

Internet Usage Patterns: An Exploratory Study in Oman

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Abstract

The juggernaut of the internet continues to roll on. Across the globe, internet services are revolutionizing every aspect of human interaction and enterprise. The GCC in general and Oman in particular have seen unprecedented growth in internet usage. From healthcare to education and from banking to entertainment, nothing, anymore is, as it used to be. No section of Omani society has remained oblivious to the enormous potential that internet possesses. Interestingly, content users, consumers and creators could demonstrate significant differences in the way they access and harness the internet. This paper examines the variety of internet usage patterns observed in Oman. This work attempts to go beyond the usual applications of the World Wide Web and investigates usage specifics, validity of common beliefs and gaps that need to be bridged in today's seamlessly connected world. The findings of this paper could prove to be insightful inputs to guide future researchers, internet service providers, and contemporary policy makers.

Keywords: Internet usage patterns, Access to internet in Oman, Gender-specific internet usage, Internet for Work, Internet for entertainment etc.

INTRODUCTION

Rapid development in the domain of Information and telecommunication technologies in the past two decades has led to a revival and transformation of our everyday life. First, it was the western countries to transform into information based societies via internet followed by almost all the developed and developing nations of the world. Among the GCC nations, Oman too has seen a significant growth in its internet usage with 65.5% of the population using internet, a growth of 23% in the past three years (Internet Society, 2016). Earlier prevalent perception was that young male adults form a larger share of the internet users.

However, in the developed western countries, like USA, it was found that 66.2% male and 65.8% female use internet (Statista, 2016). Numerous researches have proved that the most common purposes of using internet have been communication, information search and social networking (Awni Itradat, 2014) (Ruzgar, 2005) (Shin, 2014). The present quantitative research aims to explore whether gender, age groups and purpose of internet use in Oman concurs with the rest of the developed world.

LITERATURE REVIEW

Most of the research pertaining to internet usage patterns has been conducted on university staff and students, probably because the researchers had easy access to these groups. One such study on the internet usage patterns and purpose of internet use conducted on the students of Istanbul University revealed that internet surfing not only helps students in their knowledge of technology but also directs them toward research and innovation Hence the author concluded that contrary to the prejudice, spending time online may not be a total waste of time for students but more or less a productive activity (Mujgan Hacioglu Deniz, 2015). A similar study examined the faculty members at the University of Kuwait to investigate their patterns of internet use, its purposes, impact and the problems faced while using the internet The researcher found that most of the faculties who were using internet for more than five years have found it to bring effectiveness and efficiency to their work but they also desired improving their internet skills through formal training (Al-Ansari, 2006). Another research has used an efficacious approach by examining the Hashemite University's internet server's weblogs to analyze the students' and faculties' internet usage pattern using a JAVA program. This research confirmed some of the earlier preconceived opinion that majority of the students used their native language Arabic and the faculties used English language to surf the internet. Also, faculties most often used internet for educational resources whereas the students access social networking websites more often (Awni Itradat, 2014). A study investigating mobile internet user behavior toward mobile internet dependency in the USA and Korea revealed that in the USA, the unemployed and younger generations are more susceptible to mobile internet dependency whereas in Korea it

was the female group. Also, the percentage of severe mobile internet dependency in Korea was found to be double than that of the USA (Shin, 2014).

METHODOLOGY

A. Problem Statement

The review of literature revealed that numerous studies, across the globe were carried out with a focus on gender wise similarities and differences in the internet usage patterns. However, no such study was found to be conducted in Oman. Moreover, in these studies, the focus being gender, another important factor of age group had been overlooked. The present study aims to explore the internet usage patterns in Oman with the following objectives:

B. Objectives

1. To study the purpose of using internet with respect to gender as well as age groups.
2. To study internet usage patterns such as time of the day, duration and device used with respect to gender as well as age group.

C. Hypothesis

1. No significant difference exists in the purpose of internet usage across gender.
2. No significant difference exists in the purpose of internet usage across age groups.
3. The internet usage pattern i.e. preferred time of day doesn't differ with respect to gender and age group.
4. The internet usage pattern i.e. duration doesn't differ with respect to gender and age group.
5. The internet usage pattern i.e. device used doesn't differ with respect to gender and age group.

D. Data Collection

A perusal of previous research papers on the subject revealed that the questionnaire-based survey is the most common and effective method of data collection adopted by the researchers. Similar studies and their questionnaires were adapted to formulate a web-based questionnaire using Google forms. This closed ended questionnaire was divided into two parts, the first of which inquired about the demographics of the respondents and the second part collected data about the internet usage pattern.

The web link of the questionnaire was emailed to 150 individuals who were randomly selected from one educational and two manufacturing organizations in Oman. Out of the 150 questionnaires, 120 were returned of which 100 responses were found to be complete in all respects which have formed the basis of this research.

FINDINGS AND ANALYSIS

TABLE 1A: PURPOSE OF INTERNET USAGE W.R.TO GENDER AND AGE GROUPS

Age Group (In Years)	Purpose of internet usage	Frequency (Male)	Frequency (Female)
20-30	Work related activities	12	13
	Entertainment and social networking	2	10
30-40	Work related activities	23	10
	Entertainment and social networking	10	6
40-50	Work related activities	12	0
	Entertainment and social networking	0	0
Above 50	Work related activities	2	0
	Entertainment and social networking	0	0
Total		61	39

TABLE 1B: PURPOSE OF INTERNET USAGE W.R.TO GENDER IN PERCENTAGE

Purpose of Internet Usage	Percentage Male	Percentage Female
Work related activities	80.33%	58.97%
Entertainment and social networking	19.67%	41.03%

Table 1A shows the frequency of internet usage with respect to gender and age group. To compare the internet usage pattern among gender, percentages were computed and the results are shown in Table 1B. Among males, 80% people's usage of internet is work related whereas, only 20% people use internet for entertainment and social networking. Among females the usage pattern is quite different. Only 59% females use internet for work related activities and 41% use it for entertainment and social networking. So, the null hypothesis, "No significant difference exists in internet usage purpose w.r.to gender" can be rejected as gender wise the percentage is differing prominently.

TABLE 2: χ^2 TEST TO TEST THE HYPOTHESIS - NO SIGNIFICANT DIFFERENCE EXIST IN INTERNET USAGE PURPOSE AMONGST DIFFERENT AGE GROUPS

Observed Value (O)	Expected Value (E)	(O-E) ²	(O-E) ² /E
25	26.64	2.6896	0.1009
12	10.36	2.6896	0.2596
33	35.28	5.1984	0.1473
16	13.72	5.1984	0.3788
12	8.64	11.2896	1.3066
0	3.36	11.2896	3.36
2	1.44	0.3136	0.2177
0	0.56	0.3136	0.56

$\Sigma = 6.3309$

$\chi^2 = 6.3309$

$v = (r - 1)(c - 1) = 3$

For $v = 3, \chi^2_{0.05} = 7.82$

Table 2 shows the calculations of χ^2 test. The calculated value (6.3309) is less than the table value (7.82). Thus the hypothesis, i.e. 'No significant difference exists in internet usage purpose amongst different age groups', may be accepted.

χ^2 test to test the hypothesis –The internet usage pattern i.e. time of day does not differ w.r. to gender and age group.

TABLE 3A: χ^2 TEST BETWEEN THE VARIABLES PREFERRED TIME AND GENDER

O	E	(O-E) ²	(O-E) ² /E
23	22.57	0.185	0.008
3	1.83	1.369	0.748
15	14.64	0.130	0.009
18	15.86	4.580	0.289
2	6.1	16.810	2.756
14	14.43	0.185	0.013
0	1.17	1.369	1.170
9	9.36	0.130	0.014
8	10.14	4.580	0.452
8	3.9	16.810	4.310

$\Sigma = 9.768$

$\chi^2 = 9.768$

$v = (r - 1)(c - 1) = 4$

For $v = 4, \chi^2_{0.05} = 9.488$

Looking at the above table we come to know that the calculated value (9.768) is greater than the table value (9.488). Thus the hypothesis stands rejected. Thus, it may be inferred that preferred time of internet usage differs w.r. to gender.

TABLE 3B: χ^2 TEST BETWEEN THE VARIABLES PREFERRED TIME AND AGE GROUP

O	E	(O-E) ²	(O-E) ² /E
21	13.69	53.436	3.903
1	1.11	0.012	0.011
2	8.88	47.334	5.330
7	9.62	6.864	0.714
6	3.70	5.290	1.430
10	18.13	66.097	3.646
2	1.47	0.281	0.191
16	11.76	17.978	1.529
19	12.74	39.188	3.076
2	4.90	8.410	1.716
4	4.44	0.194	0.044
0	0.36	0.130	0.360
6	2.88	9.734	3.380
0	3.12	9.734	3.120
2	1.20	0.640	0.533
2	0.74	1.588	2.145
0	0.06	0.004	0.060
0	0.48	0.230	0.480
0	0.52	0.270	0.520
0	0.20	0.040	0.200

$\Sigma = 32.388$

$\chi^2 = 32.388$

$v = (r - 1)(c - 1) = 12$

For $v = 12, \chi^2_{0.05} = 21.0$

Looking at the above table we come to know that the calculated value (32.388) is greater than the table value (21.0). Thus the hypothesis stands rejected. Thus, it may be inferred that the preferred time of internet usage differs w.r. to Age group.

Combining the results of table 3A and 3B, we can conclude that preferred time of the day differs w.r. to gender as well as age group. So Hypothesis 3 does not hold good.

Hypothesis 4 testing – The internet usage pattern i.e. Duration does not differ w.r. to Gender and Age group

TABLE 4A: χ^2 DURATION OF INTERNET USAGE W.R. TO GENDER AND AGE GROUP

Age Gr	Hrs spent on internet	Frequency (male)	Frequency (Female)
20 – 30	Below 2 hrs	4	3
	2-4 hrs	5	8
	Above 4 hrs	5	12
30 – 40	Below 2 hrs	4	6
	2-4 hrs	8	6
	Above 4 hrs	21	4
40 – 50	Below 2 hrs	6	0
	2-4 hrs	2	0
	Above 4 hrs	4	0
Above 50	Below 2 hrs	0	0
	2-4 hrs	0	0
	Above 4 hrs	2	0

TABLE 4B: χ^2 TEST BETWEEN THE VARIABLES DURATION AND AGE GROUP

O	E	(O-E) ²	(O-E) ² /E
7	8.51	2.280	0.268
10	10.73	0.533	0.050
6	17.76	138.298	7.787
0	11.27	127.013	11.270
13	14.21	1.464	0.103
14	23.52	90.630	3.853
2	2.76	0.578	0.209
0	3.48	12.110	3.480
17	5.76	126.338	21.934
25	0.46	602.212	1309.156
4	0.58	11.696	20.166
2	0.96	1.082	1.127

$\Sigma = 1379.402$

$\chi^2 = 1379.402$

$v = (r - 1)(c - 1) = 6$

For $v = 6, \chi_{20.05} = 12.59$

Looking at the above table we come to know that the calculated value (1379.402) is greater than the table value (12.59). Thus Duration differs w.r. to age group.

TABLE 4C: TWO SAMPLE T-TEST TO COMPARE DURATION AMONGST GENDER

	Male	Female
Mean	3.5902	3.3589
Std. Deviation	1.6334	1.5605
n (frequency)	61	39
Std. Error	0.3258	
t-test	0.7099	

The two sample t-test is performed on Table 4A to compare the mean of hours spent by Male and Female gender. Looking at the results of t-test in Table 4C, the difference is less than 2.58 Standard Error (1% level of significance). So we can conclude that the Duration of internet usage does not differ with gender.

Combining the results of Table 4B and 4C, where Duration differs w.r. to Age group but not w.r. to Gender. Thus, hypothesis 4 is partially accepted.

TABLE 5: DEVICE USED BY MALE AND FEMALE GENDER OF DIFFERENT AGE GROUP FOR ACCESSING INTERNET

Age Gr	Electronic gadgets	Frequency (male)	Frequency (female)
20-30	All	0	0
	PC	2	4
	Smart Phone	11 (Mode)	15 (Mode)
	Tablet	0	2
	Laptop	1	2
30-40	All	2	0
	PC	8	6
	Smart Phone	18 (Mode)	10 (Mode)
	Tablet	0	0
	Laptop	5	0
40-50	All	0	0
	PC	2	0
	Smart Phone	6 (Mode)	0
	Tablet	0	0
	Laptop	4	0
Above 50	All	0	0
	PC	2 (Mode)	0
	Smart Phone	0	0
	Tablet	0	0
	Laptop	0	0

Table 5 shows different devices used by people of different age groups of male and female gender. The modal value of each age group is found and it is clear that maximum people prefer to use Smart phone to access internet as it is handy, convenient and provides mobile access of internet. So the hypothesis - "The internet usage pattern i.e. device used, doesn't differ w.r. to gender and age group" is accepted.

SUMMARY OF STATISTICAL ANALYSIS:

- i. H1: No significant difference exists in the purpose of internet usage across gender: Rejected. Therefore, it may be inferred that the purpose of internet usage is dependent on the gender of the user.

- ii. H2: No significant difference exists in the purpose of internet usage across age groups: Accepted. Therefore, it may be inferred that the purpose of internet usage is independent of the age of the user.
- iii. H3: The internet usage pattern i.e. preferred time of day doesn't differ with respect to gender and age group: Rejected. Therefore, it may be inferred that the preferred time of the day of internet usage is dependent on gender as well as age group of the user.
- iv. H4: The internet usage pattern i.e. duration doesn't differ with respect to gender and age group: Rejected. Therefore, it may be inferred that duration of internet access is dependent on gender and age of the user.
- v. H5: The internet usage pattern i.e. device used doesn't differ with respect to gender and age group: Accepted. Therefore, it may be inferred that the device used to access the internet is independent of the gender and age group of the user.

DISCUSSION AND CONCLUSION:

It is observed that 80% males and 59% females use internet for work related activities. Nearly 20% males and 41% females use internet for entertainment and social networking. This may be attributed to the fact that women make only 30% of the Omani workforce (Katzman, 2016). With respect to the age group of internet users, the research reveals that the purpose of internet usage is independent of age of the users. However, it is observed that the age groups of 20-30 years (37%) and 30-40 (49%) years are using internet for both work and entertainment. While age groups 40-50 years (12%) and 50 years and above (2%) use internet solely for work related activities. The most preferred time of the day for internet usage was found to be dependent on gender and age group of the users with a clear preference for morning and evening timings while afternoon being the least preferred time of the day. It has been observed that the activity on the internet seems to decrease with age as the most active age groups were found to be 20-30 years and 30-40 years while users above 40 years of age seems to spend less time on the internet and this tendency increases with age. In terms of the most preferred device for internet access, smart phone stands out as the clear choice across gender and age groups as it is handy, convenient and provides mobile access of internet.

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