

Moderating effect Of Demographic Variables on Attitude towards Online Shopping: An Empirical Study Using PROCESS.

Shiveen Ansari¹, Dr. Rahela Farooqi²

¹(Research Scholar, Centre for Management Studies, Jamia Millia Islamia, New Delhi)

²(Professor, Centre for Management Studies, Jamia Millia Islamia, New Delhi)

Abstract: In the recent years the usage of internet has been tremendously increased due to availability of low cost smart phones, economic data plans. Due to exponential rise in internet penetration the e-commerce based activities has also seen tremendous growth in the past few years. Thousands of online shopping websites have mushroomed catering to various needs and requirements of consumers. This all new trend has compelled researchers examine online consumer behavior and factors associated with online consumer behavior to explore new dimensions of research in this context. Although there may be several factors affecting consumer behavior there is also a dire need to understand the moderating variables that impact online shopping behavior. Difference in the buying behavior of the consumers can be dependent on moderating variables such as demographics which can be classified by age, income gender, experience, qualification, education and geographical boundaries. This paper will try to explore the demographic factors that affect online consumer behavior through an empirical and quantitative study using statistical tool PROCESS by Andrew Hayes. The main objective of the research is to gain a deeper understanding into the effect of demographic variables on consumer's buying behavior.

Keywords: Moderation, Demographics, Online Shopping, e-commerce.

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I. Introduction

The purpose of this research is to determine the moderating effect of age, income and gender and experience on attitude towards shopping online in predicting the likelihood to shop and buy online. The literature review will present a review of findings of the earlier work on demographic studies regarding online shopping. The data analysis section will try to analyse the demographic profile of online consumers and would try to examine whether demographic segment has an effect on their attitudes towards shopping. Many factors in consumer buying behavior process such as Need arousal, Information search, Product evaluation, Purchase decision and Post-purchase evaluation depend predominantly on the personal characteristics of consumers. These moderating factors needs to be identified and taken into account by online retailers in order to cater to the need of the consumers and satisfy demands of the online consumers compete with others in the online market. Then, we will conclude with the research questions of the present study.

II. Literature Review

As per Business Dictionary 2013, demography can be defined as “varying characteristics that is a vital or demographic group, so that the offering (product/service) makes the market go in the right direction [1]. Different demographic segments respond differently to various types of sales promotions, monetary or non-monetary, based on their needs [2].

Demographic Variables

2.1 Age -

Young online shoppers reported more search behavior, before purchasing the younger shoppers reported searching for more products and services online than the older group. Though the search for products was more for younger consumers no significant difference was found in terms of the number of products purchased online classified by age. These results were found to be contrary to the findings of Joines et al. (2003) who found that age did not impact search behavior but has an impact on purchase behavior, and younger consumers were found to purchase more than older consumers [3]. In the present study, younger consumers displayed more online search behavior than older consumers. And when the search for the product online service was taken into consideration, older consumers were more likely to purchase once they had searched for

the item online. This result is similar with the findings of Donthu and Garcia's (1999) results who found that those who ever purchase online were older and had higher incomes[4].

H1- Age has a significant moderating effect on relationship between Attitude and Behavioral Intention of online consumers.

2.2 Income

According to Merriam Webster dictionary an income is "a gain or recurrent benefit usually measured in money that derives from capital or labor; also: the amount of such gain received in a period of time". It is the cumulative money that a household receives from all sources such as wages, salaries, profit, interest payments and rents received in a given period of time. Income is one of the demographic variable on which depends the spending ability of consumers. The more the income of the consumers more is the purchasing power of consumers and in turn more is the sales or profit of retailers.

H2- Income has a significant moderating effect on relationship between Attitude and Behavioral Intention of online consumers

2.3 Gender

The motivation to shop online can be classified into two main categories which are utilitarian and hedonic motivations [5]. Utilitarian motivation is rational in approach and is considered to be same as traditional buying purchasing. In contrast to this, hedonic motivation is emotional in approach. It states that people who purchase online are driven by emotions because out of excitement they enjoy the online shopping experience.

Gender indeed plays a role in affecting consumer motivation. According to Seock and Bailey's (2008) study, females tend to have hedonic motivation because they tend to enjoy shopping more than their male counterparts [6]. They are brand conscious, price consciousness and have high shopping confidence than males. Whereas, males tend to be driven by utilitarian approach because they have higher concerns about the saving time than females. Saving time is one of the beneficial functions and also the one of the elements of utilitarian motivation in online purchasing.

This is in consistent with the findings of Huang and Yang (2010) which states males to be utilitarian purchasers [5]. Facts which are typical to the utilitarian motivation are convenience, lack of sociality and time-saving which males look into while shopping online.

H3 - Gender has a significant moderating effect on relationship between Attitude and Behavioral Intention of online consumers.

2.4 Experience:

Previous online shopping experience is an important factor in predicting attitude towards online shopping. According to Bellman et al. (1999) who investigated many predictors for whether any consumer would buy online or not [7]. They concluded by their research work that demographic variables such as income, education and age have a got a modest impact on the individuals decision to buy online or not. They found out that the most important factor determining whether an individual would make an online purchase on the website was previous experience such as earlier online purchases. "Once people are online, whether they buy there and how much they spend has more to do with whether they like to buy online and whether the time they have for buying is limited" [7]. This is consistent with Forrester Research that concluded "demographic factors such as age, race and gender don't matter anywhere near as much as the consumers' attitudes toward technology" [8]

2.5 Attitude.

"An attitude is a positive or negative evaluative reaction towards a stimulus such as a person, action object or concept". According to the theory of planned behavior a person is more likely to engage in online shopping when he has a positive attitude towards online shopping which is consistent with the norms.

Attitude is a person's favorable or unfavorable response to an object or condition. Attitude is learnt over a period of time from past experience or knowledge and can affect future behavior of the individual towards the object or condition [9]. In other words, attitude indicates that people like or dislike online purchasing. Gender studies in online shopping reveal that males spend more money in online purchasing than their female counterparts. According to a study, the effect of males and females consumers towards website challenge is different [10]. When males feel challenged while online purchasing, their attitude is positive towards the website. If they perceive the website to be relevant they would have a positive attitude towards the website and thus have a higher tendency to purchase online. On the other hand it is just the opposite in case of

female counterparts. If female feels challenged to use a website they perceived more negatively and are less likely to purchase online.

2.6 Behavioral Intentions

Behavioral intention (BI) is defined as a person's perceived likelihood to engage in a given behavior or "subjective probability that he or she will engage in a given **behavior**" This is an outcome of all the motivational factors that influence an individual to perform a given behavior, where the stronger the intent to perform the behavior, the more likely the behavior would be performed. Behavioral intentions are subjective in nature and are influenced by the attitude of the individual regarding the expected outcome and the subjective evaluation of the risks and benefits of performing the given behavior.

2.7 Theoretical Framework

For our experimental study the following variables have been chosen:

Independent Variables: Demographic factors (age, gender, income, experience,)

Dependent Variables: Attitude, Behavioral Intention of online consumers in online consumer buying behaviour.

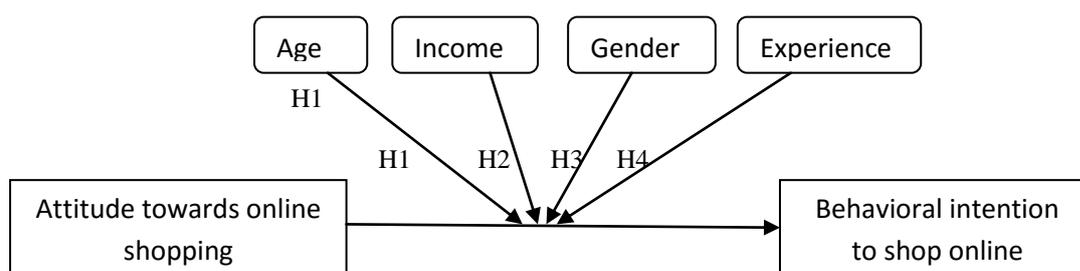


Figure 1

On the basis of extensive literature review a theoretical framework given in fig1. was derived for the study. An experimental study was carried out to evaluate consumer buying behaviour in an online buying environment with respect to the impact of demographic factors i.e. age, gender and income and experience on the attitude towards online shopping.

III. Research methodology

3.1 Objective:

Main objective of research is to analyse the moderating effect of demographic variables like Age, Income, Gender and Experience on relationship between attitude and behavioral intention of online consumers in Delhi – NCR.

3.2 Research Methodology.

3.2.1 Research Design

Primary data was used for conducting the study. For this purpose a structured questionnaire was used and sample size of 398 was collected for the sake of clarity in results. The purpose of the research is mainly exploratory in nature because we are exploring the moderating effect of demographic variables on attitude and behavior intention. Research strategy adopted was survey. Research approach is quantitative as data has been collected through a self administered questionnaire.

3.2.2 Population and sampling:

Target population was the online consumers of Delhi-NCR. Sampling method adopted was non probability judgment sampling as the judgment of the researcher was used in selecting the individuals, before collecting data it was made sure that only those respondents were contacted that had an experience of online shopping. Sampling method was non probability judgment sampling since. Sampling unit were individuals who have experience of online shopping. Sample size was 398.

3.2.3 Statistical Tool used: PROCESS By Andrews Hayes was used to test the moderating effect of demographic variables.

3.2.4 Limitation of study: Present study is limited to the Demographic factors of Age, Income, Gender and Experience of the online consumers of Delhi-NCR only.

3.2.5 Hypothesis

Following hypothesis was framed on the basis of literature review.

Ho-1- Age has a significant moderating effect on relationship between Attitude and Behavioral Intention of online consumers.

Ho-2- Income has a significant moderating effect on relationship between Attitude and Behavioral Intention of online consumers.

Ho-3- Gender has a significant moderating effect on relationship between Attitude and Behavioral Intention of online consumers.

Ho-4- Experience has a significant moderating effect on relationship between Attitude and Behavioral Intention of online consumers.

IV. Data Analysis and Interpretation:

4.1 Demographic profile:

The demographic profile of 398 online consumers of Delhi –NCR with regard to their age , Gender, Income, Experience, Area, Profession, Qualification. Most of the respondents (37.7%) belonged to the age group 36-50, were males (58%). Maximum number of respondents (28%) belongs to the income group of 5-7.5 LPA. Most of the respondents had an online shopping experience of 1-3 years (43%). Majority (34.9%) of online consumers belonged to Delhi. Most of the respondents were graduate (29%) belonged to service class (30%). On the contrary only 7.5 % of the respondents were above 50 years of age out of which 4.3 % were retired. 5.5% of the respondents had an annual income of less than 3 LPA.

This implies that majority of the consumers who shop online are professional, graduate, have higher income group. Thus it can be well said that the online shopping behavior decreases with increase in age and increases with increase in annual income.

Table 1-Demographic Profile of the Respondents

DESCRIPTION		TOTAL(N=398)	
		Frequency	Percentage
AGE	Below 18	35	8.8
	18-25	91	22.9
	26-35	150	37.7
	36-50	92	23.1
	Above 50	30	7.5
	TOTAL	398	100
GENDER	Male	231	58.0
	Female	167	42.0
	TOTAL	398	100
INCOME	Below 3 LPA	22	5.5
	3 -5 LPA	96	24.1
	5-7.5 LPA	112	28.1
	7.5-10 LPA	98	24.6
	Above 10 LPA	70	17.6
	TOTAL	398	100
EXPERIENCE	0-6 months	25	6.3
	6-12 months	89	22.4
	1 to 3 years	174	43.7
	3 to 5 years	94	23.6

	More than 5 years	16	4.0
	TOTAL	398	100
AREA	Delhi	139	34.9
	Noida	80	20.1
	Gurgaon	64	16.1
	Faridabad	62	15.6
	Ghaziabad	53	13.3
	TOTAL	398	100
	PROFESSION	Student	101
Serviceman		121	30.4
Businessman		71	17.8
Home maker		88	22.1
Retired		17	4.3
TOTAL		398	100
QUALIFICATION	Undergraduate	73	18.3
	Graduate	116	29.1
	Post graduate	103	25.9
	Doctorate	13	3.3
	Professional	93	23.4
	TOTAL	398	100

The data analysis was conducted through **PROCESS version 2.16** by **Andrew F. Hayes**.

Process is path analysis modeling tool for SPSS and SAS. It is widely used for estimating direct and indirect effects in mediation and moderation models [11]. Analysis is done with the help of slopes and/or regions of significance to find out interactions, and conditional indirect effects in moderated mediation models with a single or multiple mediators or moderators.

Table 2-Moderating Effect of Age on Attitude and Behavioral Intention

Model Summary							
	R	R-sq	MSE	F	df1	df2	p
	.5293	.2802	15.2406	52.4218	3.0000	394.0000	.0000
Model							
	coeff	se	t	p	LLCI	ULCI	
constant	22.5995	3.5834	6.3067	.0000	15.5550	29.6439	
age	-2.8431	.9736	-2.9203	.0037	-4.7570	-.9292	
ATT_s	.1078	.1676	.6431	.5205	-.2217	.4372	
int_1	.1396	.0461	3.0275	.0026	.0490	.2303	
R-square increase due to interaction(s):							
	R2-chng	F	df1	df2	p		
int_1	.0163	9.1657	1.0000	394.0000	.0026		

From the above table it can be seen that in the model summary the p value is found to be significant. In model table it can be observed that in the interaction term no zero is lying between lower limit confidence interval(LLCI) and upper limit confidence interval(ULCI), as the sign for both the confidence intervals is

positive. It can be seen that there is an r-square change of .0163 due to interaction effect due to the moderator which is age here and the p value is found to be significant. It can be interpreted from the above results that age acts as a moderator on the relationship between attitude and behavioral intention.

Table3 -Moderating Effect Of Income On Attitude And Behavioral Intention

Model Summary						
R	R-sq	MSE	F	df1	df2	p
.5235	.2740	15.3714	50.8298	3.0000	394.0000	.0000

Model						
	coeff	se	t	p	LLCI	ULCI
constant	6.5037	2.7763	2.3426	.0196	1.0459	11.9615
income	2.1456	.9017	2.3794	.0178	.3729	3.9183
ATT_s	.8842	.1329	6.6521	.0000	.6229	1.1454
int_1	-.1022	.0429	-2.3849	.0175	-.1864	-.0180

R-square increase due to interaction(s):					
	R2-chng	F	df1	df2	p
int_1	.0102	5.6876	1.0000	394.0000	.0175

From the above table it can be seen that in the model summary the p value is found to be significant. In model table it can be observed that in the interaction term no zero is lying between lower limit confidence interval(LLCI) and upper limit confidence interval(ULCI), as the sign for both the confidence intervals is negative here . It can be seen that there is an r-square change of .0102 due to interaction effect due to the moderator which is age here and the p value is found to be significant at .05. It can be interpreted from the above results that income acts as a moderator on the relationship between attitude and behavioral intention.

Table4 -Moderating Effect of Gender On Attitude And Behavioral Intention

Model Summary						
R	R-sq	MSE	F	df1	df2	p
.5138	.2640	15.5831	48.3093	3.0000	394.0000	.0000

Model						
	coeff	se	t	p	LLCI	ULCI
constant	11.9188	3.1586	3.7734	.0002	5.7094	18.1282
gender	.5085	2.0810	.2444	.8071	-3.5824	4.5994
ATT_s	.6159	.1502	4.1016	.0000	.3207	.9111
int_1	-.0179	.0990	-.1805	.8569	-.2124	.1767

R-square increase due to interaction(s):					
	R2-chng	F	df1	df2	p
int_1	.0001	.0326	1.0000	394.0000	.8569

From the above table it can be seen that in the model summary the p value is found to be significant. In model table it was observed that in the interaction term zero is lying between lower limit confidence interval(LLCI) and upper limit confidence interval(ULCI), as the sign for LLCI is negative whereas the sign for ULCI is positive, which means that there is no moderating effect of gender on the relationship between attitude and behavioral intention. It can be seen that there is an r-square change of .0001 due to interaction effect but the p value is found to be non significant due to the moderator which is gender here. It can be concluded from the above results that gender does not act as a moderator on the relationship between attitude and behavioral intention.

Table5-Moderating Effect Of Experience On Attitude And Behavioral Intention

Model Summary						
R	R-sq	MSE	F	df1	df2	p
.5298	.2807	15.2303	52.5474	3.0000	394.0000	.0000

Model						
	coeff	se	t	p	LLCI	ULCI
constant	6.7763	2.4910	2.7204	.0068	1.8794	11.6732
Experience	2.6729	1.0034	2.6638	.0080	.7003	4.6455
ATT_s	.8209	.1231	6.6692	.0000	.5789	1.0628
int_1	-.1095	.0481	-2.2774	.0233	-.2041	-.0150

R-square increase due to interaction(s):					
	R2-chng	F	df1	df2	p
int_1	.0092	5.1866	1.0000	394.0000	.0233

From the above table it is evident that in the model summary table the p value is found to be significant. In the model table it can be observed that in the interaction term no zero is lying between lower limit confidence interval(LLCI) and upper limit confidence interval(ULCI), as the sign for both the confidence intervals is negative. It can be seen that there is an r-square change of .0092 due to interaction effect due to the moderator which is experience here and the p value is found to be significant. It can be interpreted from the above results that experience acts as a moderator on the relationship between attitude and behavioral intention. The above results can be presented as below

Table 7-Summary Of Hypothesis Testing

MODERATION EFFECT OF DEMOGRAPHIC VARIABLES							
HYPOTHESIS	PATHS	Moderating Variable	MODEL SUMMARY				Results
			R2 Change	LLCI	ULCI	P	
H 1 -Age has a significant moderating effect on relationship between Attitude and Behavioral Intention.	ATTD →	AGE	0.0165	0.049	0.2305	0.0026	Supported
H 2 -Income has a significant moderating effect on relationship between Attitude and Behavioral Intention.	ATTD →	INCOME	0.0102	-0.1864	-0.018	0.0175	Supported
H 3 -Gender has a significant moderating effect on relationship between Attitude and Behavioral Intention.	ATTD →	GENDER	0.0001	0.8569	-0.2124	0.1767	NOT Supported
H 4 -Experience has a significant moderating effect on relationship between Attitude and Behavioral Intention.	ATTD →	EXPERIENCE	0.0092	-0.2041	-0.015	0.0233	Supported

V. Conclusions And Suggestions

On the basis of the analysis of the data it became evident that there is a moderating relationship between demographic variables under study which moderates the relationship between attitude and behavioral intention of online consumer. Results of the study show that individuals of medium age group 25-50 are the most frequent online shoppers, consumers below and higher than this age group tend to make fewer online purchase as compared to this group. Among other demographic factors, income was another variable that had a positive relationship with attitude and behavioral intention of consumers high income consumers were more likely to buy online as compared to low income group. This shows that dual income families and individuals that have high earnings and have high disposable income are more likely to shop online. Moreover, results also show that gender of the consumers is least likely to have a moderating impact on attitude towards online shopping. An important limitation of the study is that sample selected was limited to region of Delhi & NCR only, and its findings cannot be generalized to all online consumers. To replicate the findings to other areas as well a large and area wise dispersed sample of consumers should be taken into account. Other limitation is selection of only four demographic characters, to gain a deeper and comprehensive understanding of moderating effect of demographic variables several other demographic variables shall be taken into account.

So overall, this study attempted to enrich our understanding about the moderation effect of demographic variables on relationship between attitude and behavioral intentions. Customer retention is of great challenge for online retailers as in online scenario the switching cost is very low and the competitor is just a click away. Behavioral intentions of the online consumers demand a lot of attention so that various strategies

can be designed by online retailers for customer retention. The relationship of moderating effect of underlying demographic factors with attitude and behavioral intentions is both logical and useful and deserves further study.

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