

IMPACT OF PRODUCT DESIGN ON PURCHASE DECISION OF LAPTOP AMONG COLLEGE LEVEL STUDENTS

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ABSTRACT

Now-a-days, technology is changing with innovation and development to meet human needs and wants. It assists in communication and shares information with different categories of people and users. It has seen the usage of laptops is increasing these days. Moreover, caused by the quickly storing, shifting, and retrieving the information, consumers can use it to have pertinent information anytime, anywhere. The objective of this study is an impact of product design on purchase decision and to recognize the association between the gender and choice of product design with reference to laptop. The study has been adopted descriptive and causal research design. Primary data are main sources for the survey. The questionnaire survey was applied for collecting primary data. This study targeted the college level students as a sample unit. Two hundred respondents were selected from Kathmandu valley using a convenience sample. Mainly, independent t-test and regression have been adopted to analyze the data. It investigated that purchase decision was positively impacted by product design but gender has no impact on product design for choice of laptop.

Keywords: technology, laptop, product design, gender and purchase decision.

INTRODUCTION

Now-a-days, technology is changing with innovation and development to fulfill human needs, wants and demand and it acts a key role in novelty and growth. It assists in communication and shares information to different categories of people and users with the rise in technology in 1979 Briton, William Moggride came with new gadget and technology i.e. Laptop. It has seen the usage of a laptop is increasing day by day. Moreover, with the rapidity of storing, shifting, and retrieving the

information, consumers can use it to have pertinent information anytime anywhere. Because of its high reflectivity, the consumers are image and brand-conscious which is mirrored in buying behavior of laptop (Keller, 2002).

According to Khan and Rohi (2013), price, product features, product quality, and consumer service are the major sources of customers' satisfaction. The recent supertaster development in information technology sector draws the attention of academicians and professionals to concentrate on consumers on purchase decision of laptop at Kathmandu valley. Therefore, marketers are interested to know that how the factors like price, product design, and brand image effects on buying decision of laptops.

RESEARCH QUESTIONS

Hence, three research questions are set in the study in the Kathmandu Valley.

1. Is there an impact of product design on purchase decision of laptop?
2. What impact gender has on product design for choice of laptop?

RESEARCH OBJECTIVES

On the base of research questions, major objectives are set of this study to assess the relationship and impact of product design and image on purchase decision of laptop.

Specific objectives are followings as:

1. To assess an impact of product design on purchase decision of laptop.
2. To evaluate an impact of gender on product design for choice of laptop.

LITERATURE REVIEW

Product design

Product design means quality of product which is measured based on the attributes. It provides weight on how the product is understood, sensed and working (Phil 2014). Product design is one of the key parts that produce product image (Tsafarakis, Grigoroudis & Matsatsinis 2011). Rioche and Ackermann (2013) have specified the first energy that explains how style can be worked for connecting the public with brand placed in

style circumstance. Maximum estimation correctness is any that backings finest product design and meaningfully subsidized to business profitability (Zolfania, Zavadskas & Turskis 2013).

Moreover the research of Saaksjarvi & Hellen (2013) specified that company adopts several marketing strategy policies with different innovation design strategy for deigning product. Perry and Kyriakaki (2014) claimed that company adopts design strategy in market frontrunner hostilely, then product design has been positively effected by consumer innovation.

Purchase decision

The purchase decision is process used by consumers before, during and after the purchase of goods or services. Purchase decision is affected as well as determined by many factors in various ways. Here in the study, purchase decision is a dependent variable. So, the changes in variables like price consciousness, brand image and product attributes have a direct or indirect effect on the purchase decision.

Lin, Lee and Y. F. (2015) defined the purchase decision is major step that customers involves before making decision on goods and services.

The individual decision making stronly effect openly, leaded by uncontrolable environments with the individual custom on process of decision making (Thongchai & Nuntana 2013)

Larson (2014) stated organization has to know how consumers take decision for purchase products amending the mix of chain value, handling and building its own modest brand.

Empirical review

Widyatusi and Said (2017) found that product design, price and brand image have positive impact on buying decision of sports shoes.

Saravanan, (2016) concluded that the factors like quality, style (Product design) and after-sale service influence consumer buying decisions. But the brand is the significant factor in buying decisions for laptops.

Sultan, Memmon and Amhed (2016) discovered that quality, brand image, and endorsement have positive effect on consumer buying decision of laptops by young generation but remaining of the variables devise no effect on the purchasing result of laptop.

Adamu (2011) has concluded that quality, style and price are the major causes for the increased preference of imported shoes over the domestic shoes.

Alexander, Khonglah and Subramani (2015) established that the demographic variables like age, gender have less effect on the purchase decision of laptop for providing customers' satisfaction.

Porkodi, Sivakumar, Ambuli and Saravanan (2018) have concluded that age is not an influencing factor but occupation of respondents, the period of the usage of the respondents, average monthly income is the factor that influences buying decision of laptops.

Nisar (2014) has found that there is no specific brand commitment and age is not determining factors whereas product attributes shows significant relation with gender and brand is taken solely for pleasure.



Figure 1: Conceptual framework

Research hypotheses

There are following alternative hypotheses as:

H1: There is an impact of product design on purchase decision of laptop.

H2: There is an impact of gender on product design on purchase decision of laptop.

RESEARCH METHODOLOGY

In this study, several methods have been applied to attain the objectives. It contains research design, sample planning, nature and sources of data, data collection process, and methods of analysis.

RESEARCH DESIGN

The study was adopted descriptive and casual research design to explore and assess the relationship between product design and purchase decision. As well as the impact of product design on purchase decision.

Sample planning

The population of the study targeted collage level students within Kathmandu valley who use laptop. 200 students were selected to collect the required data to meet the objectives of the study. The convenience sampling method had been adopted to select the respondents in the study.

Data collection process

This study is based on primary data and information. Questionnaire survey is applied to collect data from respondents so as to find out right output. The questionnaire has been prepared in 5 points Likert Scale.

METHODS OF ANALYSIS

Reliability analysis

Cronbach's Alpha is studied to understand the reliability and validity of each question (Gliem & Gliem 2003).Table 1 displays the reliability of the items.

Table 1: Reliability results of study variables

S.N.	Variables	Cronbach's alpha coefficient
1	Product design	0.842
2	Purchase decision	0.714

Table 1 shows the value of Cronbach's Alpha of product design is 0.813, and purchase decision is 0.714. All the variables have greater value than 0.7. It states stability of the items.

Descriptive statistics

The primary data have been analyzed by calculating mean, standard deviation, graph correlation and regression graphs etc.

Correlation analysis

The study has been applied correlation analysis to explore the relationship between product design and purchase decision.

Regression analysis

The following regression equation is regressed to find out the impact of price and product on buying decision:

Regression model

$$Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + U$$

Where,

Y = Purchase decision

α = Constant

β_1 and β_2 = Coefficients of variables

X_1 = Product design

U = Error term

RESULT AND DISCUSSION

Demographic status

The demographic information has been collected to understand the demographic distribution. It consists gender, age, educational level.

Table 2: Profile of respondents by gender

Gender	N	%
Male	96	48
Female	104	52
Total	200	100

Table 2 expressions that highest percent of participation in terms of gender are female representing 52 percent of the respondents whereas male represents 48 percent of the respondents.

Table 3: Profile of respondents by age

Age	N	%
20-25 Years	140	70
Above 25 Years	60	30
Total	200	100

Table 3 shows that the participation of 70 percent of the students are age between 20 years and 25 years, representing the highest participation, follow by age above 25 representing 30 percent.

Table 4: Profile of respondents by education

Location	N	%
Bachelors	108	54
Masters	92	46
Total	200	100

As the evident from the Table 4, among all the respondents, the majority 54 percent of the respondents are from Bachelors level while the rest 46 percent of the respondents are from Master level.

Descriptive statistics analysis

In this study, mean and standard deviation have been adopted under descriptive statistics analysis. It shows that respondents of product design on purchase decision.

Table 5: Overall mean and standard deviation of variables

Description	Mean	Standard deviation
Product design	3.58	1.79
Purchase decision	3.55	0.65

Table 5 displays the results of the mean and standard deviation of the variables. It contains 3 variables including 25 questions. Mean of all the variables are greater than 3.5. This points out that respondents are tending to agree with the statements.

Table 6: Independent sample t-test

Variables	Group	N	Mean	Mean difference
Product design	Male	96	3.864	-0.092
	Female	104	3.725	
Purchase decision	Male	96	3.481	-0.181
	Female	104	3.377	

Source: *Questionnaire survey 2020*

Table 6 presents the independent sample t-test of the variables under the study on the basis of P-value which represents to compare the mean difference across male and female students.

The analysis of independent sample t-test has been accepted to compare the mean difference of the variables under study. The table reveals that there is no significant difference in product design across male and female students as p-value is 0.092 which is greater than 0.05. Likewise, there is significant no difference in purchase decision of laptop across male and female students as p-value is 0.181 which is greater than 0.05.

Correlation analysis

Purchase decision and product design have been placed as the dependent and independent variable respectively. Correspondingly, gender is moderating variables. To measure the correlation coefficient, Karl Pearson’s adapted formula is used. Correlation shows the association of product design purchase decision on the table 3.1:

Table 7 Correlation analysis

	Product design	Purchase decision
Product design	1	
Purchase decision	0.480	1

Table 7 shows the correlation analysis of the variables under study. The relation between product design and purchase decision is positive with the correlation coefficient of 0.48 that means purchase decision is positively associated by the product design.

Regression- 1

Table 8: Regression analysis

Variables	β	t-stat.	p-value
(Constant)	1.347	7.115	0.000
Product design	0.392	1.516	0.006
F stat: 92.87 (p: 0.000)		R ² : 0.323	

Model 1: $Y = 1.347 + 0.549X_1 + U \dots (1)$

Table 8 shows that value F statistics and concerned p-value are 92.87 and 0.000 individually that is significant at 5% level. Thus, the model is close-fitting. As the p-value and t-statistic are 0.006 and 1.516 in that order, it indicates that there is an effect of product design on purchase decision.

Test of hypothesis

There were developed the three research hypotheses that had been checked statistically and result was presented in Table 4.

Table 9: Summery of hypothesis testing

	Association/ Impact	Result
H1	Product design–Purchase decision	Supported
H2	Gender–Buying decision	Not Supported

From Table 9, the result of H1 has shown that there is an impact of product design on purchase decision of laptop.

Finally, the outcome of H2 also has shown that there is no impact of gender (male and female) on product design for choice of laptop.

Major findings

- It is found that product design has a significant impact on buying decision of laptop.
- It is also found that gender has no impact of product design on choice of laptop.

DISCUSSION

The study found that product design has positive impact with purchase decision of laptop in the context of collage level students. The result is consistence with Widyatusi and Said (2017) that product design has a positive impact on buying decision of sports shoes. The result of the study is also the line of Saravanan (2016) concluded that the factors such as price, product design like delivery, quality, style and after-sale service influence on consumer buying decisions. It has also similar result with Sultan, Memmon and Amhed (2016) investigated that quality, brand image, and certification have affirmative and noteworthy effect on consumer buying decision of laptops by young generation but remaining of the variables devise no effect on the purchasing result of laptop. It is also almost similar with Adamu (2011) has concluded that quality, style and price are the major causes for the increased preference of imported shoes over the domestic shoes.

The study also found that gender has no impact on product design on choice of laptop in the context of college level students. The study is not line with the findings of Alexander, Khonglah and Subramani (2015) established that the demographic variables like age, gender have less effect of customers' satisfaction on purchase decision of laptop. The result is not consistence with Porkodi, Sivakumar, Ambuli and Saravanan (2018) have concluded that age is not an influencing factor but occupation of respondents, the period of the usage of the respondents, average monthly income is the factor that influences buying decision of laptops. The result is little bit dissimilar to Nisar (2014) has found that there is no specific brand commitment and age is not determining factors whereas product attributes shows significant relation with gender and brand is taken solely for pleasure.

CONCLUSION AND IMPLICATIONS

Conclusion

The aim of the study was to examine the impact of product design on purchase decision and to assess the impact of gender on product design on choice of laptop among college level students. As the analysis shows, it can be established that product design plays the vital role to attract customers and make them ready to purchase of the laptop. College level students always consider the product design to select and purchase the laptop. It indicates they focus on product design and it strongly influences on the purchase decision of laptop among the college level students. Similarly, gender (male and female) does not think differently on product design for choice of laptop. Both of male and female have similar perception for selecting product design i.e., they like almost similar product design of laptop. They don't play different role to choose product design to purchase laptop because of almost similarities on choosing product design of laptop in the college level students.

Implications

Manufacturer and business holders of laptop have to consider needs and wants and also identify appropriate product design of laptop because it plays the vital role to influence college level students and make the ready to purchase. However, they should be able to design and develop suitable product to satisfy them for achieving the desired goals and objectives. Likewise, they also need to develop unique product design of laptop rather than different because both of male and female choose similar product design. Thus manufacturing company has to consider all the aspects of product design and gender choice to design and develop laptop as per the requirement to fulfill the expectation of college level students to achieve the desire goals.

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