Study of Consumer Willingness for Buying Apparels through E-commerce Platforms: A Conjoint Analysis

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Abstract

E-Commerce has been showing enormous growth in recent past in India, many brick & mortar retailers are also venturing into online portals for sustaining in market. With the rise in mobile users & internet penetration among Indian population, the online business has grown by many folds. The study has employed conjoint analysis to investigate the consumer's willingness to buy apparels online. In the study, efforts are made in order to understand the preferences of Indian customers towards apparel segment. The buying decision depends upon the number of choices available & the utility which a consumer draws out of each & every available choice.

In the study 5 attributes of online shopping are selected namely shopping website, product line, mode of payment, delivery time and promotions. The shopping website attribute has 5 choices, product line has 5 choices, mode of payment has 3 choices, delivery time has 3 choices and promotion has 3 choices.

The results indicate that the most important attribute is found to be shopping website and the next most important attribute is found to be delivery time. The mode of payment & product line are equally important & the least important attribute for online buying behavior is promotions.

Keywords: *Online shopping orientation, willingness, conjoint analysis, apparel purchase.*

1. INTRODUCTION

In last one decade, online shopping has shown a progressive trend, reasons being internet friendly population, high penetration of mobile phones, computers & internet connections, moderately decent percentage of credit & debit card holders, increasing number of internet banking users. This scenario has majorly changed the people outlook as they started trusting online medium of buying & willing to give their card details while paying online for any item purchase. With the advent of internet penetration in India, online shopping has got a boost. A lot of retailers are now trying to penetrate and expand their online business platforms. On one hand, consumers now have ease of browsing millions of products online within the comfort of sitting at their place. On the other hand, organizations are also getting privilege of getting unlimited shelf space, 24/7 operational timings, no geographical boundaries and prospects across country or world. Hence, customers and organizations both have a symbiotic relationship.

2. LITERATURE REVIEW

Various researches have been conducted in the recent past in order to explain consumer's willingness & intention to purchase products online. These reports have been reviewed for the purpose.

Vellido et al. (2000) explained in his research that around nine factors affect a users' perception of online shopping. Among all the factors, risk perception is found to be the main discriminator between the people who purchase online & those who do not buy online. Other important attributes were convenience, control, shopping process, affordability of merchandise, customer service & ease of use of shopping website.

Nik Kamariah Nik Mat (2005) explored that the higher the consumer has trust on online website portal the higher would be chances of making purchase online. The study demonstrates that consumers who trust shopping website are willingness to purchase and show propensity to return to the site.

Ying-Hueih Chen (2010) investigates a comprehensive list of attributes and features of online shopping portals that influence consumer purchase intention. The research used software for data collection and collected data from students of university. After analysing the data, online shopping websites have been categorized into three main attributes which a consumer prefer. Consumers who are computer savvy also showed different preference level towards shopping website.

Christian Schaupp (2005) explains the level of customer satisfaction towards online shopping by examining the role of technology, product factors. This has been done using conjoint analysis of consumer preferences of 188 customers. The results indicate that there are three most important attributes to consumer for online shopping are privacy (technology attribute), convenience (shopping attribute), merchandising (product factor).

Sylvain Senecal (2005) analyzed the different online decision making processes which influence consumers' online shopping behaviors. The research has been conducted by asking customers to perform a virtual shopping task on a website providing product recommendations. The study found that there is a significant difference between consumer's decision making processes and their behavior.

Park, C.H., & Kim, Y.G. (2003) explored the relationship between various characteristics of online shopping and consumer buying behavior. 602 Korean customers have been surveyed and the

results indicate that information quality, user interface quality and security perceptions are significantly related to each customer's actual purchase behavior.

Overby, J.W., & Lee, E.J. (2006) explained the relevance of value dimensions of online shopping and the relationship between these value dimensions. Findings of this study indicate that utilitarian value has strong relevance than hedonic value in case of customer's preference & intentions to shop and shopping frequency play a moderating role.

Morganosky, M.A., &Cude, B.J. (2000) explored the consumer's response towards buying food items on online channels. Majority of the consumers rated convenience & time factor as the primary reasons of buying grocery online.

Objectives of the study:
1. To study the preference of customers for online shopping with respect to selected attributes.
2. To find out the preferences of consumers regarding shopping website, product line, mode of payment, delivery time and promotions.

3. RESEARCH METHODOLOGY

In the study the efforts are made in order to understand the preferences of Indian customers for online shopping. The decision made by the Indian customers depends upon availability of different choices related to online shopping.

The utility of consumers are different for different choices within the same attribute. In the study 5 attributes of online shopping are selected namely shopping website, product line, mode of payment, delivery time and promotions. The shopping website attribute has 5 choices, product line has 5 choices, mode of payment has 3 choices, delivery time has 3 choices and promotion has 3 choices.

In total there are 5 attributes of online shopping which have further 19 different choices. These attributes are selected on the basis of literature review, discussion with the customers & the practitioner's from the industry. The most popular attributes are considered for the conjoint analysis. The conjoint layout representing the different attributes of online shopping along with their choices is shown below in table.

Table1. Conjoint Layout

S. No.	Attributes	Features/ Choices
1.	Shopping Website	Myntra
		Jabong
		Amazon
		Flipkart
		Ajio
2.	Product Line	Casual Wear
		Formal Wear
		Ethnic Wear
		Sportswear
		Accessories
3.	Mode of Payment	COD/ Cash
		Credit/Debit/Net banking

4.	Delivery Time	Shopping portal's own pay wallets
		Same day delivery
		Delivery within two days
		Delivery in a weeks' time
5.	Promotions	Discount
		Cash back
		Reward points

The questionnaire is developed for the purpose of applying conjoint analysis. The questionnaire used for conjoint analysis consists of different combinations of the choices. Total 25 profiles were generated randomly & included in questionnaire. The respondent in the study were requested to rate these 25 profiles in the scale of 1 to 10, where 1 means least preferred profile & 10 means most preferred profile. The 25 generated profiles are shown below in table.

Profile Number 1

Card ID	Shopping Website	Product line	Mode of payment	Delivery time	Promotions	Ranking
1	Jabong	Ethnic Wear	COD/ CASH	Delivery within two days	Cash back	7

Profile Number 2

Card ID	Shopping Website	Product line	Mode of payment	Delivery time	Promotions	Ranking
2	Myntra	Ethnic Wear	Credit/Debit/Net banking	Delivery in a weeks' time	Cash back	5

Profile Number 3

Card ID	Shopping Website	Product line	Mode of payment	Delivery time	Promotions	Ranking
3	Myntra	Accessories	COD/ CASH	Delivery days within two	Discount	7

Profile Number 4

Card ID	Shopping Website	Product line	Mode of payment	Delivery time	Promotions	Ranking
4	Myntra	Sportswear	Credit/Debit/Net banking	Same day delivery	Cash back	7

Profile Number 5

Card ID	Shopping Website	Product line	Mode of payment	Delivery time	Promotions	Ranking
5	Flipkart	Formal Wear	Credit/Debit/Net banking	Same day delivery	Discount	6

Profile Number 6

Card ID	Shopping Website	Product line	Mode of Payment	Delivery time	Promotions	Ranking
6	Ajio	Sportswear	Shopping portal's own pay wallets	Delivery within two days	Cash back	7

Profile Number 7

Card ID	Shopping Website	Product line	Mode of Payment	Delivery time	Promotions	Ranking
7	Amazon	Casual Wear	COD/ CASH	Same day delivery	Cash back	9

Profile Number 8

Card ID	Shopping Website	Product line	Mode of payment	Delivery time	Promotions	Ranking
8	Flipkart	Ethnic Wear	Credit/Debit/Net banking	Delivery within two days	Discount	7

Profile Number 9

Card ID	Shopping Website	Product line	Mode of Payment	Delivery time	Promotions	Ranking
9	Ajio	Casual Wear	Credit/Debit/Net banking	Delivery within two days	Discount	6

Profile Number 10

Card ID	Shopping Website	Product line	Mode of Payment	Delivery time	Promotions	Ranking
10	Jabong	Accessories	Shopping portal's own pay wallets	Same day delivery	Discount	7

Profile Number 11

Card ID	Shopping Website	Product line	Mode of Payment	Delivery time	Promotions	Ranking
11	Flipkart	Casual Wear	Shopping portal's own pay wallets	Delivery in a weeks' time	Cash back	5

Profile Number 12

Card ID	Shopping Website	Product line	Mode of Payment	Delivery time	Promotions	Ranking
12	Jabong	Formal Wear	Credit/Debit/Net banking	Same day delivery	Cash back	7

Profile Number 13

Card ID	Shopping Website	Product line	Mode of Payment	Delivery time	Promotions	Ranking
13	Myntra	Formal Wear	Shopping portal's own pay wallets	Delivery within two days	Reward points	8

Profile Number 14

Card ID	Shopping Website	Product line	Mode of Payment	Delivery time	Promotions	Ranking
14	Ajio	Ethnic Wear	COD/ CASH	Same day delivery	Reward points	7

Profile Number 15

Card ID	Shopping Website	Product line	Mode of payment	Delivery time	Promotions	Ranking
15	Amazon	Ethnic Wear	Shopping portal's own pay wallets	Same day delivery	Discount	8

Profile Number 16

Card ID	Shopping Website	Product line	Mode of payment	Delivery time	Promotions	Ranking
16	Amazon	Accessories	Credit/Debit/Net banking	Delivery in a weeks' time	Reward points	7

Profile Number 17

Card ID	Shopping Website	Product line	Mode of payment	Delivery time	Promotions	Ranking
17	Flipkart	Accessories	COD/ CASH	Delivery within two days	Cash back	6

Profile Number 18

Card ID	Shopping Website	Product line	Mode of payment	Delivery time	Promotions	Ranking
18	Ajio	Accessories	Credit/Debit/Net banking	Same day delivery	Cash back	8

Profile Number 19

Card ID	Shopping Website	Product line	Mode of payment	Delivery time	Promotions	Ranking
19	Jabong	Sportswear	COD/ CASH	Delivery in a weeks' time	Discount	7

Profile Number 20

Card ID	Shopping Website	Product line	Mode of payment	Delivery time	Promotions	Ranking
20	Amazon	Formal Wear	COD/ CASH	Delivery within two days	Cash back	9

Profile Number 21

Card ID	Shopping Website	Product line	Mode of payment	Delivery time	Promotions	Ranking
21	Ajio	Formal Wear	COD/ CASH	Delivery in a weeks' time	Discount	7

Profile Number 22

Card ID	Shopping Website	Product line	Mode of payment	Delivery time	Promotions	Ranking
22	Jabong	Casual Wear	Credit/Debit/Net banking	Delivery within two days	Reward points	7

Profile Number 23

Card ID	Shopping Website	Product line	Mode of payment	Delivery time	Promotions	Ranking
23	Myntra	Casual Wear	COD/ CASH	Same day delivery	Discount	9

Profile Number 24

Card ID	Shopping Website	Product line	Mode of payment	Delivery time	Promotions	Ranking
24	Amazon	Sportswear	Credit/Debit/Net banking	Delivery within two days	Discount	8

Profile Number 25

Card ID	Shopping Website	Product line	Mode of payment	Delivery time	Promotions	Ranking
25	Flipkart	Sportswear	COD/ CASH	Same day delivery	Reward points	8

4. DATA ANALYSIS

The data from 50 customers were collected with the help of conjoint questionnaire. The average rating of each profile is calculated in order to calculate the utility of each choice. The multiple dummy regression is used. The multiple dummy regression model is represented as

$$\text{Rating} = \propto + \beta 1 \times D1$$

Where αi is intercept & βi represent the slope coefficient and Di represents the different choicesselected in the study. The first choice of each attribute is considered as the reference choice for dummy regression model in each attribute.

The calculate β in the regression model represents the differential utility of the included choices. The results of multiple regression model is shown below.

Table 2. Analysis of Utility Table

Independent Variables	Regression Coefficients	T statistics	P value	R Square
(Constant)	8.199	12.937	.000	
Shopping Website Jabong	-.007	-.012	.991	
Shopping Website Amazon	1.000	1.834	.096	
Shopping Website Flipkart	-.800	-1.467	.173	
Shopping Website Ajio	-.200	-.367	.721	
Product Line Formal Wear	.007	.012	.991	
Product Line Ethnic Wear	-.593	-1.071	.309	72.8%
Product Line Sports Wear	.007	.012	.991	
Product Line Accessories	-.393	-.710	.494	
Mode of Payment Card	-.703	-1.810	.100	
Mode of Payment Wallet	-.600	-1.271	.233	
Delivery Time TwoDay	-.346	-.859	.411	
Delivery Time Week	-1.314	-2.858	.017	
Promotions Cashback	-.200	-.519	.615	
Promotions Reward	.393	.816	.434	

The results indicate that the R square of the regression model is 72.8% indicating that the rating provided by consumers can be explained by 72% with the help of conjoint analysis. The regression coefficient of different choices represents the differential utility for each individual choices of the regression model.Since, in the attribute, some of the utilities of different choices are assumed to be zero, following equations can be formed with the help of regression results.

Shopping Website $A1+A2+A3+A4+A5 = 0$
$A2-A1 = -0.007$
$A3-A1 = 1$
$A4-A1 = -0.8$
$A5-A1 = -0.2$

Product Line $B1+B2+B3+B4+B5 = 0$
$B2-B1 = 0.007$ $B3-B1 = -0.593$ $B4-B1 = 0.007$ $B5-B1 = -0.703$

Mode of Payment $C1+C2+C3 = 0$ $C2-C1 = -0.703$ $C3-C1 = -0.6$

Delivery Time $D1+D2+D3 = 0$ $D2-D1 = -0.346$ $D3-D1 = -1.314$

Promotions $E1+E2+E3 = 0$
$E2-E1 = -0.200$
$E3-E1 = 0.393$

The equations are solved to estimate the utilities of different choices in each attribute. The results of the estimated utilities are shown below in table.

Table 3. Utility of different choices

Choices	Utilities	
Shopping Website Myntra	A1	0.0014
Shopping Website Jabong	A2	-0.0056
Shopping Website Amazon	A3	1.0014
Shopping Website Flipkart	A4	-0.7986
Shopping Website Ajio	A5	-0.1986
Product Line Casual Wear	B1	0.2564
Product Line Formal Wear	B2	0.2634
Product Line Ethnic Wear	B3	-0.3366
Product Line Sportswear	B4	0.2634
Product Line Accessories	B5	-0.4466
Mode of Payment COD/ Cash	C1	0.4343
Mode of Payment Credit/Debit/Net banking	C2	-0.2687
Mode of Payment Shopping portal's own pay wallets	C3	-0.1657
Delivery Time Same day delivery	D1	0.5533
Delivery Time Delivery within two days	D2	0.2073
Delivery Time Delivery in a weeks' time	D3	-0.7607
Promotions Discount	E1	-0.0643
Promotions Cash back	E2	-0.2643
Promotions Reward points	E3	0.3287

5. DISCUSSION AND CONCLUSION

The results indicate that the highest utility of Indian consumers is associated with Amazon website. In India, Amazon shopping website is getting popularity more for Indian consumer prefers the online shopping from the Amazon website. The next highest positive utility is found in case of delivery time, most of the consumers require delivery on the same day. The next highest utility is found in case of mode of payment, most of the consumers prefer cash on delivery (COD) mode of payment. This payment method provide the confidence to the consumers that they will make payment only after receiving the product for which they have placed the order with online portal.

The most negative utility is found in case of flipkart. In India the consumers do not like to buy clothing from flipkart. Flipkart website is known for electronic products & not for product line for clothes. The next choice with the lowest utility is found to be delivery in a week's time. Theconsumers do not like the delivery in a week's time. In case of product line, the consumer has negative utility for accessories & ethnic wear. However, in case of casual, formal & sportswear the utility of consumer is positive. The utility of consumer is also found to be positive in case of reward point. However, the utility is found to be negative in cash back.

In the study after estimating the utility of different choices of the online shopping attributes. The relative importance of each attribute is also estimated for each attribute the difference between the highest positive utility & highest negative utility is calculated. This difference represents the range of the utility within the attribute. The highest range of the utilities is an indication of the importance of the attribute. The relative importance of each attribute is calculated with the help of dividing the sum of attributes with the range of the attributes. The result of the relative importance is shown below in table 4.

Table 4. Importance value of different choices

Attributes	Choices		Range	
Shopping Website	Myntra	0.0014		
	Jabong	-0.0056		
	Amazon	1.0014	1.8	35%
	Flipkart	-0.7986		
	Ajio	-0.1986		
Product Line	Casual Wear	0.2564		
	Formal Wear	0.2634		
	Ethnic Wear	-0.3366	0.71	14%
	Sportswear	0.2634		
	Accessories	-0.4466		
Mode of Payment	COD/ Cash	0.4343		
	Credit/Debit/Net banking	-0.2687	0.703	14%
	Shopping portal's own pay wallets	-0.1657		
Delivery Time	Same day delivery	0.5533		
	Delivery within two days	0.2073	1.314	26%
	Delivery in a weeks' time	-0.7607		
Promotions	Discount	-0.0643		
	Cash back	-0.2643	0.593	12%
	Reward points	0.3287		

The results indicate that the most important attribute is found to be shopping website (35%). The online shopping behavior of the consumers is explained with the help of the shopping website platform from where they are placing the order. The next most important attribute of online shopping influencing the buying behavior of Indian customers is found to be delivery time (25%). The mode of payment & product line are equally important & they are 14% of the relative importance is estimated for the consumer's buying decision. The least important attribute for online buying behavior is promotions (12%).
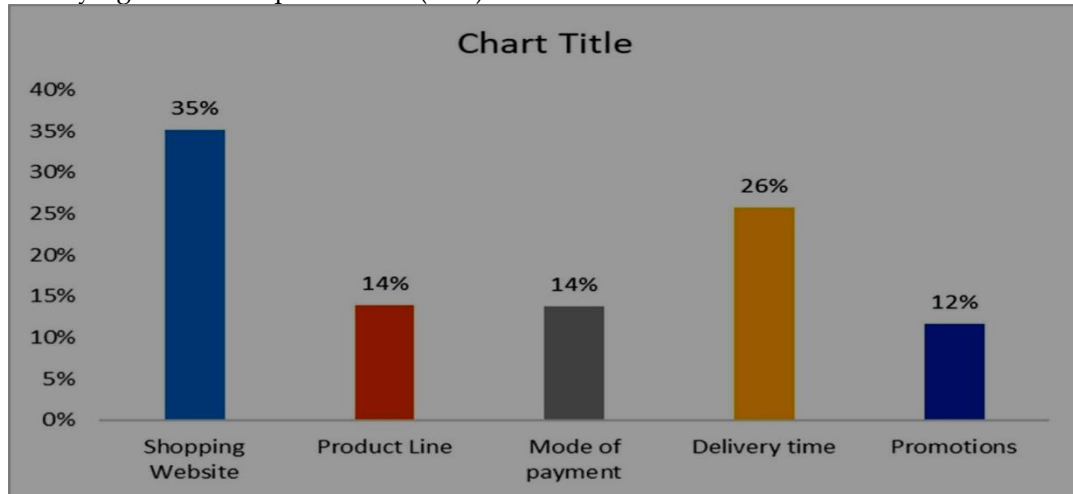

Figure 1. Preferences of different attributes

REFERENCES

[1]. **Alfredo Vellido, P. J. (2000).** Quantitative characterization and prediction of on-line purchasing behavior: A latent variable approach. *International Journal of Electronic Commerce*, 83-104.

[2]. **Andrew J. Rohm, V.S. (2004**). A typology of online shoppers based on shopping motivations. *Journal of business research*, 748-757.

[3]. **Apar Singh, A. K. (2018).** Online Shopping Trends among Students: A Conjoint Analysis. *International Journal of Management Studies*.

[4]. **C. H. Park, Y.G. (2003).** Identifying key factors affecting consumer purchase behavior in an online shopping context. *International Journal of Retail & Distribution Management*, 16-29.

[5]. **Christian Schaupp, F. B. (2005).** A Conjoint Analysis of Online Consumer Satisfaction. *Journal of Electronic Commerce Research*.

[6]. **Jeffrey W. Overby, E.-J. L. (2006).** The effects of utilitarian and hedonic online shopping value on consumer preference and intentions. *Journal of Business research*, 1160-1166.

[7]. **Michelle A. Morganosky, B.C. (2000).** Consumer response to online grocery shopping. *International Journal of Retail & Distribution Management*, 17-26.

[8]. **Sylvain Senecal, P.K. (2005).** Consumers' decision-making process and their online shopping behavior: a click stream analysis. *Journal of Business Research*, 1599-1608.

[9]. **Yang B, L. D. (2006).** Attitudes toward buying online as predictors of shopping online for British and American respondents. *Cyber Psychology & Behavior*, 198-203.

[10]. **Ying-Hueih Chen, I.C. H.C. (2010).** Website attributes that increase consumer purchase intention: A conjoint analysis. *Journal of Business Research*, 1007–1014.