

# Building Online Shopping Model for Sustainability of E-Commerce Industry through Empirical Study

Asmat Ara Shaikh, Nadeem Merchantvali, M. Z. Shaikh, C. R. Chavan

## Abstract

*Online shopping has more or less made heavy inroads in today's retail trade across the world. Companies like Amazon are out to render brick and mortar establishments obsolete. Even after its' strong presence in the country, Indian sites like Flipkart, Myntra, Ajoio, and Snapdeal, among others, are also doing extremely well. A deeper study has been undertaken by the authors to study the real driving variables in online shopping and their relationship to demographic and other variables. The following variables have been taken for Model building. The importance is given to website features and their relationship to respondents' other internet activities like engaging with their Facebook society, Gaming on the net, using the net for e-learning, etc is a necessary dimension that has been studied in this paper. Also, the relationship to the demographic variables of the respondents is equally important for designing an enticing website for digital marketing.*

**Keywords:** Online Shopping, Model building, Sustainability, E-commerce, Management

**JEL Codes:** L1, M1, M310

## 1. Introduction

### Background to the study

(Anon., 2021) According to the author, we are already in an era that is still trying to grapple with the huge surge in the digital economy across the globe. According to one major giant in the IT space, by 2020, the usage of digital advances might add \$1.36 trillion to economic growth. Retrospectively, this has been more than \$ 1.36 trillion. Contextually, digital advancements have added an economy the size of South Korea to the worldwide market in the last four years.

Subsequently, the need for employers to find individuals with essential digital skills has skyrocketed. The considerable ability of companies to effectively utilize digital tools is being hampered by an inevitable and widening skills gap. Amazingly, while 59 percent of marketers in the United States, 47 percent in the United Kingdom, and 51 percent in Ireland considered themselves to be very or equitably competent in digital marketing, the exact level of their expertise when appraised is the same in all three developed countries - besting 38 percent on average. We can fathom the case in a country like ours.

This dearth of digital marketing skills has affected not only e-commerce retailers but also brick-and-mortar businesses. According to Google, "3 in 4 persons who undoubtedly found local information in search engine results helpful are more favourably inclined to visit stores.

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“Moreover, 50% of shoppers will visit a store within one day after conducting a local search on their smartphone”. This is very much relevant for India as brick-and-mortar establishments are changing their price tags to keep it lower than the price plus delivery costs of substitutes and competing products.

(Anon., 2016) Focus has intensified in making digital marketing and delivery ecosystem outgrow and compete with the local retailer’s warm relationship with its round the corner customers. Enriching the website for mass attraction of online customers is gaining newer heights. Retailers must comprehend their customers' purchase behaviour to remain effective. This is substantially true for internet merchants. To satisfy its consumers' information collecting and buying habits, the website's appearance and support must be thoroughly understood. Visual cues, as well as effective communication via text and music, can have an impact on consumers' online wants and actions, either positively or negatively.

## Literature Review

### Online consumer segments and their online activities

(Ramaswamy & Namakumari, 2006) In one of its extensive research, Mc Kinsey, a global consulting firm, objectively evaluated the online behaviour of 5000 active internet users and discovered precisely six diverse kinds of online users. They are *Simplifiers*, people who wisely prefer easiness and are depicted on websites that enable doing business easier, quicker, or much more effective than it is in the physical world.

*Surfers* represent another group who intentionally use the internet to gather specific information, think creatively, and shop. Websites must adequately provide a diverse range of material that is appealing, well-presented, and often updated.

The third section is *bargain hunters* who are looking for an attractive offer. They genuinely like looking for the best price or delivery terms and are prepared to visit multiple websites to do so. Connectors are frequent users of discussion forums, chat apps, e-card sites, and web-based email. They utilize the internet to communicate with others.

*Routineers* resume to the same location time again and again. They utilize the internet to conveniently get economic news, stock quotes, and financial details. They are at ease when working with intuitive user interfaces.

The concluding section is *Sporters*, who naturally prefer to willingly spend their considerable time on sports and entertainment websites instead of news and financial information websites.

### Website Features

Website design characteristics are accurately classified into three distinct categories: hygiene factors, motivational factors, and media richness considerations. The possible existence of sanitation aspects undoubtedly makes a website efficient and acceptable, whereas their notable absence creates user discontent. Assured safety and confidentiality, technical implementation, accessibility, fundamental fairness, and content quality are among some of the classes of hygiene factors. Motivating factors are those that positively enhance the considerable value of a website by progressively increasing user pleasure.

Entertainment value, Cognition Outcomes, User Empowerment, Authenticity, Aesthetic Appearance, and Structure of Available Data remain the five types of motivating factors. Contributing factors of source credibility proportionately increase the considerable number of communication techniques or the excellent quality of the interactive interface. They reasonably argue that offering decent support to businesses will support Internet sellers overcome their electronic competition, but hygienic factors must be considered if they wish to draw customers from traditional retailers. (Liang, et al., 2000). Digitalization is much more demanded in SMEs, and the potential severity of technology acceptance has increased significantly since COVID-19. It is past time for SMEs' owners and sustainable management to enthusiastically embrace innovative technology; they can no longer afford to reject it. (Asmat, et al., 2021). In many circumstances, massive industries or company organizations undoubtedly require the right implementation of data management platforms to naturally strengthen the customer interaction

system, which can powerfully aid in the sustainable development of the organization. (Sharma, et al., 2021). According to the study, the offered characteristics under Trade value -Value for money, Negotiable cost, Reasonable Price, Offers and Discount, COD, and Multiple payment methods convincingly demonstrate an exceptionally high and statistically significant association with the Intention Quotient of online customers. (Asmat, et al., 2021). Based on the discussion above, the human resource department that efficiently uses emotional stability in acquisition, training, collaboration, and policy creation can assist firms in meeting the present COVID-19 issues. (Ayedee, et al., 2021). The key observations have predictably led to the FY-20 Sustainability report, online networks, government, and market dynamics that concentrated on both the groups' pivotal role in intriguing more toward attaining sustainable results as well as focusing intensely on specific aspects where gradual transition can be satisfactorily established to achieve desired outcomes and to meet the needs of teams, supply chain partners, patrons, and prominent community members to convey certain discrepancies during pandemics. COVID-19 (Asmat & Mohd, 2021).

### **Demographic Characteristics**

According to (Hashim, et al., 2009) Age, gender, level of education, income, occupation, marital status, and considerable time spent online are some of the demographic features of internet consumers.

According to the (Bellman, et al., 1999) report, the virtual community is pretty young, better informed, and affluent, however, the disparities are progressively decreasing. They sufficiently emphasize key demographics tend to play an essential role in deciding whether people use the Internet, but demographics do not appear to be key determinants positively influencing buying decisions or shopping habits once people are online.

(Bhatnagar, et al., 2000) claims that demographics are not relevant considerations in deciding which store to visit or how much to spend, although men and women prefer to buy diverse types of products or services over the Online platform.

### **Objectives of the study**

1. To analyze the relationship between E-Commerce company's Website features and customers spending capacity as well as online shoppers' other net activities like Facebook engagement, Gaming online, e-learning, online shopping, No. of hours spent online.
2. To examine the relationship between an E-Commerce company's Website features, customers spending capacity, and online shoppers' demographic variables (Marital Status, Gender, Education, Occupation, Monthly family income).
3. To offer an online shopping model for sustainability of the E-commerce Industry.

### **Research questions**

1. Is there a relationship between importance given to website features and respondent's engagement with other net activities like Facebook, gaming, learning, and shopping?
2. Is there a relationship between importance given to website features and demographics variables of the respondents (Gender, Marital status, Income, Occupation, Educational qualifications, and the number of hours spent on the net daily)?

## **2. Methods**

**Research Design:** Descriptive Research Design

**Sampling Method:** Survey Method

**Sample Size: 2500- Online shoppers**

The considerable size of the selected sample based on the results of the pilot study, the sample size for the research was estimated to be 2500, which was split evenly as follows. 2500 samples were collected. ("Corporate Executives, Professionals, PG-Students, Businessmen, Service men-500 samples from each group of respondents.")

**Survey Instrument:** Structured questionnaire

**Statistical Tools:** Two-way ANOVA or Univariate MANOVA has been used as statistical tools for hypothesis testing.

### **Abbreviations and Terms Used**

The authors have selected the following variables for Model building. Test Dependent Variables (DV's - Scale/Continuous) and Independent Variables (IV's – Categorical) used for online shopping Modelling.

The Dependent variables, Independent Variables and Moderated Variable have been explained below.

#### **A): Dependent Variables (DV)**

##### **DV: Importance given to Website Features**

- Conducive user interface + Updated Information + 24 x 7 shopping + Order tracking + Ease of comparing products
- (Score ranges from 1 – 4, 1 denotes least important and 4 denotes the highest importance)

#### **B): Independent Variables (IV)**

##### • **Main Fixed Factor 1**

##### **IV: Amount spent on online purchase.**

- Up to Rs 2000     Rs 2001-4000     Rs 4001-6000     Rs 6001-8000
- Above Rs 8000

#### **C): Moderated Variables (MV)**

##### **MV: Online Activities**

- Facebook (Yes, No)
- Gaming (Yes, No)
- Learning (Yes, No)
- Shopping (Yes, No)

##### **MV: Demographics**

- Marital-Status: Unmarried, Married, Others.....
- Qualification: SSC/HSC/Graduate/PG/Above PG/PhD
- Occupation: Corporate Executives/Professionals/Students
- Gender (Male/Female)
- Family income (Monthly)
  - Up to Rs. 25000/-
  - Rs. 26000-50000
  - Rs. 51000-100000
  - Above Rs 1 lake

**MV: No. of hours spent on browsing the Internet (in a day):**

- o 1-3 hrs / 4-6/ 7-9 / 10 – 12 / > 12 hrs per day

**Reliability Test**

**Table1** Reliability Coefficients

	Online Consumer Behaviour Scales	Concerns To Shop Online
Number of items	57	17
Cronbach Alpha ( $\alpha$ )	0.802	0.791

Source: Authors Own

The reliability coefficient indicated that the scale for measuring online consumer behaviour is highly consistent as the alpha value is 0.802. For the purpose of measuring reasons to shop online and concerns to shop online the reliability coefficients is 0.791 (As per table: 7.1). As the entire items had a cronchbach’s alpha coefficient above standard guideline of 0.70 the scales can be used for analysis with acceptable reliability.

**Hypothesis Testing**

General linear models (Both univariate and multivariate) have been employed in model building. Also, multiple hypotheses have been tested and their Interpretation of results have been presented in statistical as well as simple terms for non-statistical readers.

**Table 2** Summary Table and Model numbers

S.No	Model No.	IV1	MV- (1-10)	DV
		Amount spent on Purchase (PS)	Internet Activities & Demographics	Importance given to Website Features
1	1.1	PS	Usage of Facebook	Importance given to Website Features
2	1.2	PS	Gaming	Importance given to Website Features
3	1.3	PS	Learning	Importance given to Website Features
4	1.4	PS	Shopping	Importance given to Website Features
5	1.5	PS	Gender	Importance given to Website Features

6	1.6	PS	Marital status	Importance given to Website Features
7	1.7	PS	Edu Qual	Importance given to Website Features
8	1.8	PS	Income	Importance given to Website Features
9	1.9	PS	Occupation	Importance given to Website Features
10	1.10	PS	No. of Hours spent online	Importance given to Website Features

Source: Authors Own

### 3. Results

#### Test of Hypotheses and Discussion of Results

##### Model Number 1.1

##### Hypothesis = 1:

DV – Importance given to Website Features

IV- Fixed Factor 1 – Amount spent on online purchase

MV-1 – Usage of Facebook

##### Interaction Effect between IV, MV & DV

**H01.1a:** The combined effect of *Amount spent on online shopping* and their *usage of Facebook* has no significant effect on the importance given to *Website features*

**H11.1a:** The combined effect of *Amount spent on online shopping* and their *usage of Facebook* has a significant effect on the importance given to *Website features*.

##### Main Effect between IV & DV: Amount spent & Website features

**H01.1b:** *Amount spent* has no significant effect on the importance given to *Website features*

**H11.1b:** *Amount spent* has a significant effect on the importance given to *Website features*

##### 1.1 Interaction Effect between MV & DV: Usage of FB & Website features

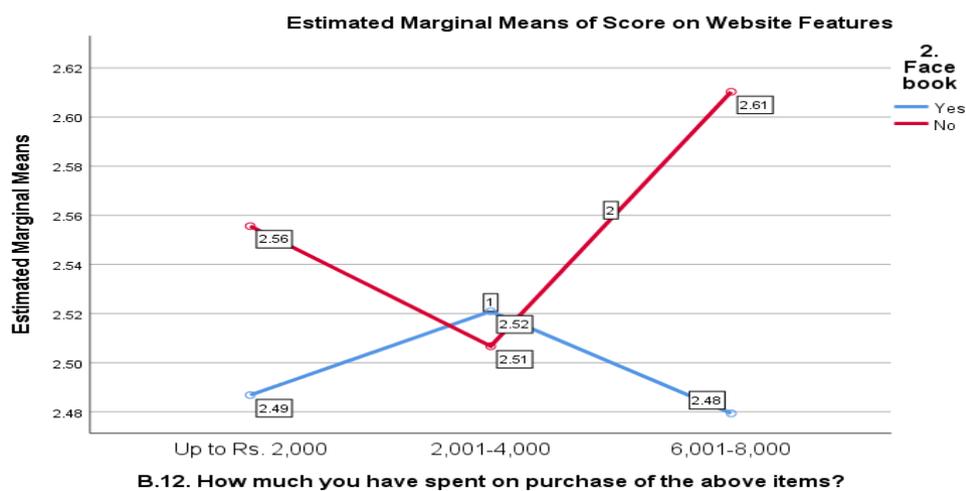
**H01.1c:** *Usage of Facebook* has no significant effect on the importance given to *Website features*

**H11.1c:** *Usage of Facebook* has a significant effect on the importance given to *Website features*.

**Table 2.1**

<b>Tests of Between-Subjects (<i>Facebook Usage</i>) Effects-Significance Table for MANOVA</b>						
Dependent Variable: Importance given to Website Features						
Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	2.816 <sup>a</sup>	5	.563	2.641	.022	.006
Intercept	10700.316	1	10700.316	50178.212	.000	.961
B.12_Amt. Spent	.244	2	.122	.572	.564	.001
B.2.2_FB usage	1.603	1	1.603	7.518	<b>.006</b>	.004
B.12 * B.2.2_Combined effect	1.308	2	.654	3.068	<b>.047</b>	.003
Error	432.677	2029	.213			
Total	13293.120	2035				
Corrected Total	435.493	2034				

a. R Squared = .006 (Adjusted R Squared = .004)



**Plot 1.1: Combined Effect of Website Features, Amount spent on online shopping and Face Book usage**

### **Interpretation of results of results**

Facebook Non-Users within various categories of the amount spent on online shopping give more importance to website features (except the 2001-4000 category having insignificant difference). Under **Interaction Effect between IV, MV & DV** - The combined effect of the *Amount spent on online shopping* and their *usage of Facebook* is statistically significant at 5% LOS. (**P= 0.047**).

Hence it has a significant effect on the importance given to *Website features so we accept*

**H11.1a** and H01.1a Rejected.

**Main Effect between IV & DV: Amount spent & Website features** – The amount spent on online shopping does not affect the importance given to website features. Higher spenders and lower categories give similar importance to website features. Hence **H01.1b was Accepted**.

**MV-1** - non-Facebook users give more importance (Mean = 2.55) than users (Mean = 2.49). the combined effect is also significant. *Usage of Facebook* has a significant effect at 5% LOS (**P=0.006**) on the importance given to *Website features*, hence H01.1c **Rejected and accepted H11.1c**.

### **Model Number 1.2**

**Hypothesis = 2:**

**DV** – Importance given to Website Features

**IV- Fixed Factor 1** – Amount spent on online purchase

**MV- 2** – Online Gaming

### **Interaction Effect between IV, MV & DV**

**H02.2a:** The combined effect of the *Amount spent on online shopping* and *Online Gaming* has no significant effect on the importance given to *Website features*.

**H12.2a:** The combined effect of *Amount spent on online shopping* and their *Online Gaming* significant effect on the importance given to *Website features*.

### **Main Effect between IV & DV: Amount spent & Website features**

**H02.2b:** *Amount spent* has no significant effect on the importance given to *Website features*.

**H12.2b:** *Amount spent* has a significant effect on the importance given to *Website features*.

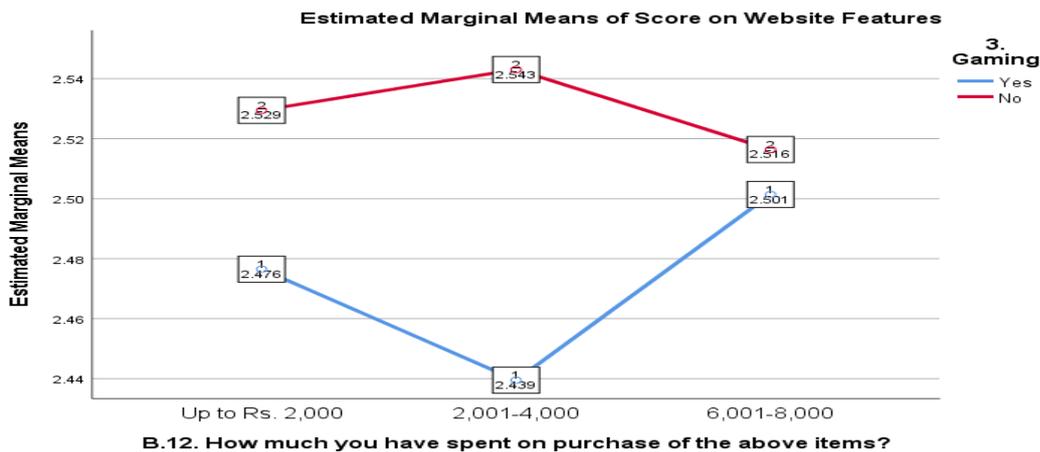
### **1.2: Interaction Effect between MV & DV: Online Gaming & Website features**

**H02.2c:** *Online Gaming* has no significant effect on the importance given to *Website Features*.

**H12.2c:** *Online Gaming* has a significant effect on the importance given to *Website features*.

**Table 2.2**

Tests of Between-Subjects Effects ( <i>Online Gaming</i> ) -Significance Table for MANOVA						
Dependent Variable: Importance given to Website Features						
Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	1.771 <sup>a</sup>	5	.354	1.657	.142	.004
Intercept	10329.311	1	10329.311	48321.633	.000	.960
Amount spent B.12	.079	2	.039	.184	.832	.000
Gaming B.2.3	1.349	1	1.349	6.311	<b>.012</b>	.003
B.12 * B.2.3	.484	2	.242	1.133	.322	.001
Error	433.722	2029	.214			
Total	13293.120	2035				
Corrected Total	435.493	2034				



**Plot 1.2: Combined Effect of Website Features, Amount spent on online shopping & Gaming**

**Interpretation of results**

Non-Gamers across all categories of the amount spent, give more importance to website features as compared to Gamers. *Online Gaming* has a significant effect ( $P= 0.012$ ) on the importance given to *Website features*. Hence accepted **H12.2c** and rejected **H02.2c**.

Whereas the combined effect of *Amount spent on online shopping* and *Online Gaming* has no significant effect on the importance given to *Website features*, as well as *Main effect-Amount spent* has no significant effect on the importance given to *Website features*. So rejected both **H12.2a & H12.2b**.

**Model Number 1.3****Hypothesis = 3:****DV** – Importance given to Website Features**IV-Fixed Factor 1** – Amount spent on online purchase**MV-3** – Online Learning**Interaction Effect between IV, MV & DV**

**H03.3a:** The combined effect of the *Amount spent on online shopping* and their *Online Learning* has no significant effect on the importance given to *Website features*.

**H13.3a:** The combined effect of the *Amount spent on online shopping* and their *Online Learning* has a significant effect on the importance given to *Website features*.

**Main Effect between IV & DV: Amount spent & Website features**

**H03.3b:** *Amount spent* has no significant effect on the importance given to *Website features*.

**H13.3b:** *Amount spent* has a significant effect on the importance given to *Website features*.

**1.3: Interaction Effect between MV & DV: Online Learning & Website features**

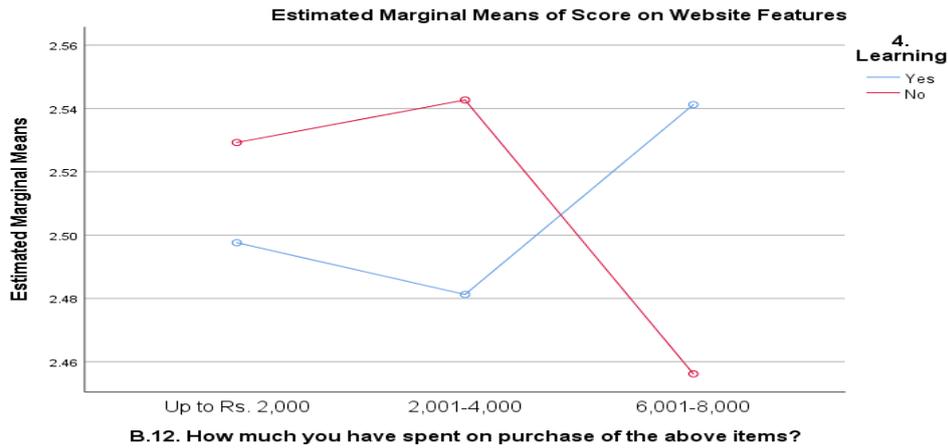
**H03.3c:** *Online Learning* has no significant effect on the importance given to *Website features*.

**H13.3c:** *Online Learning* has a significant effect on the importance given to *Website features*.

**Table 2.3**

<b>Tests of Between-Subjects (<i>Online Learning</i>) Effect -Significance Table for MANOVA</b>						
Dependent Variable: Importance given to Website Features						
Source	Type III Sum of Squares	Df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	1.714 <sup>a</sup>	5	.343	1.603	.156	.004
Intercept	11822.250	1	11822.250	55298.531	.000	.965
B.12_Amt. Spent	.078	2	.039	.182	.834	.000
B.2.4-Online Learning	.003	1	.003	.016	.900	.000

B.12 * B.2.4	1.662	2	.831	3.887	<b>.021</b>	.004
Error	433.779	2029	.214			
Total	13293.120	2035				
Corrected Total	435.493	2034				



**Plot 1.3: Combined Effect of Website Features, Amount spent on online shopping and Online Learning**

**Interpretation of results**

Those who are using the net for learning purposes give less importance to website features (in the lower purchase amount categories only). In the higher purchase amount category learners give more importance to website features than non-learners.

The **combined effect** of the *Amount spent on online shopping* and their *Online Learning* has a significant effect (**P= 0.021**) on the importance given to *Website features*, hence **accepted H13.3a** and rejected H03.3b.

Whereas (**Main effects 1 and 2**) Amount spent online and Online Learning are not statistically significant on the importance of website features.

**Model Number 1.4**

**Hypothesis = 4:**

**DV** – Importance given to Website Features

**IV- Fixed Factor 1** – Amount spent on online purchase

**MV-4** – Online Shopping

**Interaction Effect between IV, MV & DV**

**H04.4a:** The combined effect of the *Amount spent on online shopping* and their *Online Shopping* has no significant effect on the importance given to *Website features*.

**H14.4a:** The combined effect of the *Amount spent on online shopping* and their *Online Shopping* has a significant effect on the importance given to *Website features*.

**Main Effect between IV & DV: Amount spent & Website features**

**H04.4b:** *Amount spent* has no significant effect on the importance given to *Website features*.

**H14.4b:** *Amount spent* has a significant effect on the importance given to *Website features*.

**1.4: Interaction Effect between MV & DV: Online Shopping & Website features**

**H04.4c:** *Online Shopping* has no significant effect on the importance given to *Website features*.

**H14.4c:** *Online Shopping* has a significant effect on the importance given to *Website features*

**Table: 2.4**

<b>Tests of Between-Subjects (<i>Online Shopping</i>) Effects-Significance Table for MANOVA</b>						
Dependent Variable: Importance given to Website Features						
Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	.727 <sup>a</sup>	5	.145	.679	.640	.002
Intercept	11317.000	1	11317.000	52815.082	.000	.963
B.12_Amt. Spent	.046	2	.023	.107	.899	.000
B.2.5_Shopping	.391	1	.391	1.825	.177	.001
B.12 * B.2.5	.345	2	.173	.805	.447	.001
Error	434.766	2029	.214			
Total	13293.120	2035				
Corrected Total	435.493	2034				

Plot – same as in 1.1 (except mean differences are negligible)

**Interpretation of results**

All the three effects (Interaction between IV, MV, DV) are statistically insignificant. Those who use the net for shopping and those who do not, both are similar in giving importance to website features (Those who are not using have imagined that if they use the net then what....?). The combined effect is also negligible.

**Combined Effect with Demographic Variables**

**Model Number 1.5**

**Hypothesis = 5:**

**DV** – Importance given to Website Features

**IV-Fixed Factor 1** – Amount spent on online purchase

**MV-5** – Gender

**Interaction Effect between IV, MV & DV**

**H05.5a:** The combined effect of *Amount spent on online shopping* and *Gender* has no significant effect on the importance given to *Website features*

**H15.5a:** The combined effect of *Amount spent on online shopping* and *Gender* has a significant effect on the importance given to *Website features*

**Main Effect between IV & DV: Amount spent & Website features**

**H05.5b:** *Amount spent* has no significant effect on the importance given to *Website features*

**H15.5b:** *Amount spent* has a significant effect on the importance given to *Website features*.

**1.5: Interaction Effect between MV & DV: Gender & Website features**

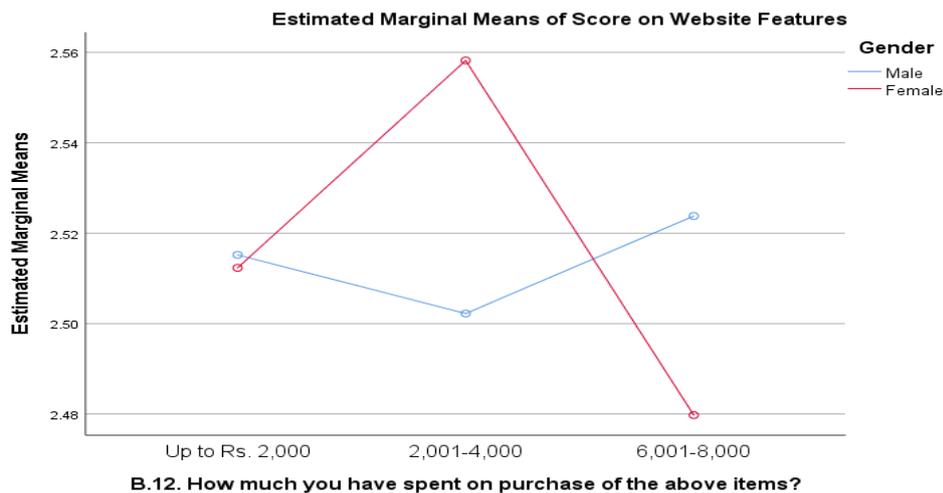
**H05.5c:** Online Shoppers *Gender* has no significant effect on the importance given to *Website features*.

**H15.5c:** Online Shoppers *Gender* has a significant effect on the importance given to *Website features*.

**Table: 2.5**

<b>Tests of Between-Subjects (<i>Gender</i>) Effects-Significance Table for MANOVA</b>						
Dependent Variable: Importance given to Website Features						
Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	.561 <sup>a</sup>	5	.112	.523	.759	.001
Intercept	9511.639	1	9511.639	44372.681	.000	.956
B.12_Amt. Spent	.179	2	.089	.417	.659	.000
A.6_Gender	.003	1	.003	.016	.899	.000

B.12 * A.6	.554	2	.277	1.292	.275	.001
Error	434.932	2029	.214			
Total	13293.120	2035				
Corrected Total	435.493	2034				



**Plot 1.5: Combined Effect of Website Features, Amount spent on online shopping & Gender**

### Interpretation of results

All the three Interaction effects between IV, MV & DV are statistically insignificant at 5% Los. Hence, we reject all three research hypotheses **H15.5a**, **H15.5b** & **H15.5c** and accept null hypotheses ie. Amount spent on online shopping, Website features and Gender of the online shoppers are statistically insignificant.

According to the given plot males from the high-income group are giving little bit of more importance to website features as compare to the lower- and middle-income group males.

### Model Number 1.6

#### Hypothesis = 6:

**DV** – Importance given to Website Features

**IV- Fixed Factor 1** – Amount spent on online purchase

**MV- 6** – Marital status

### Interaction Effect between IV, MV & DV

**H06.6a:** The combined effect of the *Amount spent on online shopping* and *Marital Status* has no significant effect on the importance given to *Website features*.

**H16.6a:** The combined effect of the *Amount spent on online shopping* and *Marital Status* has a significant effect on the importance given to *Website features*.

**Main Effect between IV & DV: Amount spent & Website features**

**H06.6b:** *Amount spent* has no significant effect on the importance given to *Website features*

**H16.6b:** *Amount spent* has a significant effect on the importance given to *Website features*

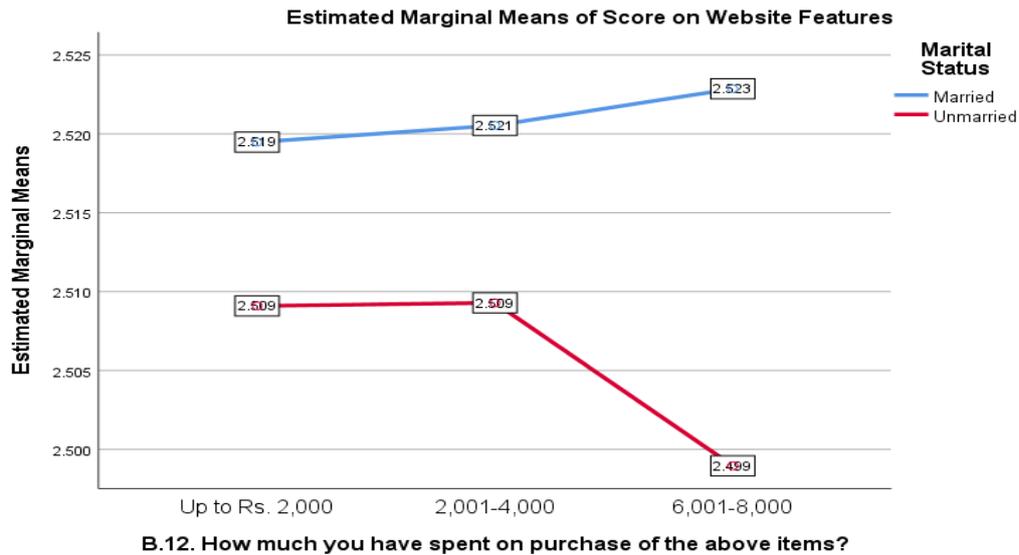
**1.6: Interaction Effect between MV & DV: Marital Status & Website features**

**H06.6c:** Online Shoppers *Marital Status* has no significant effect on the importance given to *Website features*

**H16.6c:** Online Shoppers *Marital Status* has a significant effect on the importance given to *Website features*.

**Table: 2.6**

Tests of Between-Subjects ( <i>Marital Status</i> ) Effects-Significance Table for MANOVA						
Dependent Variable: Importance given to Website Features						
Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	.130 <sup>a</sup>	5	.026	.121	.988	.000
Intercept	12320.776	1	12320.776	57420.688	.000	.966
B.12_Amt. Spent	.006	2	.003	.013	.987	.000
A.3_Marital Status	.112	1	.112	.523	.469	.000
B.12 * A.3	.018	2	.009	.042	.959	.000
Error	435.363	2029	.215			
Total	13293.120	2035				
Corrected Total	435.493	2034				



**Plot 1.6: Combined Effect of Website Features, Amount spent on online shopping and Online Shoppers Marital Status**

### Interpretation of results

All the three Interaction Effects between IV, MV, DV (Amount spent on online shopping, Marital Status and importance given to the website features) are statistically insignificant at 5% Los. So, we reject research hypotheses **H16.6a**, **H16.6b**, **H16.6c**. and accept null hypothesis. Where as married online shoppers from high income groups gives more importance to the website features followed by middle income group males.

### Model Number 1.7

#### Hypothesis = 7:

DV – Importance given to Website Features

IV-Fixed Factor 1 – Amount spent on online purchase

MV-7 – Educational Qualification

#### Interaction Effect between IV, MV & DV

**H07.7a:** The combined effect of the *Amount spent on online shopping* and *Qualification* has no significant effect on the importance given to *Website features*.

**H17.7a:** The combined effect of the *Amount spent on online shopping* and *Qualification* has a significant effect on the importance given to *Website features*.

#### Main Effect between IV & DV: Amount spent & Website features

**H07.7b:** *Amount spent* has no significant effect on the importance given to *Website features*.

**H17.7b:** *Amount spent* has a significant effect on the importance given to *Website features*.

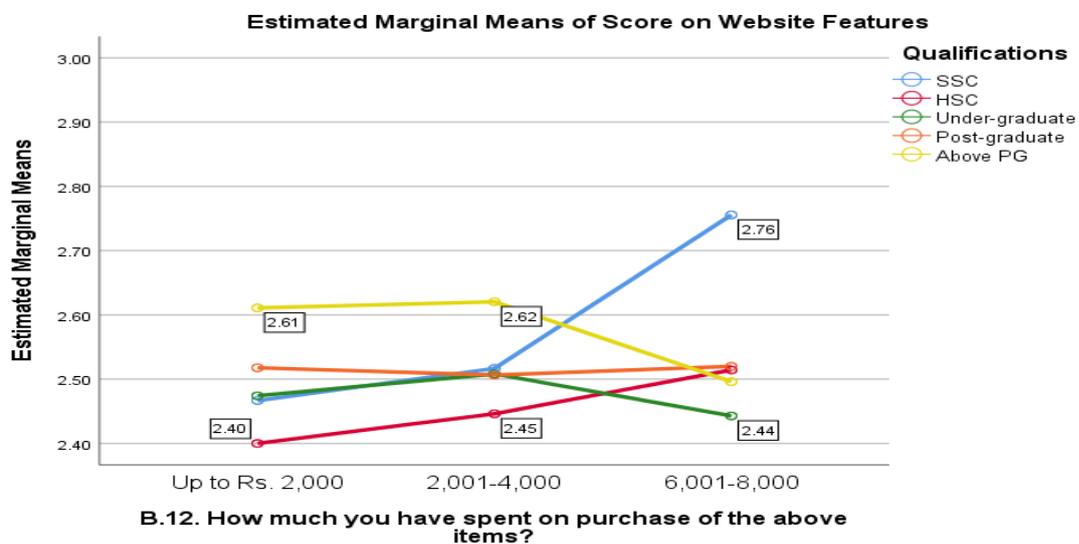
#### 1.7: Interaction between MV & DV: Qualification & Website features

**H07.7c:** Online Shoppers *Qualification* has no significant effect on the importance given to *Website features*.

**H17.7c:** Online Shoppers *Qualification* has a significant effect on the importance given to *Website features*.

**Table:2.7**

Tests of Between-Subjects ( <i>Qualification</i> ) Effects-Significance Table for MANOVA						
Dependent Variable: Importance given to Website Features						
Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	2.814 <sup>a</sup>	14	.201	.938	.516	.006
Intercept	2562.897	1	2562.897	11965.113	.000	.856
B.12_Amt. Spent	.187	2	.093	.436	.647	.000
A.4_Qualification	1.464	4	.366	1.708	.145	.003
B.12 * A.4	1.435	8	.179	.837	.570	.003
Error	432.679	2020	.214			
Total	13293.120	2035				
Corrected Total	435.493	2034				



**Plot 1.7: Combined Effect of Website Features, Amount spent on online shopping and Online Shoppers Qualifications**

## **Interpretation of results**

The importance given to the *Website features* on Y-axis has minutes of scale and when there are more than two categories are involved then required more marginal difference to establish standard statistical significance.

Hence all the three Interaction effects between (IV, MV, DV) under respondents *Qualification* are statistically insignificant at 5% Los. Therefore, we reject research hypothesis and accept null hypotheses ie. There is no significant relation between Amount spent on online shopping, Qualification and importance given to the website features.

### **Model Number 1.8**

#### **Hypothesis = 8:**

**DV** – Importance given to Website Features

**IV- Fixed Factor 1** – Amount spent on online purchase

**MV-8** – Monthly Family Income

#### **Interaction Effect between IV, MV & DV**

**H0s.8a:** The combined effect of the *Amount spent on online shopping* and *Monthly Family Income* has no significant effect on the importance given to *Website features*.

**H1s.8a:** The combined effect of the *Amount spent on online shopping* and *Monthly Family Income* has a significant effect on the importance given to *Website features*.

#### **Main Effect between IV & DV: Amount spent & Website features**

**H0s.8b:** *Amount spent* has no significant effect on the importance given to *Website features*.

**H1s.8b:** *Amount spent* has a significant effect on the importance given to *Website features*.

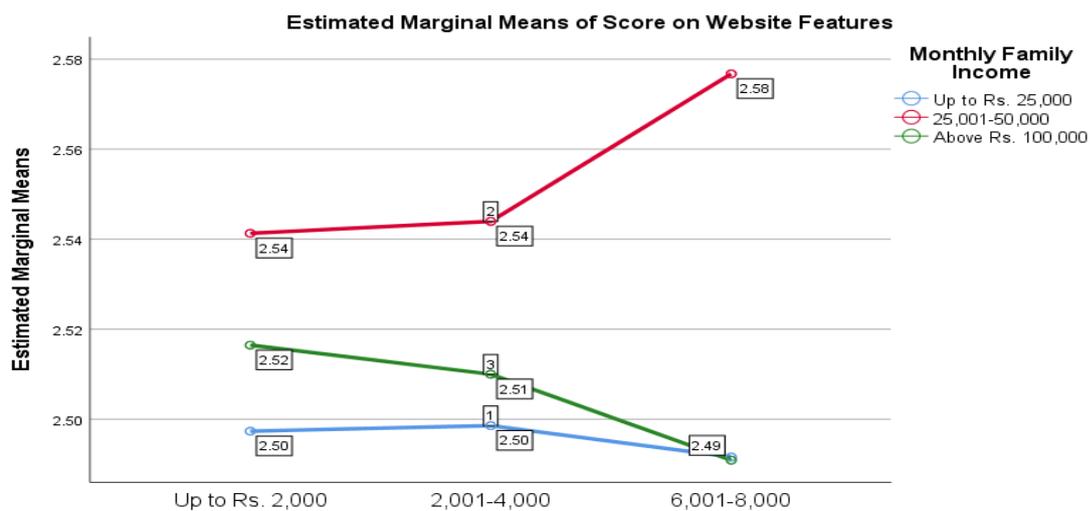
#### **1.8: Interaction Effect between MV & DV: Monthly family Income & Website features**

**H0s.8c:** Online Shoppers *Monthly Family Income* has no significant effect on the importance given to *Website features*.

**H1s.8c:** Online Shoppers *Monthly Family Income* has a significant effect on the importance given to *Website features*.

**Table:2.8**

Tests of Between-Subjects ( <i>Monthly Family Income</i> ) Effects-Significance Table for MANOVA Effects						
Dependent Variable: Importance given to Website Features						
Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	1.297 <sup>a</sup>	8	.162	.756	.642	.003
Intercept	10974.970	1	10974.970	51210.242	.000	.962
B.12_Amt. Spent	.001	2	.001	.003	.997	.000
A.7_Family Income	1.192	2	.596	2.782	<b>.062</b>	.003
B.12 * A.7	.186	4	.047	.217	.929	.000
Error	434.196	2026	.214			
Total	13293.120	2035				
Corrected Total	435.493	2034				



**B.12. How much you have spent on purchase of the above items?**

**Plot 1.8: Combined Effect of Website Features, Amount spent on online shopping and Online Shoppers Monthly Family Income**

## **Interpretation of results**

According to the given Plot 1.8, middle-income group online shoppers are giving more importance to the Website features as compare to higher and lower-income group online shoppers. And all three effects are insignificant whereas Interaction Effect between MV & DV (*Family Income & Importance given to the website features*) is statistically significant at 5% LOS. ( $P = 0.062$ ) on the borderline. So, we accept research hypotheses **H18.8c.** and reject others.

### **Model Number 1.9**

#### **Hypothesis = 9:**

DV – Importance given to Website Features

IV- **Fixed Factor 1** – Amount spent on online purchase

MV-9 – Occupation

#### **Interaction Effect between IV, MV & DV**

**H09.9a:** The combined effect of the *Amount spent on online shopping* and *Occupation* has no significant effect on the importance given to *Website features*.

**H19.9a:** The combined effect of the *Amount spent on online shopping* and *Occupation* has a significant effect on the importance given to *Website features*.

#### **Main Effect between IV & DV: Amount spent & Website features**

**H09.9b:** *Amount spent* has no significant effect on the importance given to *Website features*.

**H19.9b:** *Amount spent* has a significant effect on the importance given to *Website features*.

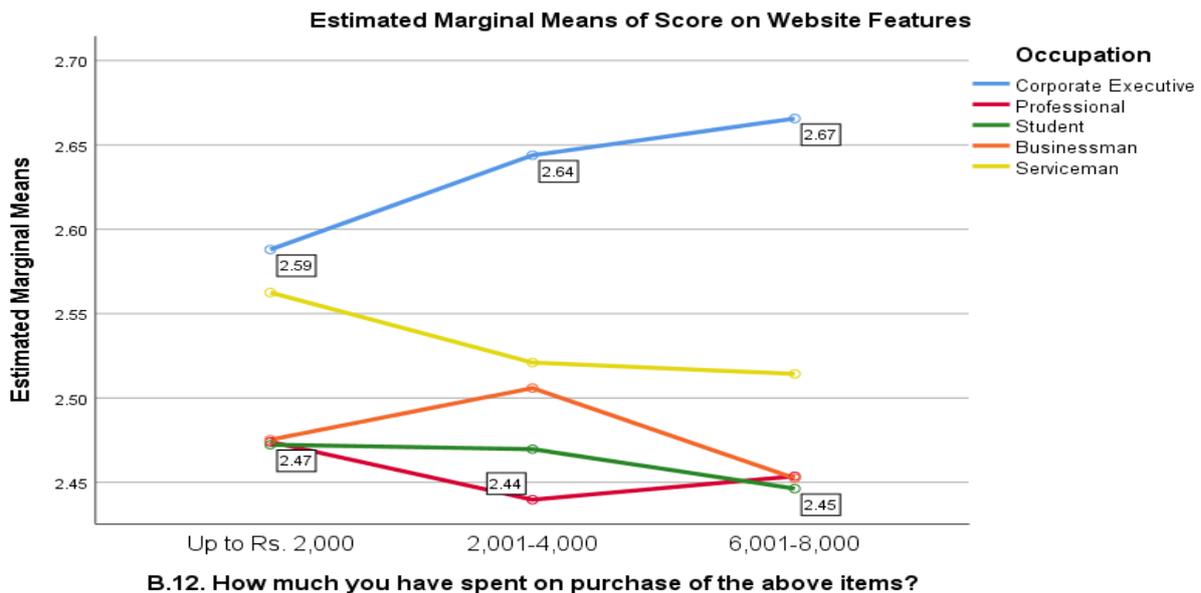
#### **1.9: Interaction Effect between MV & DV: Occupation & Website features**

**H09.9c:** Online Shoppers *Occupation* has no significant effect on the importance given to *Website features*.

**H19.9c:** Online Shoppers *Occupation* has a significant effect on the importance given to *Website features*.

**Table: 2.9**

Tests of Between-Subjects ( <i>Occupation</i> ) Effects-Significance Table for MANOVA Effects						
Dependent Variable: Importance given to Website Features						
Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	9.374 <sup>a</sup>	14	.670	3.174	.000	.022
Intercept	12145.344	1	12145.344	57574.547	.000	.966
B.12_Amt. Spent	.031	2	.015	.073	.930	.000
A.5_Occupation	8.492	4	2.123	10.064	.000	.020
B.12 * A.5 Combined Effect	.973	8	.122	.577	.798	.002
Error	426.119	2020	.211			
Total	13293.120	2035				
Corrected Total	435.493	2034				



**Plot 1.3: Combine Effect of Website Features, Amount spent on online shopping and Online Shoppers Occupation**

**Interpretation of results**

Corporate executive across all categories gives the highest importance, but professional across all spend categories give the least importance. Students, businessmen, and professionals are similar in the lower spend category and higher spend category, but different in the middle spend category with businessmen giving higher importance than their two counterparts. Interaction

effect and Main Effect between IV & DV: Amount spent on online shopping & Website features are insignificant whereas Online Shoppers *Occupation* has a significant effect ( $P=0.000$ ) on the importance given to *Website features*. Hence, we accept *H19.9c* and reject the Null hypothesis  $H09.9c$ .

### **Model Number 1.10**

**Hypothesis = 10:**

**DV** – Importance given to Website Features

**IV- Fixed Factor 1** – Amount spent on online purchase

**MV-10** – No. of hours spent on the internet.

### **Interaction Effect between IV, MV & DV**

**H010.10a:** The combined effect of the *Amount spent on online shopping* and *Occupation* has no significant effect on the importance given to *Website features*.

**H110.10a:** The combined effect of the *Amount spent on online shopping* and *Occupation* has a significant effect on the importance given to *Website features*.

### **Main Effect between IV & DV: Amount spent & Website features**

**H010.10b:** *Amount spent* has no significant effect on the importance given to *Website features*.

**H110.10b:** *Amount spent* has a significant effect on the importance given to *Website features*.

### **1.10: Interaction Effect between MV & DV: No. of hours spent on the Internet & Website features**

**H010.10c:** Online Shoppers *No. of Hours spent on the Internet* has no significant effect on the importance given to *Website features*.

**H110.10c:** Online Shoppers *No. of Hours spent on the Internet* has a significant effect on the importance given to *Website features*.

**Table: 2.10**

<b>Tests of Between-Subjects (<i>No. of hours spent on the internet</i>) Effects-Significance Table for MANOVA Effects</b>						
Dependent Variable: Importance given to Website Features						
Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	.680 <sup>a</sup>	8	.085	.396	.923	.002
Intercept	6605.617	1	6605.617	30778.692	.000	.938
B.12_Amt. Spent	.083	2	.041	.193	.824	.000
B.1_No. of Hours spent on Internet	.219	2	.109	.510	.601	.001
B.12 * B.1	.556	4	.139	.648	.628	.001
Error	434.813	2026	.215			
Total	13293.120	2035				
Corrected Total	435.493	2034				

**Interpretation of results**

All the three Interaction effects between IV, MV, DV- Amount spent on online shopping, Number of hours spent on the internet and importance given to the website features are statistically insignificant at 5% Los. Hence, we reject all three research hypotheses **H110.10a**, **H110.10b**, **H110.10c**.

**Flow diagram depicting the Interaction Effect between IV, MV & DV and significant main effects between IV, MV, DV**

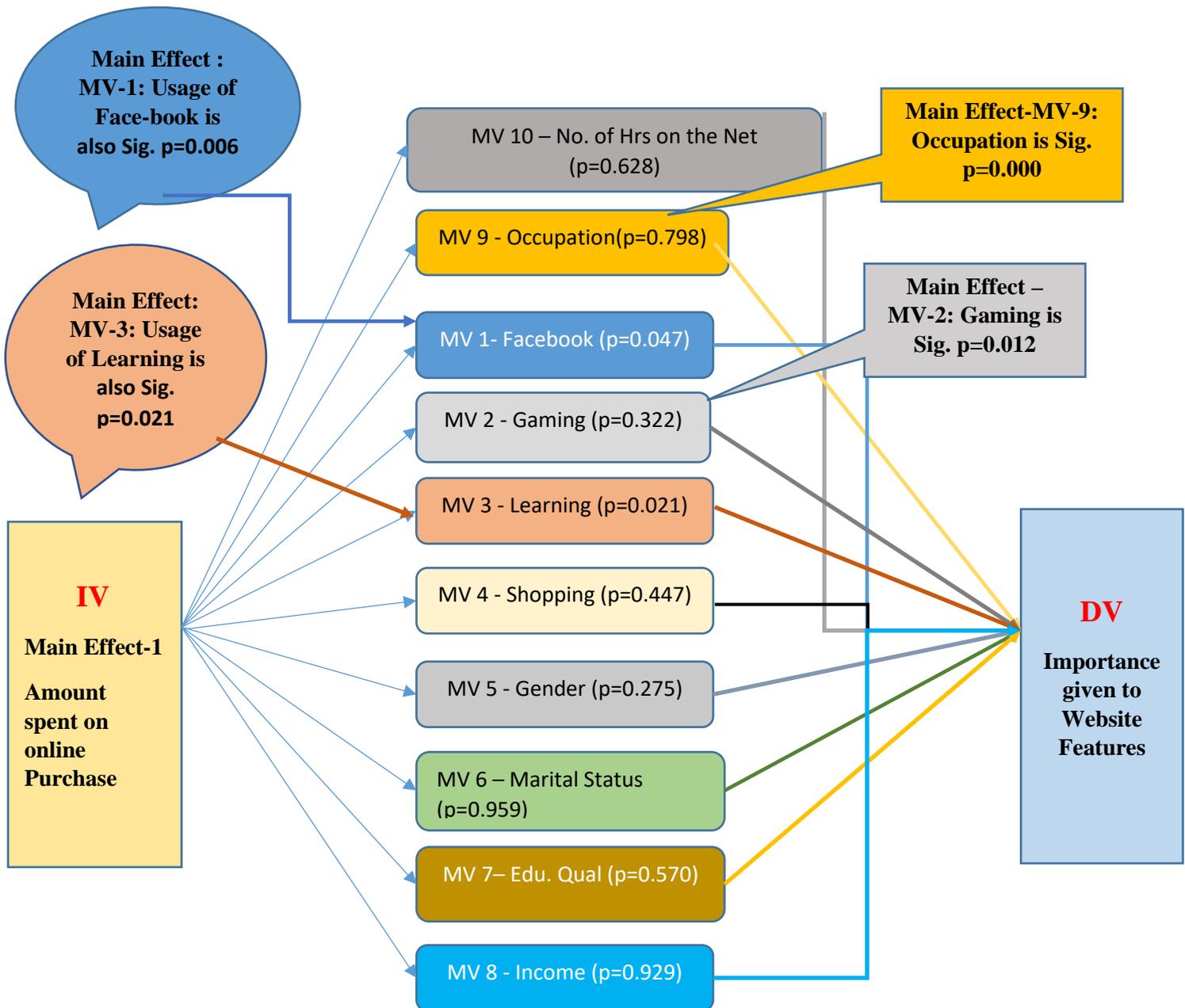


Fig-1: Source: Authors Own

**2.11: Summary Table of all Test Results**

The following detail provides the Test results for each model

S.No	Model No.	Homogeneity of Variance – Leven’s Test	F Ratio, df and sig.(p value)  Interaction  (Combined Effect between IV, MV, DV)	F Ratio, df and Sig.(p value)  Main Effect with IV: (Amount Spent)	F Ratio, df and Sig.(p value)  Main Effect with MV (Activities & Demographics)	Interpretation of results
1	1.1 <b>Usage of Facebook</b>	Variances not equal (Sig .000)	F(2,2029) is p = <b>0.047</b>	F(2,2029) is p= 0.564	F(1,2029) is p = <b>0.006</b>	The use of FB affects the importance given to website features. Non-users give more importance (Mean=2.55) than users (Mean=2.49)
2	1.2 <b>Gaming</b>	Var – Not Equal - .009	F(2,2029) is p = 0.322	F(2,2029) is p= 0.832	F(1,2029) is p = <b>0.012</b>	Non-Gamers across all categories of the amount spent give more importance to website features compared to Gamers.
3	1.3 <b>Learning</b>	Var not equal –sig = 0.001	F(2,2029) is p = <b>0.021</b>	F(2,2029) is p= 0.834	F(1,2029) is p = 0.900	Those who are using the net for learning purposes give less importance to website features (in the lower purchase amount categories only). In the higher purchase amount category

						learners give more importance to website features than non-learners.
4	1.4 Shopping	Var are equal Sig. = <b>0.070</b>	F(2,2029) is p = 0.447	F(2,2029) is p= 0.899	F(1,2029) is p = 0.177	All the three effects are insignificant
5	1.5 Gender	Var are not equal p=.043	F(2,2029) is p = 0.275	F(2,2029) is p= 0.659	F(1,2029) is p = 0.899	All the three effects are insignificant
6	1.6 Marital Status	Var are equal p = <b>0.385</b>	F(2,2029) is p = 0.959	F(2,2029) is p= 0.987	F(1,2029) is p = 0.469	All the three effects are insignificant
7	1.7 Edu. Qual	Var are not equal p =0.00	F(2,2029) is p = 0.570	F(2,2029) is p= 0.647	F(1,2029) is p = 0.145	All the three effects are insignificant
8	1.8 Income	Var not equal p=.000	F(4,2026) is p = 0.929	F(2,2026) is p= 0.997	F(4,2026) is p = 0.062	All the three effects are insignificant
9	1.9 <b>Occupation</b>	Var not equal p = 0.00	F(4,2026) is p = 0.798	F(2,2026) is p= 0.930	F(2,2026) is p = <b>0.000</b>	The importance given to website features is different across different occupations. Corporate executives give the most imp.
10	1.10 No. of hours on the net.	Var not equal p = .059	F(4,2026) is p = 0.628	F(2,2026) is p= 0.824	F(1,2026) is p = 0.601	All the three effects are insignificant

## Summary of Models

The *Use of Facebook* affects the importance given to website features. Non-Facebook users give more importance (Mean=2.55) than users (Mean=2.49). Combine Interaction Effect between Amount spent on online shopping (IV), FB usage (MV) and importance given to the Website features (DV) are statistically significant at 5% LOS-(**0.047**), as well as Interaction Effect between Usage of FB (MV) and importance given to the Website features (DV) is significant (**P=0.006**).

Non-Gamers across all categories of the amount spent give more importance to website features compared to Gamers. Interaction Effect of online *Gaming* (MV) with importance given to the Website features (DV) is also significant at 5% LOS-(**P=0.012**).

Those who are using the net for learning purposes give less importance to website features (in the lower purchase amount categories only). In the higher purchase amount category learners give more importance to website features than non-learners. Whereas combine Interaction Effect of Amount spent online (IV), *Online Learning* (MV) and importance given to the Website features (DV) is statistically significant (**P=0.021**).

Under online activities only shopping is insignificant (as imagination is not always complete and cannot match reality). Whereas Users of Facebook, Gamers, and Learners are affecting the importance given to website features.

Among the demographic factors, all are insignificant except *Occupation*. The importance given to website features is different across different occupations. *Corporate executives* give the most importance and it is significant at 5% LOS-(**P=0.000**).

## 4. Conclusion

### Managerial Implications

To make the E-commerce industry more sustainable present research study has offered the following key findings for E-marketers.

Non-users of Facebook have to be targeted with improved website features as they attach more importance (Model 1.1).

Respondents who don't play games on the net have also to be focussed on increased website features as compared to Gamers. (Model 1.2)

If the importance given to website features is strongly associated with respondents' other net activities, then a more targeted marketing approach can be employed by adopting suitable website designs for different customer segments.

Website selling big-ticket items have to be equally sensitive to learners and non-learners (i.e those respondents who use the net for e-learning). For small value items non, learners give more importance to website features than learners. (Model 1.3)

Demographic factors are negligible in affecting this relationship except for occupation where corporate executives and servicemen attribute higher importance than businessmen, students, and professionals.

### Limitations and Scope for Further Studies.

Website features are only one aspect of such a study. Current problems and hindrances still faced by online shoppers are an equally important dimension to be studied. The authors propose to take this up in the next paper.

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