Examining The Moderating Role Of Gender And Also Investigating
The Influence Of Marketing Strategies On Online Consumer
Buying Behavior

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ABSTRACT

Online consumer buying behavior is gaining significance in the field of marketing and advertising because it has changed the ways and techniques businesses adopt today for gaining market share with the usage of web-based techniques. The rationale of current research is to investigate the impact of online marketing mix components (product, price and promotion) on online consumer buying behavior, this study also gender as a moderator between online marketing mix components (product, price and promotion) and online consumer buying behaviour. This study adds value to the literature in the following ways; firstly it provides a broader understanding of online consumer buying behavior as a new technique in which businesses operate their activities. Secondly, the role of gender as moderator is investigated between independent and dependent variables of the study. Regression analysis was employed along with dual statistical techniques i.e. Barron and Kenny’s and Preacher and Hayes method of bootstrapping for analyzing the role of gender as a moderator. Findings of the study showed that online marketing mix components (product, price and promotion) and online consumer buying behavior were positively and significantly associated with each other. It is observed in the study that gender as moderator moved in the opposite direction.
and found an insignificant range which showed that gender does not moderate the relationship between independent and dependent variables under study.

INTRODUCTION

Global trends indicate shift towards internet based web shopping due to time, energy, and cost savings in comparison with traditional shopping experience (Tarka, Kukar-Kinney, & Harnish, 2022). This increasing usage of e-commerce and online shopping paved the way for human interaction with technology based online buying behavior and in return open up innovative opportunities and challenges for marketing (Liu, Zhang, Huang, Zhang, & Zhao, 2020). Online buying and E-commerce has shown great contribution towards economic growth with 3.3 of GDP in large economies (A. Bhatti, 2018). Internet based shopping allows wide range of products in few seconds with a lot of options and lowest affordable prices (Waheed & Jianhua, 2018). Zhang, Shao, Li, and Feng (2021) identified that 41% of global internet based customers are recorded with online transactions and believed to be increasing in couple of years. The emergence of social media has changed the mode of communication between company and consumers in which great deal of importance is given to price comparisons, product information and checking for coupons and deals in promotional campaigns (Katsikeas, Leonidou, & Zeriti, 2019).

Previous researches have covered wide range of factors associated with online consumer buying behavior and marketing mix components. Al Adwan, Aladwan, and Al-Adwan (2019) described the advent of internet that totally transformed the way businesses operate their activities all over the world, with variety of channel availability for business interaction e-commerce is on boom. Consumer behavior to shop online is influenced by consumer’s characteristics and these characteristics are the outcome of consumer attitude which serves as bridge between human characteristics and online shopping behavior (Kingsnorth, 2019). Yousaf, Sahar, Majid, and Rafiq (2018) described marketing mix as the most famous marketing items and tactical components of marketing plan which are used strategically to achieve long term goals of organizations and also known as 4 Ps of marketing namely product, price, placement and promotion. Mateen Khan and Ahmed (2018) studied online shopping trends that have changed the way brands and innovative firms connect through internet which results in breaking the old practices of marketing mix with the development of new concept “online marketing mix” which results in consumer’s internet usage as evolution of human society.

Choi and Choi (2021) described the conversion of traditional purchase to online buying patterns that has undergone tremendous transformation over the last years and new trends and innovations have changed and reshaped the traditional marketing mix components. The penetration of online consumer buying behavior brings a lot of opportunities for consumers, retailers, managers and marketers (M. A. Bhatti, 2021). Marketers are always trying to grasp the online business
opportunities and upcoming trends in the market which can lead competitive firms to successfully fight for market share through the use of online marketing mix components (Patel & Zaveri, 2020).

Growing trends of online buying behavior and online marketing mix elements has led the researchers to put a considerable emphasis on drivers, barriers, fundamentals and determinants of online buying behavior in which attitude and gender were related with online buying behavior from different angle by focusing on its role as dependent or independent variables (Sneader & Singhal, 2021). The rational of the study lies in identifying the impact of online marketing mix components (product, price and promotion) on online consumer buying behavior. This research is needed to determine the role of gender as moderator between predictive and criterion variables under study.

1.2 Statement of the problem

The problem faced by businesses with respect to offering products online, managing competitive prices on web and online promotional campaigns is the lack of understanding about the complex system of online marketing mix components (Tairova, Xurramov, & Odinaeva, 2021). Internet marketing its impact on online purchase decisions needs well equipped research based policies for facilitating online businesses and their managers in attaining organizational goals and profitability in long run by customizing online marketing mix strategies according to online business rules. Previous researchers extensively studied online buying behavior and its determinants along with marketing mix strategies for achievement of overall corporate objectives (Kisiolek, Karyy, & Halkiv, 2021). Yekimov, Kucherenko, Bavykin, and Philippov (2021) concentrated on online buying and internet application for organic products by focusing on online marketing mix strategies with objective to develop a complete business plan for organizational products, pricing, placement and promotion on web. Filling the gap on the basis of previous work this study put emphasis on online marketing mix components and its influence on online consumer buying behavior.

LITERATURE REVIEW

2.1 ONLINE CONSUMER BUYING BEHAVIOR

Online consumer buying behavior is defined as “process of searching and acquiring products and services over the World Wide Web” (Goh & Ng, 2021). Online buying behavior is the process in which transaction takes place over technology based systems such as internet and computers (Hidayat, Wijaya, Ishak, & Endi Catyanadika, 2021). Online shopping started in 1979 by Michael Aldrich with the advent of electronic information system known as teletext, view data and teleshopping shopping from home which has changed the way business operate today (N. L. Kim, Woo, & Ramkumar, 2021). The models used for online consumer buying behavior have their
origin in psychology, sociology, information system which is used in prediction, forecasting and understanding consumers purchase behavior, attitude and intention towards the use of technology in businesses (RAJA OMAR et al., 2020).

Technology Acceptance Model presented by Davis in (1980) is one of the famous and widely used approaches which help in explaining and predicting consumer acceptance of newly established technology based information devices. It explains the phenomenon of designing, evaluating, and forecasting consumer responses towards new technology based systems. TAM model is based on Theory of reasoned action presented by (Ajzen and Fishbein, 1980) and Theory of planned behavior. TAM provides underpinning logic of main components of computer acceptance which helps in identifying consumer behavior tied with the use of technology and online shopping (Granić & Marangunić, 2019). TPB is a validated model that helps in explaining behavioral intentions of human in different environmental settings including business to business, business to consumers and e-commerce (Salloum, Alhamad, Al-Emran, Monem, & Shaalan, 2019). The reason for presenting TAM model in understanding online consumer buying behavior is its understanding of consumer technology usage and opinion about information system that can lead to better guidance to e- businesses in developing IT based websites(Kamal, Shafiq, & Kakria, 2020).

2.2 GENDER AND ONLINE CONSUMER BUYING BEHAVIOR

Gender differences in internet based shopping influence overall consumer attitudes and behavior along with level of trust (Lin, Featherman, Brooks, & Hajli, 2019). Gender differences has considerable influence on online purchase decision, perceptions of male and female regarding the risks associated with online buying and selling is determined by their values, personalities and the pattern of living and spending (Zhong & Moon, 2020). Female are more conscious about social acceptance and emotional attachments towards particular brand while male are concerned about the functional characteristics of product, conclusions of which depicts more tendencies for female to shop online than male (Tarka et al., 2022). Waheed and Jianhua (2018) described the gender differences in assessing online information processing patterns. Conclusions of the gender differences explain why male and female behave differently towards online purchase decisions. Lin et al. (2019) explains the Selectivity Hypothesis theory developed by (Meyers-Levy, 1986) which focused on gender differences in terms of information processing behavior while shopping online. Selectivity theory suggests that in rendering final purchase decision male use self-generated information sources while female use both self-generated along with other external cues of information (J. Kim, Kim, & Kim, 2018). Men have higher elaboration threshold than women which means than men will rely on all information that is available on website while women will consider other details which may include other customer reviews (Bobe & Kober, 2020). Female are considered to process information by considering all aspects of online shopping while male
behavior and attitude is inclined towards selective processing of information in online buying (Sun, Mao, & Yin, 2020). Female have tendency to integrate all pieces of information equally in making final decision while male select that information in which they have interest and believed to be important in decision making (J. Kim et al., 2018). Under similar information processing system female are easier to perform systematic processing than male. In designing website contents marketers should be careful about arranging information, men oriented products needs detail version of information based on functionality and features of product while women targeted products must be equipped with all related information ranging from its overall functions to social and psychological content which can facilitates the decision making while shopping on web (Hasan, Chand, & Lu, 2021).

Chen, Yan, Fan, and Gordon (2015) tested gender as moderating variable between online consumer’s perceived benefits and customer satisfaction results of which clearly shows that gender individually influence and moderates the relationship between consumers purchases online and their ultimate satisfaction. Gender moderates the relationship between online consumer perceived benefits and customer satisfaction, gender is considered a strategic tool in designing products benefits and features for the ultimate satisfaction of male and female (Janavi, Soleimani, Gholampour, Friedrichsen, & Ebrahimi, 2021). This is the main variable on the basis of which marketers segment their target group of customers. Ladhari and Leclerc (2013) described in his research findings that genders vary in their perceptions of website service quality, e-satisfaction, e-trust, and e-loyalty. Gender gap in online consumer buying is decreasing because there are increasing number of women using internet technology, with regard to the use of technology recent research found minor differences among male and female usage of internet technology (Chen et al. (2015). When encountering similar level of experience and approach towards life women and men display same interest in the use of internet technology.

Gender and the use of technology processes are important considerations which go parallel with each other, in other words information technology usage and gender differences change together with societies in which they operate. (Lin et al., 2019) explained the gender differences as the outcome of their differences in psychological pre-disposition about online purchase intentions; gender will affect online consumer buying behavior on technological and social grounds. Women are being more network-oriented and like to communicate about product which increases intention of women to purchase online products while men being task oriented shows little preferences to shop online in comparison with women (Abdul Murad, Sivapathy, & Mohd Nor, 2021).

Following are the proposed hypotheses on the basis of previous researches:

H4: Gender moderates the relationship between product and online consumer buying behavior. Specifically, the positive relationship between product and online consumer buying behavior is stronger for females than male consumers.
H5: Gender moderates the relationship between price and online consumer buying behavior. Specifically, the positive relationship between price and online consumer buying behavior is stronger for females than male consumers.

H6: Gender moderates the relationship between promotion and online consumer buying behavior. Specifically, the positive relationship between promotion and online consumer buying behavior is stronger for females than male consumers.

After the thorough study of the literature it is revealed that previous researchers investigated online marketing mix, online consumer buying behavior and gender from totally different environmental perspective and considerations in different industrial set ups such as food and beverages, organic foods, telecommunication, digital technology based businesses, brands and clothing industries (Warayuanti & Suyanto 2015).

On the basis of previous literature, gap has been identified and it contributes to literature by studying both the direct and indirect impact of online marketing mix elements on online consumer buying behavior, direct impact considers the online marketing mix (Product, Price and Promotion) impact on online consumer buying behavior. To bridge the gap, the purpose of the research is to understand indirect impact of gender as moderating variable between online marketing mix elements and online consumer buying behavior. This study provide valuable knowledge in understanding the moderation effects of gender between predictive and criterion variables under study. Online marketing mix components and elements were studied by previous researchers from different angle while considering different industrial setup; this study provide deep understanding of fashion industry, the use of online technicalities and strategic considerations in planning online products, prices and promotional campaigns that can increase the revenues of the firm in long run with healthy cash flows.

THEORETICAL FRAMEWORK
3 METHODOLOGY

This research is quantitative in nature that employed positivism; deductive approach. The data was gathered via close ended adopted questionnaire by employing cross sectional method for data collection.

3.1 DATA COLLECTION TOOLS/INSTRUMENTS.

A survey instrument were adopted from the previous research. Seven questions related to construct product have been adopted from the studies of Clemes, Gan& Zhang (2014), Adnan (2014) and Ganapathi (2015). Seven questions covering variable price have been adopted from Clemes et al. (2014) and Adnan (2014). Six questions related to construct promotion have been adopted from Nittala (2015) and Kau, Tang &Ghose (2003). Four questions related to online consumer buying behavior were adopted from Adnan (2014).

3.2 SUBJECTS /PARTICIPANTS/ DATA ANALYSIS TECHNIQUES

University students of Peshawar city were recruited as population of the study. Selecting students of universities of Peshawar as population of the study served the purpose of the study as Khyber Pakhtunkhwa is the marked as educational and cultural hub of Pakistan with total number of 15 Universities, seven Public sector and eight Private sector universities. Five major universities were selected which included Institute of Management Sciences, City University of Science and Technology Peshawar, Agricultural University, University of Peshawar and Qurtaba University Peshawar campus. Being major universities of the province students from all districts of the study area are enrolled in them.

SPSS software was recruited for analyzing the data by employing descriptive statistics and multiple regression analysis for testing the sort of relationship between variables under study.

4 RESULTS

4.1 HYPOTHESIS TESTING (MULTIPLE REGRESSION ANALYSIS)

H1: Product has significant and positive impact on online consumer buying behavior.
Hypothesis 1 of the study assumed positive impact of online product on online consumer buying behavior which was tested by regressing product on online consumer buying behavior. The value of R square .359% explains change in online consumer buying behavior which is caused by product. .359% variance in OCBB was described by product. Hypothesis 1 of the study is accepted as the p value of the beta coefficient is less than the minimum threshold level >0.05 that is 0.00

H2: Price has significant and positive impact on online consumer buying behavior.

Hypothesis 2 was checked by regressing price on online consumer buying behavior. Results of the study revealed positive and significant association of online price and online consumer buying behavior as the p value of the beta coefficient was less than 0.05. which supports the second hypothesis of the study.

H3: Promotion has significant and positive impact on online consumer buying behavior.
Hypothesis 3\textsuperscript{rd} of the current research was checked by regressing promotion on online consumer buying behavior. Results of the statistical analysis leads to acceptance of third hypothesis of the study as the value of beta coefficient was found positive and significant.

### 4.2 MODERATION STATISTICS

H4: Gender moderates the relationship between product and online consumer buying behavior. Specifically, the positive relationship between product and online consumer buying behavior is stronger for females than male consumers.

The overall model was significant with $F=54.15$, $p<.001$, $R$ square $= .3395$. $R$ square value of 34\% described the changes in online consumer buying behavior which was described by product. Two predictors have been considered one of which was product and the other was gender (moderator). Zero lies between the lower confidence interval and upper confidence interval level of interaction effect (LLCI = -\.1140, ULCI = .1086), when zero lies between the two confidence interval of interaction effect the relationship of moderation doesn’t signifies the results. The findings indicated that gender (beta = -\.0844, $p = .7236$, $p > .05$) which was not significant because $p$ value was higher than .01 and taking product alone (beta = .3589, 0.000, $p < .05$) was found significant because $p$ value was in significant range, change in $R$ square $=.0000$ with interaction effect -.0027, $F = (0.0022)$, $p = .9623$ which explained that gender does not moderate the relationship between product and online consumer buying behavior, on the basis of above mentioned results hypothesis 11 is rejected.

### MODEL SUMMARY
Studying gender as moderator requires the need for assessing the relationship between product and online consumer buying behavior in the presence of gender as moderator. The interaction graph for product and online consumer buying behavior was found insignificant. There was no
intersection point and these lines were parallel to each other which explain that gender interaction effect does not exist in this scenario.

Part: b: H4a: The positive relationship between product and online consumer buying behavior is stronger for females than male consumers.

**ANALYSIS OF GENDER DIFFERENCES**

<table>
<thead>
<tr>
<th>Model Gender</th>
<th>Unstandardized coefficients</th>
<th>Standardized coefficients</th>
<th>t</th>
<th>Sig</th>
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<tbody>
<tr>
<td></td>
<td>B</td>
<td>Std. Error</td>
<td>Beta</td>
<td>Std. Error</td>
</tr>
<tr>
<td>Male (Constant) Product</td>
<td>1.502</td>
<td>.175</td>
<td>.986</td>
<td>.044</td>
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<tr>
<td>Female (Constant) Product</td>
<td>2.262</td>
<td>.193</td>
<td>1.000</td>
<td>.051</td>
</tr>
</tbody>
</table>

*Note: N=520, dependent variable = online consumer buying behavior, independent variable = product

This analysis needed separating and splitting data by gender; we performed two regressions, one with the data for females and other for male separately. The parameters estimates (Coefficients) for male and female suggested that positive relationship between product and online consumer buying behavior was stronger for female (.193) than male (.175) at p level .000, which indicated that second part of hypothesis is accepted because relationship between product and online consumer buying behavior is stronger for female than male.

H5: Gender moderates the relationship between price and online consumer buying behavior. Specifically, the positive relationship between price and online consumer buying behavior is stronger for females than male consumers.

The overall model was significant with F=70.3557, p<.001, R square =.4005. The value of 40% R-square describes the disparity in online consumer buying behavior which is explained by price. 40% variance in dependent variable is explained by price. Two predictors have been considered one of which was price and the other was gender (moderator). Zero lies between the lower confidence interval and upper confidence interval level of interaction effect (LLCI =-.1172, ULCI = .0932), when zero lies between the two confidence interval of interaction effect the relationship of moderation doesn’t signifies the results. The results of the analysis indicated that gender (beta = -.5525, p = .0.0163, p > .05) was not found significant and price (beta =.3883, 0.000, p < .05) were significant, change in R square =.0001, with interaction effect -.0120, F = (0.0504), p = .8226 which is p > .01 which explains that gender does not moderates the relationship between product
and online consumer buying behavior, on the basis of above mentioned results hypothesis 12 is rejected.

**MODEL SUMMARY**

<table>
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<tr>
<th>R</th>
<th>R-square</th>
<th>F</th>
<th>Df1</th>
<th>Df2</th>
<th>P</th>
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</thead>
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<tr>
<td>.6328</td>
<td>.4005</td>
<td>70.3557</td>
<td>3.0000</td>
<td>316.0000</td>
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R-square decreases due to interaction

<table>
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<tr>
<th></th>
<th>R sq change</th>
<th>F</th>
<th>Df1</th>
<th>Df2</th>
<th>P</th>
</tr>
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<tr>
<td>Int_1</td>
<td>0.0001</td>
<td>0.0504</td>
<td>1.0000</td>
<td>316.000</td>
<td>.8226</td>
</tr>
</tbody>
</table>

**Figure 2:** Graphical representation of interaction effects of Price, Gender and Online consumer buying behavior
The graph of interaction effects shows no interaction because these lines were parallel to each other which showed that gender does not moderate the relationship between price and online consumer buying behavior.

Part b: H5a: The positive relationship between price and online consumer buying behavior is stronger for females than male consumers.

Second part of hypothesis 12th is rejected because comparison of regression coefficients value of female (.201) was less than male (.274). Output suggested that relationship between price and online consumer buying behavior was stronger for male than for female.

H6: Gender moderates the relationship between promotion and online consumer buying behavior. Specifically, the positive relationship between promotion and online consumer buying behavior is stronger for females than male consumers.

The overall model was significant with F=17.8786, p<.001, R square = .1451. R-square value of 15% explains disparity in dependent variable which was caused by online price. Two predictors have been considered one of which was promotion and the other was gender (moderator). Zero lies between the lower confidence interval and upper confidence interval level of interaction effect (LLCI = -.1464, ULCI = .0528), when zero lies between the two confidence interval of interaction effect the relationship of moderation doesn’t signifies the results. The results of the analysis indicated that gender (beta = -.1416, p = .6020, p > .05) were not found significant and promotion alone (beta = .1842, 0.000, p < .05) were found significant, change in R square = .0023, with interaction effect -.0468, F = (0.8552), p = .3558 which is p > .01 which explained that gender does not moderates the relationship between product and online consumer buying behavior, on the basis of above mentioned results hypothesis 5 is rejected.

**MODEL SUMMARY**
**R**-square decreases due to interaction

<table>
<thead>
<tr>
<th></th>
<th>R sq change</th>
<th>F</th>
<th>Df1</th>
<th>Df2</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Int_1</td>
<td>0.0023</td>
<td>0.8552</td>
<td>1.0000</td>
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<td>.3558</td>
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</table>

<table>
<thead>
<tr>
<th>coefficient</th>
<th>SE</th>
<th>t</th>
<th>P</th>
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<th>ULC1</th>
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<tbody>
<tr>
<td>Gender</td>
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<td>.2713</td>
<td>-.5220</td>
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<tr>
<td>Promotion</td>
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<td>.0000</td>
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</tr>
<tr>
<td>Int_1</td>
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<td>.0506</td>
<td>-.9248</td>
<td>.3558</td>
<td>-.1464</td>
</tr>
</tbody>
</table>

Y = Constant + -.1416(Gender) + .1842(Promotion) + -.0468(Gender*Promotion)

**Figure 4** Graphical presentation interaction effects of Promotion, Gender and Online consumer buying behavior

Part b: H6a: The positive relationship between promotion and online consumer buying behavior is stronger for females than male consumers

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Second part of the 6th hypothesis holds true because regression coefficients values of female was (.630) and regression coefficient value for male was (.510) which indicated that relationship between promotion and online consumer buying behavior was stronger for female than male.

**CONCLUSION**

This study is carried out for inspecting the association between online marketing mix components (product, price and promotion) and online consumer buying behavior. Main aim of this research is to understand the role of gender as moderator between above mentioned independent and dependent variables. To achieve the purpose of the study, relationship of these variables were investigated for analysis by surmounting the collected data through SPSS software which helped in summarizing the major findings of the study from different perspective which are as follows, descriptive statistics of demographics and variables, reliability measures, correlation, multiple regression and preacher and Hayes bootstrapping method for mediation and moderations. Findings of this study are discussed according to the hypotheses and compressed into three major portions.

In first step direct association between independent variables and dependent variables was investigated and results showed positive and significant relationship between these variables. Second portion of the study investigated the role of gender as moderator between online marketing mix components and online consumer buying behavior. Results of moderation were found insignificant and negative which rejects the moderator role of gender variables under considerations. This study provides interesting findings and further broadens understanding of associations between online marketing mix components with online consumer buying behavior. One important aspect of the study is to enhance generalizability of results by repeating this study by including placement variable of four Ps of marketing. Analyzing different chemistry of variables future research can be carried out by using qualitative methods of research. In last future research can include demographic factors like age, income, education as moderating variables in assessing the online consumption patterns of consumers.
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