

# ON-DEMAND RIDE HAILING SERVICES (RHS) FOR COMMUTING PURPOSES: A CASE OF KERALA, INDIA

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## ABSTRACT

The evaluation of the antecedents of users' continuous usage intention has become essential for the success of ride hailing services. This study analysed the antecedent role of customers' perceptions and satisfaction with continuous usage intention of ride hailing services in Kerala, India. The model used in this study conceptualizes customers perceptions as a composite variable comprising four dimensions (perceived usefulness, perceived ease of use, perceived value and satisfaction) prescribed by the Technology Acceptance Model (TAM). It employed a descriptive, correlational survey approach in which the responses of 216 registered users of ride hailing were analysed using descriptive inferential statistics. Linear regression analysis indicated that the model provided a statistically significant explanation for the variation in users' continuous usage intentions. The study also found empirical support for customers' perceptions (perceived usefulness, perceived ease of use, perceived value and satisfaction) as antecedents of continuous usage intention with ride hailing services.

**Keywords:** : Ride hailing, Ride share, Online platform, Technology Acceptance Model (TAM), Continuous usage intention

## INTRODUCTION

In recent years, ride-hailing services have become increasingly popular throughout the world because of new transportation technologies. These services have become more prevalent especially in developing countries, where public transport is a major problem due to lack of investment (Nguyen et al.,2020). Ride hailing is distinguished from traditional carpooling because it does not require rigid time schedules or fixed itineraries (Agatz, 2011). Ride hailing services, transformed by technological improvements in the fields of transportation and smart devices (Maqableh & Karajeh, 2014), are cheaper than using licensed taxicabs, connecting passengers and local drivers using their personal vehicles is a comfortable method for door-to-door transport (Wikivoyage, 2020). Unlike the traditional taxi, as the ride share cars do not possess any distinctive visual appearance, the application also provides few valuable information to the

rider such as the type of the vehicle, license plate number, approved information regarding driver’s identity to facilitate the rider to identify the driver-partner at pickup location. The fee is charged according to the rider's preference, which varies across cities and times (Tang et al., 2020). The bidirectional user assessment system facilitates both the passenger and the driver-partner, to report journey experience. In 2009, Uber emerged as of first service to provide such facilities (Uber, 2018).

This conceptual study discusses the factors that influence customer’s intention to choose ride hailing services over traditional taxi. Technology Acceptance Model (TAM) was used to comprehend the customer’s intention to use ride hailing apps technology.

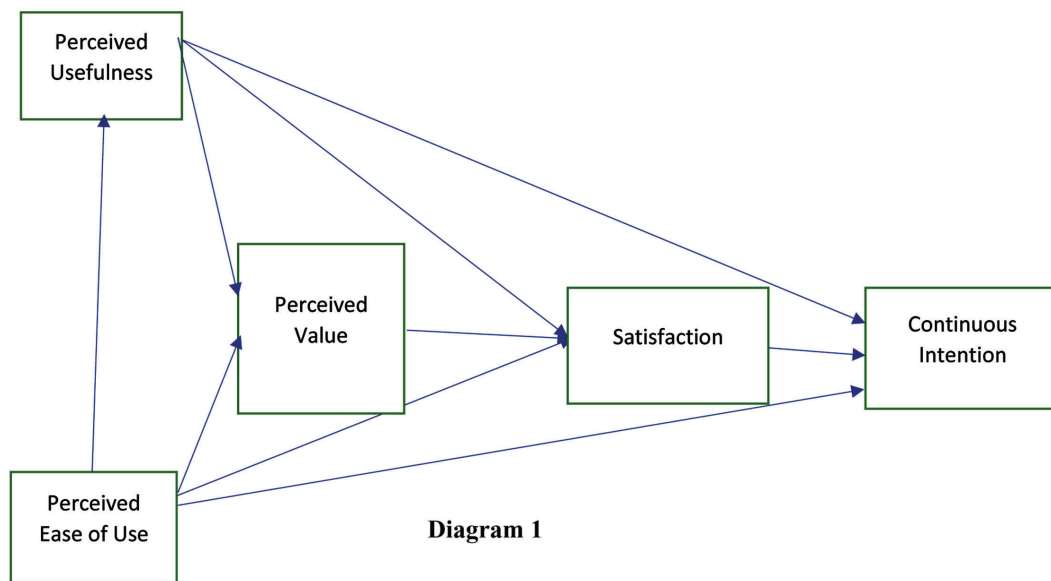
**METHODOLOGY**

This research adopted a cross-sectional, descriptive, correlational study design that sought to establish the antecedent role

of customers’ perceptions with regarding satisfaction with RHS in Kerala. We used a survey-based questionnaire to collect data from respondents. The survey tools are based on pre-recognized scales from previous studies. A total of 216 respondents were selected using random sampling methods. All these respondents constitute the users of Uber in Kerala, India. We reached 300 consumers and received 216 valid responses indicating a 74.67% response rate. Statistical Package for Social Sciences (SPSS) software version 22 was used for data analysis. Simple linear regression was used to identify the underlying correlations among data. The simple linear regression is as follows:

$$Y = \beta_0 + \beta_1 P_1 + \epsilon_1 \quad (1)$$

The given model used in this study conceptualizes customers perceptions as a composite variable comprising four dimensions (perceived usefulness, perceived ease of use, perceived value and satisfaction) prescribed by the Technology Acceptance Model (TAM). The proposed model for this study is given in diagram 1.



**Diagram 1**

### Reliability

Cronbach's Alpha coefficient ( $\alpha$ ) was used to assess reliability of the measures. As a rule of thumb, reliability of 0.7 and above is recommended to denote the research

instrument as reliable (Roberts, Priest & Traynor, 2006). Using this cut-off value, all measures exhibited internal consistency with Cronbach's Alpha values greater than 0.7, which is shown in table 1.

**Table 1: Internal consistency**

Constructs	Cronbach's Alpha
Perceived Usefulness	0.953
Perceived Ease of use	0.972
Perceived Value	0.910
Satisfaction	0.804
Continuous Intention	0.854

Source: Primary Data

## RESULTS AND DISCUSSIONS

The summary of the results is presented in two main sections:

(1) Descriptive statistics and (2) Inferential statistics.

### Descriptive Statistics

Of the 300 respondents only 216 were able to participate in the study by completing and returning the questionnaire on time. This was equivalent to a 75.93% response rate. According to Rubin and Babbie (2011), a 50% response rate is adequate for reporting and analysis. This indicated the adequacy of the response data for the analysis.

### Demographic Characteristics

This section summarizes the responses regarding the demographic characteristics of the participants.

**Table 2: Demographic characteristics of the sample (n = 216)**

Respondents		Frequency	Percent	Cumulative Percentage
Gender	Male	121	54.02	54.02
	Female	103	45.98	100
Age	<21	23	10.27	10.27
	22-30	94	41.96	52.23
	31-40	67	29.91	82.14
	41-50	24	10.71	92.86
	>51	16	7.14	100

<b>Educational Qualification</b>	Up to 12th	17	7.59	7.59
	Undergraduate	34	15.18	22.77
	Graduate	82	36.61	59.38
	Postgraduate and above	91	40.63	100
<b>RHS Usage Duration</b>	Less than a month	14	6.25	6.25
	Less than three months	23	10.27	16.52
	Less than six months	32	14.29	30.80
	Less than a year	67	29.91	60.71
	More than a year	88	39.29	100
<b>Frequency of Use</b>	Everyday	28	12.50	12.50
	Once in a week	33	14.73	27.23
	Once in two weeks	61	27.23	54.46
	Once in a month	83	37.05	91.52
	Rarely	19	8.48	100

Source: Primary Data

**Table 3: Descriptive statistics results for study constructs**

<b>Construct</b>	<b>Mean</b>	<b>Standard Deviation</b>	<b>Skewness (-3 to +3)</b>	<b>Kurtosis (-10 to +10)</b>
<b>Perceived Usefulness</b>	4.039	0.696	-1.251	1.887
<b>Perceived Ease of use</b>	4.167	0.602	-0.624	0.845
<b>Perceived Value</b>	4.182	0.544	-0.506	0.901
<b>Satisfaction</b>	4.174	0.497	-0.997	2.220
<b>Continuous Intention</b>	4.069	0.559	-0.227	-0.259

Source: Primary Data

The results indicated that perceived value had the highest mean score (4.182), followed by satisfaction (4.174) and perceived ease of use (4.167). The standard deviation is estimated to be 0.559. Table 3 clearly shows that all the skewness and kurtosis values fall within the acceptable range thereby ensuring the normality of data.

### Inferential Statistics

We conducted a simple linear regression analysis to examine whether the model provides a statistically significant explanation of the variation in online retailing consumers' satisfaction, and more importantly to determine the empirical support for customers' perceptions as an antecedent of satisfaction with online retailing services. The following section presents the findings and interpretations of linear regression analysis.

### Goodness of Fit

Table 4 shows the output measures regarding the "goodness of fit", i.e., how well the model fits the data. The table presents the coefficient of determination (R-Square) which is used to test the goodness-of-fit of the model which reveals what percentage of variability in the dependent variable is accounted for by all independent variables.

**Table 4: Model summary**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.71	0.503	0.494	1.98783

Source: Primary Data

R was calculated as 0.71 and adjusted R square was 0.494. If the R-Square value is 1, then there is a perfect fit, whereas R-Square value 0 indicates that there is no relationship between the independent and dependent variable. According to Table 4, the adjusted R-Square value is 0.503. This result shows that a moderate relationship exists, implying that other factors affecting satisfaction were not studied in this research adding up to 49.7%. The adjusted R<sup>2</sup> is important as it helps to discourage over fitting of the model (Doane & Seward, 2011).

### ANOVA

ANOVA table shows whether the model can predict Y using X. It contains the output for determining the statistical significance of the model.

H0: The model has no predictive value ( $\beta_1=0$ )

H1: Implies that the model has predictive value ( $\beta_1 \neq 0$ )

**Table 5: ANOVA**

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	845.196	4	211.299	53.473	0.000
	Residual	833.762	211	3.951		
	Total	1678.958	215			

Source: Primary Data

Table 5 explains that, statistical significance of the model was assessed using the following hypotheses:  $H_0: \beta_1 = 0$ ; that is variation in Y is not explained by variation in X.  $H_1: \beta_1 \neq 0$ ; that is variation in Y is explained by variation in X. According to  $H_0$ , if a coefficient ( $\beta_1$ ) = 0, the distribution of the response variable (Y) does not directly depend on the input variable  $X_i$ , which can therefore be “dropped” from the model. Because the significance value (0.000) was less than 0.05, the null hypothesis was rejected. This implies that the model is statistically significant and therefore useful in predicting the relationship between customers’ satisfaction and continuous usage intention with RHS.

**Table 6: Coefficient table**

Variables	B	Std. Error	t	Sig.
(Constant)	-3.441	1.150	-2.993	0.003
Independent Variables	0.231	0.011	20.786	0.000

Source: Primary Data

Table 6 shows that  $\beta = 0.231$  and the p-value = 0.000 ( $\beta \neq 0$  and p-value <  $\alpha$ ). The null hypothesis which proposes that perceived usefulness, ease of use, perceived value and satisfaction have no statistically significant effect on users’ continuous usage intention of RHS. This outcome support to the findings of Akbari et al., (2020), who empirically established that perceived usefulness, ease of use, perceived value and satisfaction have no statistically significant effect on users’ continuous usage intention in RHS context.

## CONCLUSIONS

With the rapid growth of online services, customer satisfaction and continuous usage intention have become a major concern for online retail managers and practitioners because customers are less likely to search for alternative purchase options when the current website offers satisfaction (Dwivedi, 2021). This study makes an important theoretical contribution to the study of online consumer behaviour by proposing and outlining perceptual antecedents of ride hailing consumer satisfaction. The study recommends

that RHS decision makers should put more effort into enhancing the quality of their services to ensure that their customers are satisfied with their services. The research also shows that users continuous usage intention towards RHS depends on their perceived usefulness, ease of use, perceived value and satisfaction, confirming that RHS users’ behaviour is subject to individual perceptions. It therefore provides future scholars with a useful framework for incorporating both IS and consumer behaviour theories and constructs in their research projects.

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