Internet Usage Categories and Profile of each Category with Respect to Demographic Factors: An Empirical Study at Odisha

Subash Chandra Nath and B.B. Mishra

As an effective, new communications channel, the potential of the internet appeared obvious – easy access, flexibility, speed, ability to communicate large amounts of information, cost efficiency and easy maintenance – to name but a few. The focus area here is to categorize the internet usage group, profiling each usage group and finding out their behavioural intention of internet use. The opinions of the respondents on the activities performed frequently in internet of different selected regions in the state of Orissa are recorded. The result in terms of internet usage categories and profile of each category with respect to demographic factors, are analyzed.

Keywords: Internet usage category; Activities, Interests and Opinions (AIO), Web-generalists & Self-improvers, Entertainment seekers, Online Shoppers, Downloaders

1.1 INTRODUCTION:

For the most part, the online world mirrors the offline world. People bring to the internet the activities, interests and behavior that preoccupied them before the Web existed. Still, the internet has also enabled new kinds of activities that no one ever dreamt of doing before — certainly not in the way people are doing them now. Since the explosion in Internet use, research across a wide variety of fields has extensively studied the link between demographics and Internet use (Hoffman, Kolsbeek, & Novak, 1996). Although numerous studies have explored the demographic correlates of the construct, there has not been much research about the psychographic correlates of Internet use (Hoffman & Novak, 1997; Hoffman, Kolsbeek, & Novak, 1996). Based on the different aspects of individual lifestyle, psychographic variables have been extensively used in commercial communication for the purposes of audience profile development, strategic message targeting, and media vehicle selection.

Subash Chandra Nath is Assistant Professor (Marketing), Regional College of Management, Autonomous, Bhubaneswar, subashnath@gmail.com, Mobile No: 9090080825

Dr. B.B. Mishra is Reader, Department of Business Administration, Utkal University, Vanivihar, BBSR-04

Encompassing activities, interests, and opinions of consumers, psychographic variables bring to the surface the underlying psychological motives that drive an individual to a particular behavior. Additionally, the descriptive nature of these variables tells the story of the user of a particular product or service.

1.2 PAST STUDIES:

Survey organizations such as the Pew surveys, GVU, and Jupiter have consistently reported on type of internet usage over time (e.g., extent of videogame usage, visits to news sites, visits to chat rooms, etc.) But few have analyzed a profile of users by type of usage. One exception is a study by Schiffman, Sherman, and Long (2003) reporting on the values of respondents by five types of internet usage. Although the study was based on a convenience sample (students selected 506 internet users), it is noteworthy in using a psychographic measure to describe internet user types.

Despite an impressive array of studies utilizing demographic and psychographic variables, the fact remains that no studies were found that identified heavy internet users by these descriptors. Further, with the exception of the Schiffman, Sherman, and Long (2003) study based on a convenience sample of 506 respondents, there were no studies found that profiled internet user types by psychographic variables.

1.3 OBJECTIVE OF THE STUDY:

• To study internet usage categories and profile of each category with respect to demographic factors.

1.4 METHODOLOY USED:

The present study is a Descriptive one, based on both primary and secondary data. The instruments for primary data collection include structured questionnaires, focus group interview and the secondary data sources include-internet, books, journals, periodicals, newspapers, magazines, Govt. Publications etc. Data were collected through a survey administered in Bhubaneswar, Cuttack, Angul, Rourkela, Berhampur and Puri (cities of the state Odisha, selected as per their importance in different respect, like: state capital, business city, industrial hub and tourism destination, respectively) during June to Sept. 2010. From these cities, a sample of 350 respondents was drawn using the random sampling method. The quantitative data was analyzed using statistical methods such as mean, standard deviation, Factor Analysis by SPSS-software. The key de- pendent variables were frequency and type of internet usage.

1.5   DESCRIPTIVE ANALYSIS:

A survey was undertaken using web and paper based techniques. After discarding incomplete and vague responses, 350 responses from the different cities of Odisha were considered for final analysis. The demographic characteristics of the respondents were shown in Table 5.1. The respondents comprised of 215 males (61.4%) and 135 females (38.6%). The higher percentage of male respondents indicates that access to internet is adopted more by the males than females. The respondents are well distributed among all age groups wherein, majority of the respondents i.e. about 34.9 percent belongs to age group 20 – 30years.This indicates internet adoption among youngsters is still high. Educational level of respondents was high, i.e. 29.4% of the respondents had graduate/B.E./B.Tech degree, 26.6% had post-graduate degree and 21.7% had professional qualification like Costing, Chartered Accountant, ACWA, MBA, MCA, MTECH, etc. Since using internet requires specific skills, higher educational degree among respondents was expected. Out of the total respondents, majority were Private Service holders i.e. 57.4% and 17.4% were working in Govt. service, whereas 16.6% of the total respondents were students. Housewife & business men constituted very low out of total population i.e. 5.1% and 3.4%. Monthly income of 30.9% of the respondents were between Rs.20, 000/- to Rs.30, 000/- and 26.9% earned above Rs.30, 000/- per month. From the demographic characteristics of the respondents, it can be seen that internet adoption is more among youngsters falling in the age group of 20-30 years. They are educated, working in private sector with an earning power between Rs.20,000/- to Rs.30,000/- and above.

Table 1. **Demographic details of Survey Participants**

| Demographics Characteristics	Frequency	Percentage (%)	Cumulative Percentage (%)
Gender			
Male	215	61.4	61.4
Female	135	38.6	100.0
Age			
Less than 20 years	85	24.3	24.3
21-30 years	122	34.9	59.1
31-40 years	82	23.4	82.6
More than 40 years	61	17.4	100.0
Education			
HSC Passed	30	8.6	8.6
Undergraduate	48	13.7	22.3
Graduate/ BE/ BTECH	103	29.4	51.7
Post Graduate	93	26.6	78.3
Professional Qualification	76	21.7	100.0
Profession			
Student	58	16.6	16.6
Govt. Service	61	17.4	34.0
Pvt. Service	201	57.4	91.4
Businessman	12	3.4	94.9
Housewife	18	5.1	100.0
Household Income (monthly)			
Below Rs. 10,000/-	64	18.3	18.3
Rs. 10,000/- to Rs.20,000/-	84	24.0	42.3
Rs. 20,000/- to Rs.30,000/-	108	30.9	73.1
Rs. 30,000/- and above	94	26.9	100.0
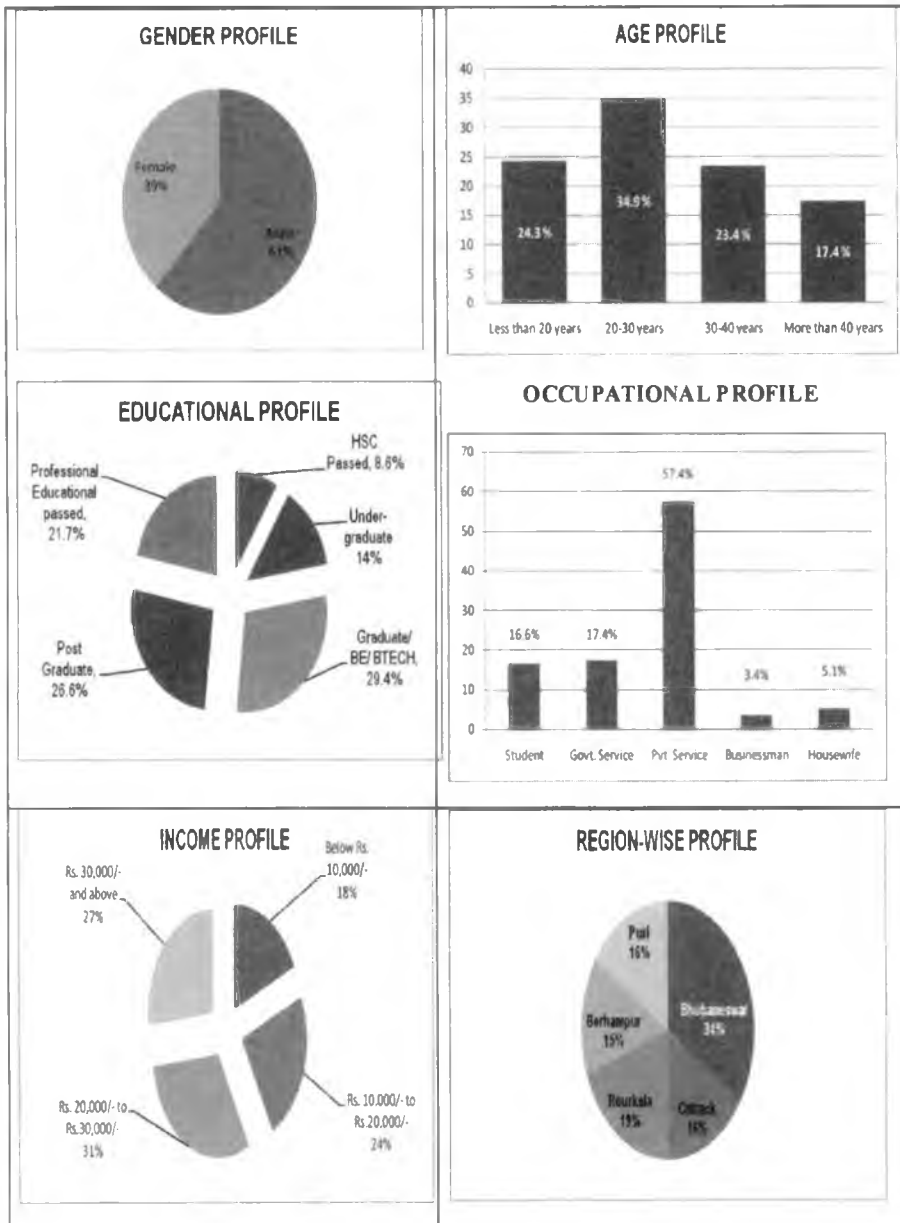
Figure 1: Graphs showing demographic details of Survey Participants

1.6   INTERNET USAGE CATEGOTIES AND PROFILE OF EACH CATEGORY:

The study presents the activities performed frequently by the users in internet. The assessment of the opinions of the respondents has been represented on the basis of factor analysis in this study.

The assessment of the opinions of the respondents on the activities performed frequently is obtained through question No. 14 of the questionnaire. The said question 14 comprises of 25 variables put forth towards the respondents. Since the sample size is 350 and we are interested to study the common dimensions of factors from the observed variables that link together the seemingly unrelated variables to provide insight into underlying structure of the data, factor analysis is employed. Hence, a factor is a linear combination of original variables and accordingly factors represent the underlying dimension that summarize in account for the original set of observed variables.

With the above intention, the researcher proceeded to perform factor analysis with varimax rotation because factor analysis without rotation may or may not give meaningful patterning of variables and the factors obtained through rotation are uncorrelated. In view of all, the principal component extraction with varimax rotation method has been employed to get following results.

The Kaiser-Meyer-Olkin Measure of Sampling Adequacy in this case is 0.807 which is more than 0.7. This recommends for acceptance of the factor analysis with the chosen set of variables. The Eigen values associated with each variable and factor representing their explained percentage of variance have been presented in Table-2.1.

Table – 2.1. Eigen values and percentage of variance of activities performed frequently by the users in internet by Principal Component Analysis Extraction and Varimax rotation with Kaiser Normalization Method.

Variables	Initial Eigen values			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	7.115	28.461	28.461	7.115	28.461	28.461	6.352	25.408	25.408
2	4.357	17.426	45.887	4.357	17.426	45.887	3.825	15.300	40.708
3	2.144	8.576	54.463	2.144	8.576	54.463	2.730	10.920	51.628
4	1.311	5.243	59.706	1.311	5.243	59.706	1.667	6.667	58.295
5	1.258	5.033	64.739	1.258	5.033	64.739	1.386	5.545	63.840
6	1.100	4.398	69.137	1.100	4.398	69.137	1.324	5.297	69.137
7	.996	3.985	73.122						
8	.849	3.398	76.520						
9	.822	3.289	79.809						

10	.735	2.939	82.748
11	.678	2.714	85.462
12	.595	2.381	87.843
13	.520	2.080	89.923
14	.488	1.950	91.873
15	.377	1.508	93.381
16	.357	1.427	94.808
17	.305	1.221	96.029
18	.253	1.013	97.042
19	.185	.740	97.782
20	.141	.563	98.346
21	.130	.521	98.867
22	.115	.460	99.327
23	.065	.261	99.587
24	.059	.238	99.825
25	.044	.175	100.000

The above table demonstrates the Eigen values of the variables and factors before extraction, after extraction and after rotation. The factor-1 explains 28.461% and 25.408% of total variance at before and after extraction stage respectively. The other four factors explain less percentage of variance in comparison to factor-1 at the said stages. The after extraction Eigen values indicates that the rotation has the effect and as a result it has reduced the difference between Eigen values. In total, variance accounted for by all five factors is 69.137%.

In the next attempt, we look for the extraction of factors and the association of the variables with them by referring to the component matrix i.e. the factor loadings of each variable. The factor loadings have been presented in Table-2.2.

Table-2.2. **Accepted factor loadings of activities performed frequently by the users by Principal Component Analysis Extraction and Varimax rotation with Kaiser Normalization Method.**

	Factor-1	Factor-2	Factor-3	Factor-4	Factor-5	Factor-6
Q14a	.849					
Q14b	.846					
Q14c	.735					
Q14d	.885					
Q14e	.646					
Q14f	.861					
Q14g	.837					
Q14h	.750					
Q14i	.874					
Q14j					.563	
Q14k		.760				

Q14l			.702	
Q14m	.558			
Q14n	.865			
Q14o	.851			
Q14p			.708	
Q14q	.572			
Q14r	.876			
Q14s		.520		
Q14t		.644		
Q14u				.696
Q14v		.758		
Q14w		.838		
Q14x				.800
Q14y		.782		

All the factor loadings greater than 0.5 (ignoring the sign) are considered for further analysis. The twenty one variables considered above have been loaded into six factors. The resulting factors have been named on the basis of the size of the factor loadings of the variables. Greater the factor loading of a variable, greater is the chance of naming the factor after this variable. The following table presents the association of variables with the resultant factors.

Table-2.3. **Factors of activities performed frequently by the users**

Factor-1	Factor-2	Factor-3	Factor-4	Factor-5	Factor-6
Q14a) Using E-mail	Q14k) Playing Games	Q14s)Investment portfolio	Q14l)Pre-shopping information search	Q14j) Professional research work	Q14u) Downloading Movie/Music
Q14b) Instant Messaging	Q14m) Adult entertainment	Q14t)financial research	Q14p)Purchase of product/ service		Q14x) Downloading Software
Q14c) Bulletin Boards	Q14n) Watching Entertainment sites	Q14v) Online banking			
Q14d) Chatting	Q14o) Watching live Sports	Q14w) Check stock/fund quotes			
Q14e) Information search through Search engine	Q14q) Watching Movie	Q14y) Trading			
Q14f) user of a social networking site	Q14r) Listening music				

Q14g)
Searching
job related
documents
Q14h)
Searching of
News
Q14i)
Search for
employment

By considering the association of the variables with the factors in the above table-6.3, the factor-1 has been named as Web-generalists & Self-improvers, factor-2 named as Entertainment seekers, factor-3 named as Traders, factor-4 named as Online Shoppers, factor-5 named as Researchers and factor-6 named as Downloaders respectively. Now the average responses of an individual towards these factors are calculated for t-test, analysis of the variances existing in respect of gender/ sex, age groups, educational qualifications, occupation, and monthly income groups. To investigate about the differences existing between male and female groups in the factors, the paired t-test has been employed and the results have been presented in the following table.

Table-2.4. **Difference due to gender in average of factors on activities performed frequently by the internet users**

Factors	Male		Female		t-values
	Mean ± SD	Rank	Mean ± SD	Rank	
Factor-1	3.92 ± 0.396	1	3.95 ± 0.213	1	2.963*
Factor-2	2.64 ± 0.550	2	1.95 ± 0.435	2	5.791*
Factor-3	2.32 ± 0.782	3	1.52 ± 0.232	6	4.439*
Factor-4	2.16 ± 0.410	6	1.84 ± 0.284	4	4.631*
Factor-5	2.17 ± 0.317	5	1.55 ± 0.263	5	-0.393 NS
Factor-6	2.24 ± 0.417	4	1.90 ± 0.079	3	4.442*

* Significant at 1% level ($P < 0.01$)   NS Not Significant

From the above Table-2.4, it is seen that t-values mentioned against factor-1, 2, 3, 4 and 6 are significant at 1% level ($P < 0.01$) and for factor-5 not significant. Hence, the opinion by the male respondents varies significantly from female respondents in factors-3, 4 and 6; whereas both male and female share the common opinion on factor-1, 2 and 5. Also, in all the factors except factor- 1, the average responses of males are higher than the females. To further study in this aspect, the average scores of all the factors have been ranked according to their ascending average scores in both communities. It may be envisaged here that the opinion of both male and female have been ranked 1, 2 and 5 for factor-1, factor-2 and factor-5 respectively. Similarly,

the rank 3,4 and 6 for factor-3, factor-4   and factor-6 are alternated in case of both the communities.

This table indicates that both male and female internet users are not performing activity like professional research work frequently in internet. So far as internet use is concerned both male and female respondents are highly involved with activities like E-mail, Instant Messaging, Bulletin Boards, Chatting, Information search through Search engine, User of a social networking site, Searching job related documents, Searching of News & Search for employment. It is further observed that male and female internet users are showing same response in terms of ranking on activities like entertainment seeking.

It may be concluded that male internet users like to invest more time on trading through internet, whereas female internet users like to invest more time on online shopping. Finally, it discourages that both male and female internet users not to use Professional research work services frequently.

Proceeding in the same vein as above, the researcher intends to investigate the differences in opinion of respondents on activities performed frequently in internet between four age groups in the factors. Since the age groups are more than 2, it is preferable to go for one-way Analysis of Variance (ANOVA) with Duncan's Multiple Range Test (DMRT) for multiple means for this purpose. The results have been presented in the following table-2.5 and table-2.6.

Table-2.5. **Results of one-way Analysis of Variance (ANOVA) on factors of opinion of respondents' activities performed frequently in internet between four age groups-**

Factors		Sum of Squares	df	Mean Square	F
F1	Between Age Groups	0.417	3	0.139	0.867 NS
	Within Age Groups	43.423	347	0.160	
	Total	43.840	350		
F2	Between Age Groups	0.426	3	0.142	0.962 NS
	Within Age Groups	39.971	347	0.147	
	Total	40.396	350		
F3	Between Age Groups	16.096	3	5.365	19.642**
	Within Age Groups	74.026	347	0.273	
	Total	90.123	350		
F4	Between Age Groups	3.568	3	1.189	7.128**
	Within Age Groups	45.213	347	0.167	
	Total	48.780	350		
F5	Between Age Groups	13.650	3	4.550	8.006**
	Within Age Groups	154.010	347	0.568	
	Total	167.660	350		
F6	Between Age Groups	2.210	3	1.737	4.259**
	Within Age Groups	59.856	347	0.173	
	Total	62.067	350		

** - Significant at 1% level   NS – Not Significant

The above Table-2.5 depicts that there is no difference of opinion in factors 1 and 2 between age groups i.e. almost all age groups share the common impression in this aspect as NS has been indicated against each of their F-values. But, there is significant difference (P < 0.01) in factors 3, 4, 5 and 6 as ** has been indicated against each of their F-values. By this, it may be concluded that the opinion in factors 4, 5 and 6 between age groups varies significantly at 5% level. The means of these factors in various age groups with test of multiple means difference test have been presented in Table-2.6 for further analysis.

Table-2.6. **Difference between age-groups in factors on activities performed frequently in internet by the respondents.**

Factors	Less than 20 year		21–30 years		31–40 years		More than 40 years	
	Mean ± SD	Rank	Mean ± SD	Rank	Mean ± SD	Rank	Mean ± SD	Rank
Factor-1	3.900 ±0.548	1	3.900 ±0.484	1	3.970 ±0.332	1	4.200 ±0.447	1
Factor-2	2.656^g±0.433	2	2.683^g±0.284	2	2.113 ±0.361	4	2.300 ±0.447	6
Factor-3	2.133^j±0.540	6	2.055±0.316	6	2.475 ^{j}±0.736	3	3.200^k±0.837	2
Factor-4	2.129^a±0.526	4	2.311^{ef}±0.428	4	1.980^{de}±0.441	6	2.400^f±0.632	5
Factor-5	2.067 ±0.334	5	2.076^a±0.284	5	2.660^g±0.358	2	3.067^h±0.596	3
Factor-6	1.647^d±0.805	3	2.332^j±0.608	3	2.060^a±0.269	5	2.543^b±0.433	4

N.B: The different superscripts running over the means in a row indicate that the means are significantly different at 5% level (P<0.05).

From Table-2.5 it is seen that there is no significant differences between the average responses in factor-1 & 2 between the age groups (P<0.05). But making a critical study on the means of all age-groups, it is seen that from the above Table-2.6, there is no difference between the mean scores of factor-1 3.900, 3.900, 3.970 and 4.200 for less than 20 years,21-30, 31-40, More than 40 years age-groups respectively. All the means are hanging around 3.9 which may be the average response towards factor-1 by respondents irrespective of age-groups.

In case of factor-2, it is denoted by using superscripts over the means. Similar superscripts over a pair of means indicate that both means are similar whereas different superscripts indicate both the means vary significantly at 5% level (P<0.05) from each other. In this way, it is seen that mean response towards factor-2 by below 20 years, 21-30, 31-40 and More than 40 years age-group are respectively 2.656, 2.683, 2.113 & 2.300 respectively. These categories of respondents opine similarly towards factor-2 and their average opinion is around 2.3.

Similarly, in factor-3, it is found that there is no significant difference between the mean response 2.133 and 2.475 against the age-groups below 20 years and 31-40 years respectively as they share common superscript. The mean responses by 21-30 years (2.055) and above 40 years of respondents (3.200) vary distinctly from each other.

Further, it is observed that average responses in factor-4 are 2.129, 2.311, 1.980, 2.400 for below 20 years, 21-30 years, 31-40 years and above 40 years age groups respectively and obviously the means hang around 2.1. In Table-6.6, there is no significant difference in means due to age-groups.

Similarly, in factor-5, it is seen that mean for below 20 years varies significantly from the means for 21-30, 31-40 and above 40 years age-groups. The average responses towards factor-5 of these age-groups are 2.067, 2.076, 2.660 and 3.067 respectively.

In factor-6, it is seen that mean for each age group varies significantly from each other. The average responses towards factor-5 of these age-groups are 1.647, 2.332, 2.060 and 2.543 respectively.

It is observed from the table that the internet users of all age groups involve themselves highly as web-generalist and self-improvers. Respondents below 20 years and age group of 21-30 years do more entertainment seekers than other age groups. Respondents age group of 31-40 years involve themselves on professional research work as well as age-group above 40 years involve themselves on trading activities.

Proceeding in the same vein as above, we intend to investigate the differences in opinion of respondents on activities performed frequently in internet by the respondents, between five groups of educational qualifications in the factors. Since the qualifications are more than 2, it is preferable to go for one-way Analysis of Variance (ANOVA) with Duncan's Multiple Range Test (DMRT) for multiple means for this purpose. The results have been presented in the following table-2.7 and table-2.8.

Table-2.7. **Results of one-way Analysis of Variance (ANOVA) on factors on activities performed frequently in internet by the respondents between four educational qualification groups**

Factors		Sum of Squares	df	Mean Square	F
F1	Between Qualification Groups	0.436	3	0.145	1.411[NS]
	Within Qualification Groups	27.902	347	0.103	
	Total	28.338	350		
F2	Between Qualification Groups	0.664	3	0.221	1.959[NS]
	Within Qualification Groups	30.620	347	0.113	
	Total	31.284	350		
F3	Between Qualification Groups	0.823	3	0.274	0.948**
	Within Qualification Groups	78.457	347	0.290	
	Total	79.280	350		
F4	Between Qualification Groups	0.360	3	0.120	1.042[NS]
	Within Qualification Groups	31.156	347	0.115	
	Total	31.515	350		
F5	Between Qualification Groups	0.711	3	0.237	0.526**
	Within Age Groups	121.959	347	0.450	
	Total	122.669	350		
F6	Between Qualification Groups	0.585	3	0.195	0.395[NS]
	Within Age Groups	53.102	347	0.196	
	Total	53.687	350		

** - Significant at 1% level   NS – Not Significant

The above Table-2.7 depicts that there is no difference in opinion in factors 1, 2, 4 and 6 between different qualification groups i.e. persons belonging to almost all qualification groups share the common impression in this aspect as NS has been indicated against each of their non-significant F-values. But, there is significant difference ($P < 0.01$) between such type of means in factor 3 & 5 as ** has been indicated against its F-value. By this it may be concluded that the opinion in factor 3 & 5 between qualification groups varies significantly. The means of each factor in different qualification groups with test for multiple means differences have been presented in Table-2.8 for further analysis.

Table-2.8. **Difference between qualification groups in factors on activities performed frequently in internet by the respondents.**

Factors	HSC Passed		Under Graduate		Graduate		Post Graduate		Professional	
	Mean ± SD	Rank	Mean ± SD	Rank	Mean ± SD	Rank	Mean ± SD	Rank	Mean ± SD	Rank
F1	3.982 ±0.360	1	3.857 ±0.535	1	3.975 ±0.225	1	2.675 ±0.360	2	3.982 ±0.360	1
F2	2.675 ±0.360	2	2.667 ±0.261	2	2.641 ±0.219	2	3.890 ±0.552	1	2.155 ±0.465	4
F3	2.087 ±0.353	6	2.092 ±0.235	5	2.024 ±0.106	5	2.065 ±0.542	5	2.745 ±0.435	2
F4	2.155 ±0.465	4	2.200 ±0.304	4	2.185 ±0.420	4	2.087 ±0.353	6	2.127 ±0.432	6
F5	2.095 ±0.542	5	2.125 ±0.468	6	2.016 ±0.073	6	2.382 ±0.694	3	2.464 ±0.751	3
F6	2.357 ±0.497	3	2.357 ±0.497	3	2.316 ±0.595	3	2.102 ±0.359	4	2.135 ±0.701	5

From the above Table-2.8, it is observed that there is no difference between the mean scores of all the factors for HSC passed, under graduate, graduate, post-graduate and professionally qualified groups respectively. The means are hanging around 3.6 for factor-1, 2.7 for factor-2, 2.1 for factor-3, 2.1 for factor-4, 2.1 for factor-5 and 2.2 for factor-6, which may be the average response towards each factor by respondents irrespective of their qualification.

It is observed from the table that the internet users of all qualification groups involve themselves highly as web-generalist and self-improvers, except the post-graduates, who used to involve more on entertainment seeking than anybody else. Respondents belong to the category of HSC Passed, Undergraduate and Graduate group involve more on downloading activities, whereas the post-graduates and the professionals involve themselves in professional research work in terms of internet use.

Now, the differences in opinion of respondents on activities performed frequently in internet between five groups of professions in the factors may be investigated. Since the number of professions is more than 2, one-way Analysis of Variance (ANOVA) with Duncan's Multiple Range Test (DMRT) for multiple means may be adopted for this purpose. The results have been presented in the following table-2.9 and table-2.10.

Table-2.9. **Results of one-way Analysis of Variance (ANOVA) of factors on activities performed frequently in internet by the respondents between four profession groups**

Factors		Sum of Squares	df	Mean Square	F
F1	Between Professions	1.366	3	0455	4.574[NS]
	Within Professions	26.972	347	0100	
	Total	28.338	350		
F2	Between Professions	0775	3	0258	2.295[NS]
	Within Professions	30.509	347	0113	
	Total	31.284	350		
F3	Between Professions	2.318	3	0773	2.720**
	Within Professions	76.962	347	0284	
	Total	79.280	350		
F4	Between Professions	0310	3	0103	0.896**
	Within Professions	31.206	347	0115	
	Total	31.515	350		
F5	Between Professions	3.400	3	1.133	2.575**
	Within Professions	119.269	347	0440	
	Total	122.669	350		
F6	Between Professions	1.148	3	0383	1.973[NS]
	Within Professions	52.540	347	0194	
	Total	53.687	350		

** - Significant at 5% level   [NS] – Not Significant

In the Table-2.9 above, it is seen that F-values against factors 3, 4 and 5 are significant ($P < 0.05$). Hence, the opinion in factors 3, 4 and 5 by different profession groups of respondents may vary. In contrast, the F-values against factors 1, 2 and 6 are not significant i.e. persons belonging to almost all professions share the common impression in these aspects. The means of each factor in different profession groups with test for multiple means differences have been presented in Table-2.10 for further analysis.

Table-2.10. **Difference between professions in factors on activities performed frequently in internet by the respondents**

Factors	Student		Govt. Service		Private Service		Businessman		Housewife	
	Mean ± SD	Rank	Mean ± SD	Rank	Mean ± SD	Rank	Mean ± SD	Rank	Mean ± SD	Rank
F1	3.982 ±0.360	1	3.971 ±0.327	1	3.807 ±0.743	1	3.971 ±0.243	1	3.936 ±0.385	1
F2	2.675 ±0.360	2	2.267 ±0.589	3	2.673 ±0.430	2	2.025[a] ±0.113	4	2.745 ±0.435	2
F3	2.095 ±0.542	5	2.663 ±0.332	2	2.447 ±0.705	3	2.657 ±0.223	2	2.064[d] ±0.657	5
F4	2.155 ±0.465	4	2.032[a] ±0.156	5	2.140 ±0.461	6	2.279[c] ±0.305	5	2.149 ±0.450	4
F5	2.087 ±0.353	6	2.066 ±0.282	6	2.084[d] ±0.652	4	2.011 ±0.133	6	2.140 ±0.461	6
F6	2.357 ±0.497	3	2.060[d] ±0.515	4	2.173[b] ±0.468	5	2.353 ±0.623	3	2.574 ±0.807	3

From the above analysis, it is found that respondents of all professions confronted themselves as web-generalists and self improvers, because factor-1 is ranked as 1 by every profession group. Further it is found that students, private service employees and housewives used to involve themselves in entertainment other wisely known as entertainment seekers. Whereas, respondents belong to Govt. service and businessmen categories do like to involve them more on trading. Except Private Service, all other professional groups involve very low in the activity like Professional research work in internet. Nevertheless, online shopping can not be considered as the first choice of activity by the profession groups.

Now, the differences in opinion of respondents on activities performed frequently in internet between four income groups in the factors may be investigated. Since the number of income groups is more than 2, one-way Analysis of Variance (ANOVA) with Duncan's Multiple Range Test (DMRT) for multiple means may be adopted for this purpose. The results have been presented in the following table-2.11 and table-2.12.

Table-2.11. **Results of one-way Analysis of Variance (ANOVA) on factors of activities performed frequently in internet by the respondents between four income groups**

Factors		Sum of Squares	df	Mean Square	F
F1	Between Income Groups	0.507	3	0.169	1.646[NS]
	Within Income Groups	27.831	347	0.103	
	Total	28.338	350		
F2	Between Income Groups	0.172	3	0.057	0.498[NS]
	Within Income Groups	31.112	347	0.115	
	Total	31.284	350		
F3	Between Income Groups	3.935	3	1.312	4.718**
	Within Income Groups	75.345	347	0.278	
	Total	79.280	350		
F4	Between Income Groups	0.171	3	0.057	0.492**
	Within Income Groups	31.344	347	0.116	
	Total	31.515	350		
F5	Between Income Groups	0.545	3	0.182	0.403**
	Within Income Groups	122.124	347	0.451	
	Total	122.669	350		
F6	Between Income Groups	0.741	3	0.247	1.265[NS]
	Within Income Groups	52.946	347	0.195	
	Total	53.687	350		

** - Significant at 1% level   [NS] – Not Significant

In the Table-2.11 above, it is seen that F-values against factors 1, 2 and 6 are not significant. Hence, the opinions for these factors by different income groups of respondents may not vary i.e. persons belonging to almost all income groups share the common impression in these aspects. In contrast, the F-values against factor 3, 4 and 5 are significant ($P < 0.05$) and hence there is possibility of difference in opinion towards factor-3 by respondents hailing from different income groups. The means of each factor in different income groups with test for multiple means differences have been presented in Table-2.12 for further analysis.

Table-2.12. **Difference between income groups in factors on activities performed frequently in internet by the respondents**

Factors	Below Rs.10,000/-		Rs.10000/- to Rs.20,000/-		Rs.20,000 to Rs.30, 000/-		Rs.30,000 & above	
	Mean ± SD	Rank	Mean ± SD	Rank	Mean ± SD	Rank	Mean ± SD	Rank
Factor-1	4.063 ±0.250	1	3.877 ±0.516	1	3.916 ±0.496	1	4.000 ±0.000	1
Factor-2	2.708 ±0.167	2	2.687 ±0.377	2	2.690 ±0.379	2	2.627 ±0.172	2
Factor-3	2.018 ±0.071	5	2.077 ±0.321	5	2.120 ±0.381	4	2.014 ±0.104	6
Factor-4	2.031 ±0.125	6	2.058 ±0.249	6	2.105 ±0.399	6	2.064 ±0.295	5
Factor-5	2.050[ab] ±0.200	4	1.917[a] ±0.594	4	2.179[b] ±0.557	5	2.235[b] ±0.403	4
Factor-6	2.500 ±0.632	3	2.331 ±0.608	3	2.367 ±0.702	3	2.431 ±0.671	3

N.B: The different superscripts running over the means in a row indicate that the means are significantly different at 5% level (P<0.05).

From the above Table-2.11, it is observed that there is no significant difference between the mean scores of factor-1 for all the income groups respectively. This shows that the respondents irrespective of their income opine similarly towards this factor-1 and income does not play any role in their opinions in this regard. All the means are hanging around 3.9 which may be the average response towards factor-1 by respondents irrespective of their profession.

From the above Table-2.11, it is observed that there is no significant difference between the mean scores of factor-2 for all the income groups respectively. This shows that the respondents irrespective of their income opine similarly towards this factor-2 and income does not play any role in their opinions in this regard. All the means are hanging around 2.6 which may be the average response towards factor-2 by respondents irrespective of their profession.

From the Table-2.11, it is observed that there is significant difference (P<0.05) between the mean scores of factor-3. The means as indicated in table 2.12 for factor 3 are like 2.018, 2.077, 2.120 and 2.014 for all the income groups respectively. This shows that the respondents of different income groups opine differently towards factor-3 and income has an impact in their opinions in this regard.

Similarly, it is found from Table-2.11 that there is significant difference ($P<0.05$) between the mean scores of factor-4 & factor-5 for all the income groups. The superscripts indicated above the means in Table-2.12 shows that mean responses of income groups Rs.20,000/- to Rs.30,000/- and above Rs.30, 000/- are similar and these means vary significantly from income groups below Rs.10,000/- and Rs.10000/- to Rs.20000/-.

Further, it is observed from Table-2.11 that there is no significant difference between the mean scores of factor-6 for all income groups respectively. This shows that the respondents irrespective of their income opine similarly towards this factor-6 and income does not play any role in their opinions in this regard. All the means are hanging around 2.3 which may be the average response towards factor-6 by respondents irrespective of their income.

It may be concluded that respondents of all income groups show same responses, i.e. each group preferred to be a web-generalist and self-improvers followed by Entertainment seekers and Downloaders. Also, majority in the income groups prevailed that online shopping is the last activity in terms of ranking, which shows that income has the least effect on online shopping.

1.7   FINDINGS:

By considering the association of the variables with the factors the factor-1 has been named as Web-generalists & Self-improvers, factor-2 named as Entertainment seekers, factor-3 named as Traders, factor-4 named as Online Shoppers, factor-5 named as Researchers and factor-6 named as Downloaders respectively. Male internet users like to invest more time on trading through internet, whereas female internet users like to invest more time on online shopping. Finally, it discourages that both male and female internet user not to use Professional research work services frequently. It is further observed that the internet users of all age groups involve themselves highly as web-generalist and self-improvers. Respondents below 20 years and age group of 21-30 years do more entertainment seekers than other age groups. Respondents age group of 31-40 years involve themselves on professional research work as well as age-group above 40 years involve themselves on trading activities. Internet users of all qualification groups involve themselves highly as web-generalist and self-improvers, except the post-graduates, who used to involve more on entertainment seeking than anybody else. Respondents belong to the category of HSC Passed, Undergraduate and Graduate group involve more on downloading activities, whereas the post-graduates and the professionals involve themselves in professional research work in terms of internet use.

Respondents of all professions confronted themselves as web-generalists and self improvers. Private Service employees and housewives used to involve themselves in entertainment otherwise known as entertainment seekers. Whereas,

respondents belong to Govt. service and businessmen categories do like to involve them more on trading. Except Private Service, all other profession groups involve very low in the activity like Professional research work in internet. Nevertheless, online shopping can not be considered as the first choice of activity by the profession groups. Again, respondents of all income groups show same responses, i.e. each group preferred to be a web-generalist and self-improvers followed by Entertainment seekers and Downloaders. Also, a majority in the income groups prevailed that online shopping is the last activity in terms of ranking, which shows that income has least effect on online shopping.

1.8   CONCLUSIONS:

E-marketers can no longer rely on profiles of internet users for targeting because of the high penetration rate of the internet. As a result, the development of demographic and lifestyle profiles by the level and type of web usage assumes more importance. This study is also useful in defining six key web usage groups and profiling each. Web marketers have a more specific basis for targeting groups by type of web activity, specifically downloaders, career-oriented web users (Self-Improvers), entertainment oriented users, stock traders, and chat room visitors. Further research may also be initiated on internet usage categories in terms of frequency of use and usage pattern in India.

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