Factor score 4 - Community – Share and Post	Equal variances assumed	2.017	.158	-.075	119	.941
	Equal variances not assumed			-.073	95.923	.942
Factor score 5 - Purchase Amount	Equal variances assumed	.268	.606	-1.267	119	.208
	Equal variances not assumed			-1.281	109.636	.203

It is seen from the tables 12 below, that for the t test and categorical variable Employment status, the p values for Factor 1 , Factor2 and Factor3 are > .05. So the Factors are not significant.

Table 12 t test for Employment Status and Factor 3 , 4 and 5

Independent Samples Test					
	Levene's Test for Equality of Variances		t-test for Equality of Means		
	F	Sig.	t	df	Sig. (2-tailed)

Factor score 3 - How much time and How Many times	Equal variances assumed	2.990	.086	-1.893	119	.061
	Equal variances not assumed			-1.817	88.131	.073
Factor score 4 - Community – Share and Post	Equal variances assumed	.883	.349	-.382	119	.703
	Equal variances not assumed			-.394	113.082	.694
Factor score 5 - Purchase Amount	Equal variances assumed	.443	.507	.204	119	.839
	Equal variances not assumed			.208	108.923	.836

ANOVA is done for the Factor 1, Factor 2, and Factor 3, with categorical variable Age. It is seen from the table 13 below that p value of Factor 3 is .011, which is < .05, so Factor 3 is significant for Age. Factor 2 and Factor 3 have p value .119 and .396, as both p values > .05, so they are not significant.

Table 13 ANOVA for Age Group and Factor 3, 4 and 5

ANOVA						
		Sum of Squares	df	Mean Square	F	Sig.
Factor score 3 - How much time and How Many times	Between Groups	10.909	3	3.636	3.900	.011
	Within Groups	109.091	117	.932		
	Total	120.000	120			
Factor score 4 - Community – Share and Post	Between Groups	5.831	3	1.944	1.992	.119
	Within Groups	114.169	117	.976		
	Total	120.000	120			
Factor score 5 - Purchase Amount	Between Groups	2.996	3	.999	.999	.396
	Within Groups	117.004	117	1.000		
	Total	120.000	120			

Table 14 Ranks for Age group and Factor 3

Ranks			
Age Group		N	Mean Rank
Factor score 3 – How much time and How may times	18 - 21 yrs	24	49.13
	22 - 25 yrs	54	57.15
	26 - 30 yrs	31	68.00
	above 30 yrs	12	84.00
	Total	121	

Since Factor 3 – "How much time and How many times" is significant, it indicates that there is a significant difference between the age groups, as far as the how much time is spent on social media and How many times social media brand pages are visited. The mean rank of age group 18 -21 years is 49.13 and for Age group > 30 years is 84 as seen in Table 14 above. There is a significant difference between them. Also, the mean rank for Age group 22 – 25 years is 57.15 and for age group 26 – 30 years is 68, both are very different than mean rank of age group > 30 years which is 84. The lower the rank indicates that the person keeps going to the social media page more often. Lower mean rank also indicates that the person spend more time on social media brand pages. It is also seen that as age increases the time spent on social media decreases.

V. Results
Factor analysis was used to reduce 14 variables to five factors. The five factors are Special Services, Reviews and Rating affect, How much time and How many times, Community – Share and Post and the last factor is Purchase Amount.

Inferential analysis was used. Hypotheses were tested. All factors did not follow normal distribution (it was checked through Kolmogorov Smirnov test), non-parametric tests were usedfor factors that did not follow normal distribution. Those factors that followed normal distribution were tested using t test and ANOVA. . Mann Whitney test was used instead of the independent sample t test, and Kruskal Wallis test was used instead

of ANOVA for factors that did not follow normal distribution. . The other condition to use Mann Whitney test and Kruskal Wallis test is that observations should be independent, which is true in this case.

Mann Whitney test is used to see if the factors - behaviour of people on social media pages of brands and behaviour related to purchases, are different with gender and employment status (Working / Not working people).

Kruskal Wallis test is used to see if the factors - behaviour of people on social media pages of brands and behaviour related to purchases, are different for different Age groups.

For Categorical variable Gender, Mann Whitney test was done for Factor 1 and Factor 2 and it was found that both are not significant. For Factor 3, Factor 4 and Factor 5, t test was done and it was found that all three are not significant. That means that for the behaviour of people on Social Media pages of brands, there is no difference due to Gender.

For Categorical variable Employment Status (Working and Not working people), Factor 1 and Factor 2 were tested with Mann Whitney test, It was found that Factor 1 is significant. It showed that Working people are more influenced by the Special Services in completing a purchase than Nonworking people. For Factor 3, Factor 4 and Factor 5, t test was done and none of them were found to be significant. That means that there is no difference due to Employment status in Factor 3, Factor 4 and Factor 5.

For Categorical variable Age, for Factor 1 and Factor 2, Kruskal Wallis test was done and it was found that none of them were significant. For Factor 3, Factor 4 and Factor 5 ANOVA was done, and it was found that Factor 3 is significant. That is "How much time and How many times" Factor 3 is significantly different for Age. As the Younger age groups 18 – 21 years was significantly different in the time they spent on Social Media and the number of times they visited Social Media pages of brands as compared to the older age group of age > 30 years. Also the age groups 22 – 25 years and 26 – 30 years were very much different than the age group 30 years, which spent lesser time on Social Media and visited the Social Media pages lesser number of times than those age groups.

Table 15 – Results Summary

Hypothesis	Test Used	Significance of Value	Status of Hypothesis	Comment
There is no significant difference between males and females, working and not working people and different Age groups with regard to the first factor "Special Services" which they get when they visit brand pages on social media	Mann Whitney Test and Kruskal Wallis Test	P value for gender is .292 > .05	Accepted	Hypothesis accepted for Gender and Age Groups
		P value for Age is .839 > .05	Accepted	
		P value for Employment Status is .028 < .05	Rejected	Hypothesis for Employment Status is rejected
There is no significant difference between males and females, working and not working people and different Age groups with regard to the Second factor "Reviews and Ratings affect" which they get when they visit brand pages on social media	Mann Whitney Test and Kruskal Wallis Test	P value for Gender is .074 > .05	Accepted	Hypothesis accepted for Gender, Employment Status and Age Groups
		P value for Employment Status .392 > .05	Accepted	
		P value for Age .656 > .05	Accepted	
There is no significant difference between males and females, working and not working people and different Age groups with regard to the third factor "How much time and How many times" they visit brand pages on social media	t test and ANOVA was done	p value for Gender is .606 > .05	Accepted	Hypothesis accepted for Gender and Employment Status
		p value for Employment Status .061 > .05	Accepted	

		p value for Age groups .011 < .05	Rejected	Hypothesis is rejected for Age groups
There is no significant difference between males and females, working and not working people and different Age groups with regard to the fourth factor "Community, Share and Post" when they visit brand pages on social media	t test and ANOVA was done	p value for Gender is .941 > .05	Accepted	Hypothesis accepted for Gender, Employment Status and Age Groups
		p value for Employment Status .703 > .05	Accepted	
		p value for Age groups .119 > .05	Accepted	
There is no significant difference between males and females, working and not working people and different Age groups with regard to the fifth factor "Purchase Amount" when they visit brand pages on social media	t test and ANOVA was done	p value for Gender .208 > .05	Accepted	Hypothesis accepted for Gender, Employment Status and Age Groups
		p value for Employment Status .839 > .05	Accepted	
		p value for Age groups .396 > .05	Accepted	

VI. Discussions

The main purpose of this study is to understand the important factors which indicate the behavior of users on Social Media pages of brands, Also it is intended to find out whether there is any significant difference in the Users when they visit Social Media pages of Brands with respect to categorical variables like gender, working / not working and age groups.

Use of factor analysis resulted in five factors which indicate the behavior of users on social media pages of brands and what would influence them to complete a purchase. The five factors are Special Services, Reviews and Rating affect, How much time and How many times, Community – Share and Post and Purchase Amount.

It was found through Mann Whitney test that there is a significant difference between Employment Status (Working and Not working people) with regard to the first factor which is Special Services. Also the Working people are influenced more in completing a purchase due to getting Special Services than Not working people. For all the other factors there is no significant difference between Working and Not working people which was seen through t test and Mann Whitney test.

It was found throughANOVA that there is a significant difference between age groups with regard to Factor 3, which is "How much time and How many times" for all the other four factors namely Special Services, Reviews and Rating affect, Community - Share and Post, and Purchase Amountthere is no significant difference between age groups, this was checked by using ANOVA and Kruskal Wallis test. The younger age group of 18 – 20 years is very different from the older age group of > 30 years. The younger age group spend more time on Social Media pages of brands and also visits it more frequently. The other age groups 21 – 25 years and 26 – 30 years are also very different than the age group > 30 years.

There is no significant difference between males and females for all the five factors. That is neither in the behaviour on social media pages of brands nor in the influence on completing the purchase, gender is playing any role. This was checked by using the t test and Mann Whitney test.

VII.   Managerial and Theoretical Implications.

Previous research studies have discussed many different types of behaviours on social media pages of brands. They have also reported on reasons how people can be tempted to complete a purchase.

How much time is spent on social media pages, who spends the most time, are they influenced by reviews and ratings ? Do they like belonging to a brand community ? What tempts them to complete a purchase ? Free shipping offer ? Exclusive discounts ? Loyalty points ? We look at some of the research papers on this.

People who spent 1 -2 hours on Social Media were 48% in 2012 (Bashar Abu, Dec 2012), that became 68% in 2016 as per Ernst and Young's report on Social Media Marketing Trendsby Shah

Uttara&JaniParishrut. (2016).Muntinga D. G. (2011) had stated that Information, Entertainment, being with community and remuneration, are motivations to visit social media pages of brands.

In the research paper by MarketingSherpa, (LaMontagneLiva, 2015), it said, in an answer to a question, "How to attract customers to Social Media – 78% respondents said, Produce useful content (How to articles, reviews and Tip sheets). Georgios T, Sergious D. Suha O. (2018) mentioned Special treatment needs like incentives or promotions, Social needs and Enjoyment needs.

From this study what is the learning for the marketer ?and what should he incorporate in his strategy ? As it was noted that for Factor 1 there was a significant difference between Working and Not working people, and that working people were influenced more due to the Special Services (Factor 1) they got. Factor 1 has the following items, What would influence you to complete a purchase ? Reward and Loyalty Points, Exclusive Discount, Access to Exclusive Products, Free Shipping Offer, Daily Deal, and Ability to Vote. Knowing that working people are more influenced by these items to complete a purchase, the marketer as a part of his strategy should provide for all these things to tempt the working person to complete a purchase. Offering Reward and loyalty points, Exclusive discount, Free shipping offer etc would make the working person complete a purchase.

It was found that younger people spend more time and visit the social media pages of brands more often than older people, as is seen in case of Factor 3. Knowing this, the marketer should provide for content on social media pages which would interest the younger people more, provide more content, update content more frequentlyon blogs or Instagram or Facebook etc., thus increasing their brand awareness, and ultimately could lead them to purchase.

In case of strategies to impact gender, for males or females, there is no need to do anything specific, as the gender does not have any influence on any of the factors.

VIII.   Limitation and Scope for further research
The data is collected from the commercial capital of India, Mumbai. If a further study is done at all mega cities of India, or even in smaller towns of India, or a study from different income strata, or different educational backgrounds of people, it would be interesting to see the results.

References
[1]. Alhaddad Abdullah Awad. (2015, June). The Effect of Advertising Awareness on Brand Equity in Social Media. *International Journal of e-Education e-Business e-Management and e-Learning*, Volume 5, Number 2. doi: 10.17706/ijeeee.2015.5.2.73-84

[2]. Bashar Abu, Washiq Mohammad. (Dec 212). Effectiveness of Social Media as a Marketing Tool – An Empirical Study. *International Journal of Marketing, Financial Services & Management Research*, Vol.1 Issue 11, November 2012, ISSN 2277 3622. Online available at www.indianresearchjournals.com

[3]. Bump Pamela. (2021, March 8). Do Consumers Actually Shop Directly on Social Media Platforms. https://blog.hubspot.com/marketing/do-consumers-shop-directly-on-social-media-platforms

[4]. Cheung, Fanny Sau-Lan, and Wing-Fai Leung (2016), Facebook Users' Habits in Getting Commercial Information: A Study on Hong Kong Students,*Economics, Management, and Financial Markets* 11(3): 56–71.

[5]. Churchill, G. A., & Peter, J. P. (1984). Research Design Effects on the Reliability of Rating Scales: A Meta-Analysis. *Journal of Marketing Research*, 21(4), 360–375. https://doi.org/10.2307/3151463

[6]. Cohen Heidi. (2014, March 26). The Real Truth about Social Media Ratings And Reviews. https://heidicohen.com/social-media-ratings-and-reviews/

[7]. Devyan G. (2021 October 2). How much Time Do People Spend on Social Media in 2021.https://techjury.net/blog/time-spent-on-social-media/#gref

[8]. Digital and Social Media Landscape in India: Internet Penetration & Audience. http://dcac.du.ac.in/documents/E-Resource/2020/Metrial/424NehaJingala1.pdf

[9]. Frisby Joshua. (2021, September 7). The World's Biggest Online Spenders Revealed. https://www.websitebuilderexpert.com/blog/worlds-biggest-online-spenders/

[10]. GeorgiosTsimonis, SergiosDimitriadis, Suha Omar. (2018). An Integrative Typology Of Relational Benefits And Costs In Social Media Brand Pages. Academy of Marketing Conference Proceedings 2018, This paper was accepted for presentation at the 2018 Academy of Marketing Conference hosted by University of Stirling, and is published under licence.

[11]. Hudson Simon, Roth Martin S, Madden Thomas J, Hudson Rupert. (2015). The Effects of Social Media on Emotions, Brand Relationship Quality, and Word of Mouth: An Empirical Study of Music Festival Attendees. *Tourism Management* 47 (2015) 68-76.

[12]. India Social Media Statistics. (2021). https://www.theglobalstatistics.com/india-social-media-statistics/

[13]. Johnson Joseph. (2021, April 29). Internet usage of Millennials in the United States - Statistics & Facts. https://www.statista.com/topics/2576/us-millennials-internet-usage-and-online-shopping/

[14]. KeelerySandhya. (3 Feb 2021). Internet Penetration Rate in India 2007-2020.https://www.statista.com/statistics/792074/india-internet-penetration-rate/

[15]. Kemp Simon. (2021 July 21). Digital 2021 July Global Statshot Report. https://datareportal.com/global-digital-overview https://datareportal.com/reports/digital-2021-july-global-statshot

[16]. Korgaonkar Pradeep, Silverblatt Ronnie, O'Leary Bay. (2003). Web Usage Among Hispanics In The South Florida Region. *The Journal of Applied Business Research* Volume 19, Number 1.

[17]. LaMontagneDr.Liva. (2015, Nov 10). MarketingSherpa Marketing Practices Survey: How Marketers Entice Customers To Follow Brands' Social Accounts. https://www.marketingsherpa.com/article/chart/attracting-customers-to-use-brands-social-media

[18]. Lipsman Andrew, Mudd Graham, Rich Mike, Bruich Sean. (2012, March). The Power of "Like" How Brands Reach (and Influence) Fans Through Social-Media Marketing. *Journal of Advertising Research* vol. 52 no. 1 40-52. DOI https://doi.org/10.2501/JAR-52-1-040-052

[19]. ManchandaMegha. (2021, August 27). Internet users up nearly 4% to over 825 million in Q4 of FY21: TRAI data. https://www.business-standard.com/article/economy-policy/internet-users-up-nearly-4-to-over-825-million-in-q4-of-fy21-trai-data-121082701105_1.html

[20]. Moneycontrol Contributor. (2020, February 13). Digital Content in India: For Millennials, by Millennials. https://www.moneycontrol.com/news/technology/digital-content-in-india-for-millennials-by-millennials-4940761.html

[21]. MuntingaDaan G., Moorman Marjolein, and Smit Edith G. (2011). Introducing COBRAs Exploring Motivations for Brand-related Social Media use. *International Journal of Advertising*, 30(1), pp. 13–46, DOI: 10.2501/IJA-30-1-013-046.

[22]. Schivinski, B. &Dąbrowski, D. (2013). The Effect of Social-Media Communication on Consumer Perceptions of Brands. GUT FME Working Paper Series A, No. 12/2013(12).Gdansk (Poland):Gdansk University of Technology, Faculty of Management and Economics.

[23]. Shah Uttara, JaniParishrut. (2016). Social Media Marketing – India Trends Study 2016 – Third Edition – Ernst and Young.

[24]. Sterling Greg (October 13, 2014). Survey : Social Media to Influence Half of Holiday Shoppers. Martech.org. https://martech.org/survey-social-media-influence-half-holiday-shoppers/

[25]. Tankovska H. (2021, Feb 2). Facebook: Number of Monthly Active Users Worldwide 2008-2020. https://www.statista.com/statistics/264810/number-of-monthly-active-facebook-users-worldwide/