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# A Study on Analysis of Factors Influencing Delivery Time Preference & Customer Repurchase Intention for E-Tailing Websites

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**ABSTRACT**

*The purpose of this research paper is to examine the impact of delivery time preference and its impacts on customer repurchase intention. This study explores how customer's delivery time preferences may change based on their personal factors, types of products (Hedonic & Utilitarian), purchase purpose (Gift giving, self use) and how it may affect their future purchase decisions.*
*This study involves data collection through an anonymous questionnaire filled by 204 regular online shoppers of varying age groups. The majority of online shoppers were younger than 41 years. Responses were measured using a five point likert scale.*
*The results show that customer's personal attributes like age and gender may alter their delivery time preferences also hedonic and utilitarian products & different purchase purposes may have significant influence on customer's delivery time preference. In addition to that it was found that customers will prefer websites, which had delayed delivery of their products, for repurchases if the websites are offering quality product, packaging and attractive discounts.*
*This study is conducted on online shoppers to measure influence of personal factors, type of products, and purchase purpose on delivery time preference & repurchase intentions. Further research may be conducted to examine few other factors which may alter customer's delivery time preference and repurchase intentions.*
*Only few studies have investigated effect of factors influencing customer's delivery time expectations, This research paper addresses an important aspect in online retailing and it will contribute towards developing a more comprehensive understanding of consumer behavior in online shopping also it shall provide valuable inputs to the E-tailors for understanding customer's delivery expectations under different circumstances and managing delivery of products accordingly.*

**Keywords:** Online Shopping, E-commerce, E-tailors, Delivery Time, Demographic Factors, Repurchase intention.

## INTRODUCTION:

With the advent of technology, increased use of smart phones, launch of 4G network in India, e-commerce has surely bright future in India. According to IBEF (2018) The Indian e-commerce market is expected to grow to US$ 188 billion by 2025. But there are surely some challenges which may hinder the penetration and growth of e-commerce. This paper is built on increasing scholarly interest towards shorter delivery time to increase customer satisfaction and repurchase intentions.
Over the years it is analyzed by many researchers that timely delivery of products is a significant factor in online shopping. As reported by ComScore (2012) The second most important thing for online shoppers after check-out process to see is an estimated or guaranteed delivery date, with 60% saying that is important. Kim and Forsythe (2010) & Maruyama and Wu (2014) have reported that online consumers prioritized product variety, value for money and delivery. According to Miyatake et al. (2015) Delivery time of products is a very

significant factor in online shopping as it contributes to customer's satisfaction. In case of online shopping customers cannot use products soon after they purchase it unlike the brick and mortar stores. Hence customers might recognize delivery time as their cost.
As discussed by Lin, Wu & Chang (2010) factors such as information quality, system quality, service quality, product quality, delivery quality and perceived price significantly affect online consumers' satisfaction but delivery quality was the most important factor and followed by product quality.Cao, Ajjan & Hong, (2018), in their study in China & Taiwan, have found that post-purchase shipping and tracking have a significant impact on customer satisfaction.

**Issues related to Delivery:**
According to Holloway and Beatty (2008) delivery problems are the most frequently stated problem with online purchase: 64.2 percent unsatisfying incidents were coming from fulfillment failure. Further shipping charges significantly impact both order incidence and order size. Gümüş et al. (2013) argue that shipping and handling surcharge, one of the main complaints about online retailing, has a significant negative effect on customer purchase decisions. Experiments conducted by Liu YF., Ling IL. (2017) revealed that online shoppers prefer shorter delivery time when purchasing functional products than hedonic products, and as far as purchase purpose is concerned customers' prefer shorter delivery time between in gift-giving conditions than in self-use conditions. Further Liu YF., Ling IL. (2017) have added that customers feel that the average delivery time is 3–4 days and customers' perceive 1-2 days short enough when they expect their products to reach early. Further it was identified that product type (functional product vs. hedonic product), purchase purpose (gift giving vs. self-use), and price discount as key factors influencing consumers' delivery time preference from the interviews.

**Delivery & Repurchase intentions:**
According to Ma S., (2017) Delivery time has a significant impact on purchase intentions. Delivery time significantly increases customer's uncertainty perceptions in the form of perceived ambiguity and perceived riskiness which significantly decreased satisfaction and purchase intentions. in addition physical distribution service quality is a key indicator of customer's purchase satisfaction which impacts customer retention Rao et al. (2011). Collier and Bienstock (2006) suggested that timeliness of delivery as one of the dimensions of e-service quality has a significant influence on customer satisfaction and future behavioral intentions.
According to the study conducted by Material handling & logistics (2016) 87% of online shoppers identified shipping speed as a key factor in the decision to shop with an e-commerce brand again. 67% of online shoppers would pay more money to get same-day delivery if they needed the package by a deadline, such as an anniversary. Also it was indicated by Marimon et al. (2010) that delivery time positively influences repurchase intention by studying purchasing behavior in an online supermarket. Unlike offline stores, shopping convenience is the predominant factor driving online shopping. Shopping time is conserved as the entire process is done either from home or the workplace (Grewal et al., 2004; Thakur and Srivastava, 2015). Richness of product details, reviews and delivery facilities are the other facets of online shopping convenience (Forsythe and Shi, 2003; Park and Kim, 2003)
According to Dholakia & Zhao (2010) Order fulfillment variables, particularly on-time delivery, dominate the effects on overall customer evaluations and satisfaction.

**RESEARCH OBJECTIVES:**

1) To analyze the relationship between various demographic factors & delivery time preference.
2) To analyze the relationship between type of products, purchase purpose & delivery time preference.
3) To understand the impact of delayed delivery on customer's repurchases intention.

**HYPOTHESES DEVELOPMENT:**

**$H_0$ 1:** There is no significant association between age and delivery time preference.
**$H_0$2**: There is no significant association between gender and delivery time preference.
**$H_0$3:** Type of Product & Purchase purpose does not affect delivery time preference.
**$H_0$:4** there is no significant impact of delayed delivery on customer repurchase intention.

**Study Methodology:**
The study was conducted via a survey created by the researcher based on the extensive literature review. The survey questionnaire was then circulated via email to the respondents. The relationship between demographic factors (age and gender), product type, purchase purpose, and shorter delivery time expectation investigated. The future repurchase intentions of customers' based on their previous delivery experience were also examined.

**Measurement:**
The Questionnaire included questions using five point Likert scales to record customer's opinion about delivery time preference based on hedonic and utilitarian products, different purchase purposes like their expectations for delivery time when they order products for personal use and when order products as a gift for family, friends or relatives. Customer repurchase intentions were also measured using five point likert scales. The delivery time preference was recorded for hedonic and utilitarian products by variables and researcher used a scale ranging from "Strongly agreed" to "Strongly disagree". The aim of the questions was to measure differences in customer's expectations for delivery time for different type of products.
Similarly, customer's repurchase intention, if the delivery is delayed, was measured by three variables using a five-point Likert scale ranging from "strongly agree to strongly disagree". These variables were product quality, packaging and discounts given on products.

**Sample:**
The respondents were persuaded to fill the survey through a variety of sources including personal contact, social networking websites, forums and word of mouth. The target population was a diverse group of customers who regularly shop online from various websites. The final sample of 204 customers is demographically diverse. Females made up 49 percent of respondents, males 51 percent. Most (35 percent) ranged in age from 18-25, while 5 percent were 50 years and above and 24 percent fell in 26-33 years age group and same is for 34-41 years age group. Only 12 percent responded belonged to 42-49 years age group.

**RESULTS & DISCUSSION:**

**Table 1**

| **KMO and Bartlett's Test** | | |
|---|---|---|
| Kaiser-Meyer-Olkin Measure of Sampling Adequacy. | | **.914** |
| Bartlett's Test of Sphericity | Approx. Chi-Square | 1755.916 |
| | df | 66 |
| | Sig. | .000 |

The KMO measures the sampling adequacy (which determines if the responses given with the sample are adequate or not) which should be close than 0.5 for a satisfactory factor analysis to proceed. Kaiser (1974) recommend 0.5 (value for KMO) as minimum (barely accepted), values between 0.7-0.8 acceptable, and values above 0.9 are superb. Looking at the table 1, the KMO measure is 0.914, which is more than 0.5 and therefore it is quite satisfactory and accepted

**Table 2**

| **Communalities** | | |
|---|---|---|
| | **Initial** | **Extraction** |
| free delivery but slowly | 1.000 | .753 |
| same day but expensive | 1.000 | .756 |
| next day but expensive | 1.000 | .840 |
| fixed date | 1.000 | .607 |
| I often prefer products which have shorter delivery time | 1.000 | .600 |
| I expect timely delivery when I buy gifts for my family and friends | 1.000 | .868 |
| when I order gifts for my family and friends, delay in delivery makes me unhappy | 1.000 | .840 |
| Although I expect timely delivery when I order products for myself, but I can manage with a little delay in delivery | 1.000 | .845 |
| I usually prefer food and groceries to be delivered within 2 days | 1.000 | .670 |
| I feel irritated when food and groceries are not delivered on time. | 1.000 | .760 |
| I feel happy and satisfied when food and groceries are delivered the same day. | 1.000 | .801 |
| I don't get irritated with the delayed delivery of cloths and accesesories unless there is some urgency. | 1.000 | .804 |
| **Extraction Method:** Principal Component Analysis. | | |

The next item from the output is a table of communalities which shows how much of the variance (i.e. the communality value which should be more than 0.5 to be considered for further analysis. Else these variables are to be removed from further steps factor analysis) in the variables has been accounted for by the extracted factors.

**Table 3**

| Total Variance Explained | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Component | Initial Eigenvalues | | | Extraction Sums of Squared Loadings | | | Rotation Sums of Squared Loadings | | |
| | Total | % of Variance | Cumulative % | Total | % of Variance | Cumulative % | Total | % of Variance | Cumulative % |
| 1 | 6.717 | 55.977 | 55.977 | 6.717 | 55.977 | 55.977 | 3.406 | 28.385 | 28.385 |
| 2 | 1.395 | 11.627 | 67.604 | 1.395 | 11.627 | 67.604 | 3.232 | 26.937 | 55.322 |
| 3 | 1.032 | 8.596 | 76.201 | 1.032 | 8.596 | 76.201 | 2.505 | 20.879 | 76.201 |
| 4 | .596 | 4.969 | 81.170 | | | | | | |
| 5 | .479 | 3.992 | 85.162 | | | | | | |
| 6 | .357 | 2.972 | 88.133 | | | | | | |
| 7 | .326 | 2.721 | 90.854 | | | | | | |
| 8 | .289 | 2.411 | 93.265 | | | | | | |
| 9 | .271 | 2.261 | 95.526 | | | | | | |
| 10 | .199 | 1.656 | 97.182 | | | | | | |
| 11 | .187 | 1.555 | 98.737 | | | | | | |
| 12 | .152 | 1.263 | 100.000 | | | | | | |
| **Extraction Method:** Principal Component Analysis. | | | | | | | | | |

The Eigenvalue table has been divided into three sub-sections, i.e. Initial Eigen Values, Extracted Sums of Squared Loadings and Rotation of Sums of Squared Loadings. For analysis and interpretation purpose we are only concerned with Extracted Sums of Squared Loadings. The first factor accounts for 55.977% of the variance, the second 11.627% and third 8.596% (Table 3).

**H01:**

| what is your age group * what is your delivery time preference Cross tabulation | | | | | | | |
|---|---|---|---|---|---|---|---|
| Count | | | | | | | |
| | | what is your delivery time preference | | | | | Total |
| | | More than 6 days | 5-6 days | 3-4 days | within 2 days | same day delivery | |
| what is your age group | 50 and above | 4 | 3 | 3 | 0 | 1 | 11 |
| | 42-49 | 1 | 9 | 11 | 0 | 2 | 23 |
| | 34-41 | 2 | 7 | 18 | 9 | 14 | 50 |
| | 26-33 | 0 | 0 | 13 | 20 | 16 | 49 |
| | 18-25 | 0 | 2 | 5 | 5 | 59 | 71 |
| **Total** | | **7** | **21** | **50** | **34** | **92** | **204** |

| Chi-Square Tests | | | |
|---|---|---|---|
| | Value | Df | Asymp. Sig. (2-sided) |
| Pearson Chi-Square | 151.355[a] | 16 | .000 |
| Likelihood Ratio | 135.003 | 16 | .000 |
| Linear-by-Linear Association | 84.672 | 1 | .000 |
| N of Valid Cases | 204 | | |
| a. 11 cells (44.0%) have expected count less than 5. The minimum expected count is .38. | | | |

Null hypothesis is rejected as p value is less than α=.05. This tells us statistically association between age group and delivery time preference

**H02:**

| what is your gender * what is your delivery time preference Cross tabulation | | | | | | | |
|---|---|---|---|---|---|---|---|
| Count | | | | | | | |
| | | what is your delivery time preference | | | | | Total |
| | | More than 6 days | 5-6 days | 3-4 DAYS | within 2 days | same day delivery | |
| what is your gender | Male | 7 | 7 | 29 | 22 | 39 | 104 |
| | female | 0 | 14 | 20 | 12 | 53 | 99 |
| | 3 | 0 | 0 | 1 | 0 | 0 | 1 |
| **Total** | | **7** | **21** | **50** | **34** | **92** | **204** |

| Chi-Square Tests | | | |
|---|---|---|---|
| | Value | Df | Asymp. Sig. (2-sided) |
| Pearson Chi-Square | 19.093[a] | 8 | .014 |
| Likelihood Ratio | 21.573 | 8 | .006 |
| Linear-by-Linear Association | 2.397 | 1 | .122 |
| N of Valid Cases | 204 | | |
| a. 7 cells (46.7%) have expected count less than 5. The minimum expected count is .03. | | | |

Null hypothesis is rejected as p value is less than α=.05. This tells us statistically association between gender and delivery time preference

**H0:3** purchase purpose and product type does not affect service delivery time preference.

| Correlations | | | | |
|---|---|---|---|---|
| | | Service Delivery Time | Purchase Purpose | Product Type |
| Pearson Correlation | Service Delivery time preference | 1.000 | .645 | .678 |
| | Purchase purpose | .645 | 1.000 | .649 |
| | Product type | .678 | .649 | 1.000 |
| Sig. (1-tailed) | Service Delivery time preference | . | .000 | .000 |
| | Purchase purpose | .000 | . | .000 |
| | Product type | .000 | .000 | . |
| N | Service Delivery time preference | 204 | 204 | 204 |
| | Purchase Purpose | 204 | 204 | 204 |
| | Product type | 204 | 204 | 204 |

| Model Summary | | | | | |
|---|---|---|---|---|---|
| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate | Durbin-Watson |
| 1 | .730[a] | .532 | .528 | 2.18950 | 2.227 |
| **a. Predictors:** (Constant), product type, purchase purpose | | | | | |
| **b. Dependent Variable:** Service delivery time preference | | | | | |

In this hypothesis impact of two variables type of product and purchase purpose on service delivery time preference is evaluated and it is observed from the above table that type of product and purchase purpose are having 53.2% (R Square=.532) impact on service delivery time preference.

| ANOVA | | | | | | |
|---|---|---|---|---|---|---|
| Model | | Sum of Squares | df | Mean Square | F | Sig. |
| 1 | Regression | 1097.419 | 2 | 548.710 | 114.460 | .000[b] |
| | Residual | 963.576 | 201 | 4.794 | | |
| | **Total** | **2060.995** | **203** | | | |
| **a. Dependent Variable:** Service Delivery time preference | | | | | | |
| **b. Predictors:** (Constant), product type, Purchase purpose | | | | | | |

As it is observed value of α=.05 is higher than p value. Thus null hypothesis is rejected and there would be a significant of purchase purpose and product type on service delivery time preference. Impact of purchase purpose and product type found significant.

**H0 4:** There is no significant impact of delayed delivery on customer repurchases intention

| Model Summary | | | | |
|---|---|---|---|---|
| **Model** | **R** | **R Square** | **Adjusted R Square** | **Std. Error of the Estimate** |
| 1 | **.697**[a] | .485 | .478 | .59288 |
| **a. Predictors:** (Constant), I will prefer a product if quality is good even if delivery is delayed, I prefer a product if packaging is good even if delivery is delayed, I prefer a product which is discounted even if delivery is delayed | | | | |
| **b. Dependent Variable:** I prefer a website for repurchase even if product is delivered late | | | | |

In this hypothesis impact of three variables product quality, packaging and discount on products on customer's repurchase intentions is evaluated and it is observed from the above table that product quality, packaging and discount offers are having 48.5% ($R^{square}$=..485) impact on customer repurchase intention.

| ANOVA[a] | | | | | | |
|---|---|---|---|---|---|---|
| **Model** | | **Sum of Squares** | **Df** | **Mean Square** | **F** | **Sig.** |
| 1 | Regression | 66.303 | 3 | 22.101 | 62.876 | .000[b] |
| | Residual | 70.300 | 200 | .352 | | |
| | **Total** | **136.603** | **203** | | | |
| **a. Dependent Variable:** I prefer a website for repurchase even if product is delivered late | | | | | | |
| **b. Predictors:** (Constant), I will prefer a product if quality is good even if delivery is delayed, I prefer a product if packaging is good even if delivery is delayed, I prefer a product which is discounted even if delivery is delayed | | | | | | |

As it is stated from the analysis that p value (significance value is .0000 and it is below α = .05,
The F-test is highly significant, thus we can assume that the model explains a significant amount of the variance in customer's repurchase intention from same website. Null hypothesis is rejected.

## DISCUSSION AND CONCLUSIONS:

This study tested four hypotheses. H1, testing the relationship between age and delivery time preference of online shoppers. It was found that there is significant association between age of the respondents and their delivery time preference.

**H2,** testing the relationship between gender and delivery time preference of online shoppers and it was found that gender has a significant relationship with delivery time preference further research in this area may reveal the behavioral intentions of different genders.

**H3,** testing the association between hedonic and utilitarian products, purchase purpose and delivery time preference. Delivery time expectation is a dependent variable getting affected by independent variables such as type of product & purchase purpose. It was found in the study that customers expect shorter delivery time for utilitarian products as compared to hedonic products. Customers expect shorter delivery time for both in case of gift giving and self use products. Therefore it is important for e-tailors to understand customer's behavioral intentions based on type of product and purchase purpose.

**H4,** testing the impact of delayed delivery on customer's repurchase intentions. It was explored that customer's may ignore the delay in delivery if e-tailing websites are able to manage product quality, safe packaging and attractive discounts on products. This shows that however delivery time is important to customers but other factors may negate the effect of delayed delivery on customers repurchase intentions.

## LIMITATIONS AND FUTURE RESEARCH:

Most of the shopping e-floors are providing various delivery choices to customers. Customers are also encouraged towards availing those delivery choices but on the basis of this research it has been observed that most of the customers have shown their repurchase intention from the same e-floor even if the product is not delivered on time because customer have rated other factors more important than delivery time preference such as product quality, packaging, discount offers. Most of the customers are satisfied with delayed delivery if they are getting it at discounted price. The biggest limitation of this research can be demographic differences as this research was focused on Kanpur only. There can be variation in preference and choices of individuals as per life

style of people in different cities. As this research describes 70 % justification. There is further scope to find out other factors which can cause impact on customer's repurchase intention.

**Managerial Implications:**

This research will help companies to find out various factors which are altering the customer's delivery time expectations and impact on customer's repurchase intentions. It has been observed from the study that customers most of the time repurchase if they are fully satisfied by the product delivered by the company. So companies can focus upon faster delivery along with other factors which are playing vital role in customer satisfaction such as product quality, packaging, discount/offers etc. Delivery preference is also important but up to certain extent only as customer remembers the benefits availed or satisfactions from the product in long run instead of delivery only.

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