

## AN ANALYTICAL STUDY ON THE SATISFACTION LEVEL OF APP CAB DRIVERS IN KOLKATA

*Riya Ghosh<sup>1</sup> & Dipa Mitra<sup>2</sup>*

<sup>1</sup>*Research Scholar, Indian Institute of Social Welfare and Business Management, University of Calcutta,  
Kolkata, West Bengal, India*

<sup>2</sup>*Associate Professor, Indian Institute of Social Welfare and Business Management, University of Calcutta,  
Kolkata, West Bengal, India*

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### **ABSTRACT**

*India is a developing country and it is found that with this development there is a surging demand for taxi services in India. In the past decade, there was a revolution in the cab industry, with the emergence of organized car rental system using modern technology. This led to the growth of the 'app cab' industry. The present study aimed to identify the major problem areas of the app cab drivers and subsequently measure the impact of those problems on their work satisfaction level. An attempt was made to provide suggestions for improvement, wherever necessary. At the initial stages of the study, a number of app cab drivers were interviewed in order to understand the various aspects of working of the app cab industry, from the drivers' point of view. Subsequently, a structured questionnaire was developed focusing on the satisfaction level and also the major problems faced by the drivers, as revealed during the preliminary discussion. A sample of 83 app cabs drivers was selected by the method of convenience sampling, geographically spread across Kolkata. In-depth interview was conducted while taking cab rides and also by visiting the various drivers' hubs. The reliability of the data set was checked. The data were analyzed using SPSS software. The data were subjected to Chi-Square tests, Factor Analysis and Regression analysis to find out how the different parameters impacted the app cab drivers overall work satisfaction. Recommendations for improvement were provided, wherever necessary. This study aimed to help in increasing the wellbeing and satisfaction level of the drivers.*

**KEYWORDS:** *App Cab, Drivers, Issues, Satisfaction*

### **INTRODUCTION**

India is a developing country and it is found that with this development, middle-class people have slowly raised their standards of living. This has led to an increase in their wants and needs. Surging demand for taxi services in India can be attributed to changing lifestyles of travelers and increasing disposable income of consumers, especially in Tier-I and Tier-II cities. Not everyone has the ability to purchase personal vehicles and thus they have to depend on public transport.

In the past decade, there was a revolution in the cab industry, with the emergence of organized car rental system using modern technology. Technology played the lead role in this transformation by providing us with Location Based

Tracking Technology along with GPS, helping to get its latest co-ordinates and scheduling based on live traffic feed.

In the present era, customers have applications installed in their mobile phones to book a cab anytime and anywhere. Increase in the use of smartphones and better penetration of the internet has helped the cab service providers to reach the masses. The main players are Uber and Ola in this category followed by Meru Cabs, Carzonrent, Savaari Car Rentals, Fasttrack Taxi App, Mega Cabs, Tab Cab, NTL Taxi, My Taxi India, Zust Go. These service providers have apps compatible with Android, Windows, and iOS.

Ola and Uber are the main players operating in India and control 96% of the Indian market (\$8 billion in 2018) with an annual CAGR of 13.7%. Ola cabs started their operations in 2010 in Mumbai, under the name of ANI Technologies Pvt. Ltd. It has 10 lac cars registered (2018) and operates in 169 cities in India. In 2014, it has started operating Ola auto rickshaws also. It has 6000 employees and operates in Australia and New Zealand as well. Ola's turnover is INR 1286 CR with an accumulated loss of INR 2313 CR. Uber Technologies Inc., incorporated in the state of Delaware, US, started its operations in India from Bangalore, in 2013. Uber operates in 29 cities, having 4.5 lac registered cars, with a market share of 39.6% (Ola – 56.2%), turnover is INR 410 CR, Profit INR 30 CR.

The passengers are benefited in different ways like, when the cab is booked the drivers do not get to refuse the passenger. Passengers may check driver's profile before and after the ride, and leave feedback, after using the service. Customers can also book a cab at a later date, by setting the date and time. They have the provision for finding back their lost items with the help of the app. Customers are offered discounts, provided with discounts coupons meant for redemption, that normal taxis never offer to their passengers. Fare for the trip can be paid in different modes like cash, OLA money, UPI, credit and debit card, etc., in case of Uber, payment can be made through cash, credit or debit card, Paytm, etc.

## LITERATURE REVIEW

Mukund H. Khupse (2017) performed a study on passengers' motives for using mobile app-based cabs and found the different reasons for passengers' preferences towards app-based taxi services and also to check whether the reasons as stated by the passengers were strong enough for building their opinion about app-based taxi services. Primary data was collected from 150 respondents, who selected through judgemental sampling, provided each one of the respondents had at least traveled 3 times by app-based taxi and also had an app for taxi booking on their mobile phones. Data collection was done with the help of a structured and close-ended questionnaire. The study showed that quick availability of cabs, safety, low cost compared to traditional taxis, attractive cash back and discounts on rides were the most important reasons for using app cabs. The passengers did not give much importance to Wi-Fi connectivity, negotiations and bargaining, and cashless system. These benefits made the app cabs popular not only in the metro cities of India but also in the urban areas.

Rungta e.t al. (2017) performed a study on the impact of usage Ola Cabs and Taxi for Sure mobile apps impacted the Yellow and Black Cabs and identified the specific factors that the passengers consider while hiring a taxi. The researchers aimed to understand the key technology trends, technology shifts, market drivers and the restraints of the taxi market in India, market size of public and private taxi market in India, ease of availability, price, comfort, safety, payment option and other factors affecting competition and perception of the passengers towards their safety while travelling in cabs, and their overall impact on the taxi market. Primary data was collected from 107 respondents who have selected the

help of simple random sampling, using a questionnaire, which was sent to them via social media and e-mails. The scales used were dichotomous and ordinal scales to study their responses. Data were analyzed with the help of SPSS and Minitab. The results revealed that app cabs were considered as a more preferred option owing to the availability of GPS tracking, making it a safer option for night travel, and also a more comfortable means of traveling having various payment options, 24\*7 ease of availability of taxis, lower rates, and high discounts. These were the factors that were identified to contribute to the increase of the market share of app cabs.

Uthira. D (2018) conducted a diagnostic study of the cab aggregation industry using the Servqual Gap Model that aimed to find the gap between the perception and expectation of customers towards app-based cab services using the above-mentioned model. An attempt was made to suggest measures to improve the services to meet expectations, in cases where expectations exceeded the perception. In areas, where the service exceeded the expectations, suggestions were given to tone down the service provided, thus reducing the cost and efforts. A sample of 104 passengers was selected by convenience sampling and primary data was collected through online administration of the questionnaire. The analysis revealed that cleanliness of the cab, availability of first aid kit, maintenance of apps by service providers, proper GPS usage by the drivers, provision for non- smartphone users to book cabs, response time between booking a cab, acceptance of rides by the drivers on rainy days, surge pricing, refund of cancellation money and confirmation are the areas where the customers' expectations exceeded their perceptions. Car share services and auto services provided by the cab aggregators were found to be cost-effective and preferred by the users. Suggestions were given accordingly by the researcher. Despite the tremendous market growth and development, the cab aggregators were facing losses, thus they needed to improve some of their services to meet the expectation level of the customers and tone down their efforts in certain services since the perception was more than the expectation, in order to survive.

Shanti D et. al. (2018) conducted a study to identify the factors that influence the consumers while selecting app cab services and aimed to understand their innovativeness while selecting the cab services. Primary data was collected using a structured questionnaire, from 100 respondents. The analysis revealed that price consciousness of consumers motivated them to redeem their discount coupons. Modern consumers are innovative and also price conscious, so coupon redemption may help to retain customers. The brand image also played a vital role in customer retention.

Kumar & Kumar (2016) aimed to study the factors influencing consumers while selecting cab services in Hyderabad. Their objective was to study how innovativeness, coupon redemption behavior, and price consciousness impacted cab service selection. Data were collected from 120 respondents, selected through simple random sampling. A structured questionnaire was used. Each of the respondents had availed cab services in the last 6 months and also had booked the cab using the app installed on their smartphone. The analysis revealed that consciousness towards price and coupon redemption behavior was positively and significantly related. The study also revealed that respondents in the middle age group were consuming cab services more than the other age groups. The innovative behavior of consumers motivated them to download cab booking mobile apps and also to redeem their coupons while booking. Thus, in order to survive this tough competition in the app cab services industry, organizations need to motivate consumers to select their services, by providing them with coupons.

## OBJECTIVES OF THE STUDY

- To identify the major problem areas of app cab drivers.
- To understand the impact of these problems on the satisfaction level of the drivers
- To provide suggestions for improvement, if necessary

## RESEARCH METHODOLOGY

The present study aims to understand the process of working of app cabs, identify the pain areas of the drivers and provide recommendations for improvement of the working conditions in order to increase drivers' satisfaction level. In order to conduct the study, secondary data relevant to this study has been collected from a few websites and various journals and research articles available on the internet. At the initial stages of the study, a number of app cab drivers are interviewed in order to understand the various aspects of working of the app cab industry, from the drivers' point of view. Subsequently, a structured questionnaire is developed for interviewing them. This questionnaire focuses on their satisfaction level and also the major problems faced by the drivers, as revealed during the preliminary discussion. It consists of 17 statements taking into consideration the various issues faced by them. A five-point Likert scale has been used for measuring their responses to the statements provided. Suggestions for improvement have also been provided by the drivers. A sample of 83 app cabs drivers has been selected by the method of convenience sampling, geographically spread across Kolkata. In-depth interview is conducted while taking cab rides and also by visiting the various drivers' hubs. The reliability of the data set is checked. The usable responses have been coded as per a predetermined nomenclature. The data has been analyzed using SPSS 20.0. The data is subjected to Chi-Square Tests, to check the relationship between Age Group and Overall Satisfaction. Factor Analysis is done using the method of Principal Component Analysis, for reducing the number of variables used in the study, into fewer dimensions. Regression analysis is also done to find out how the different parameters impact the app cab drivers' overall work satisfaction. After analyzing the data, conclusions have been drawn about the problems faced by them. Recommendations for improvement have been provided, wherever necessary.

## ANALYSIS AND DISCUSSIONS

The data has been tested to check the Common Method Bias. It shows that the dataset is free from bias.

### Reliability Testing

**Table 1: Reliability Statistics using Cronbach's Alpha**

Case Processing Summary			
		N	%
Cases	Valid	83	100.0
	Excluded <sup>a</sup>	0	.0
	Total	83	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics	
Cronbach's Alpha	N of Items
.695	22

The reliability is tested using coefficient alpha. On analysis, the alpha value was found to be 0.695 (approximately 0.7). Hence the reliability analysis predicted the trustworthiness of the data obtained from the questionnaire and the data was used for further analysis.

### Interpretation of Chi-Square Test Using SPSS

The following hypothesis is framed and tested with the help of Chi-Square Test.

$H_0$ = There is no relationship between 'Age Group' and 'Overall Satisfaction'

$H_1$ = There is a significant relationship between 'Age Group' and 'Overall Satisfaction'

**Table 2: Model Summary**

**Overallsatisfaction \* Agegroup Crosstabulation**

Count		Agegroup				Total
		1	2	3	4	
Overallsatisfaction	1	0	6	7	0	13
	2	5	7	21	3	36
	3	4	12	13	2	31
	4	1	1	0	1	3
Total		10	26	41	6	83

**Table 3: Chi-Square Test for Understanding the Relationship between Age Group and Overall Satisfaction**

**Chi-Square Tests**

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	12.212 <sup>a</sup>	9	.202
Likelihood Ratio	14.572	9	.103
Linear-by-Linear Association	.623	1	.430
N of Valid Cases	83		

a. 11 cells (68.8%) have expected count less than 5. The minimum expected count is .22.

The output shows that the Pearson Chi-Square value is 12.212, degrees of freedom being 9. The Significance Level is 0.202, which is more than 0.05, thus  $H_0$  will not be rejected. Thus, it may be concluded that there is no relationship between 'Age Group' and 'Overall Satisfaction'.

## Interpretation of Principle Component Analysis Using SPSS

### KMO and Bartlett's Test

**Table 4: KMO and Bartlett's Test for Studying Sampling Adequacy**

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.587
Bartlett's Test of Sphericity	Approx. Chi-Square	298.044
	df	120
	Sig.	.000

For this data set, KMO value is 0.587, which indicates that the sampling adequacy is average and may be considered for Factor Analysis.

### Factor Identification

#### Determination Based on Eigen Values

In this approach, only those factors with Eigenvalues greater than 1 have been considered. Other factors are not included in this model. Here, from the table TOTAL VARIANCE EXPLAINED, 4 factors can be identified whose Eigenvalues are more than 1.

**Table 5: 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	3.156	19.724	19.724	3.156	19.724	19.724	2.330	14.562	14.562
2	1.910	11.936	31.660	1.910	11.936	31.660	2.076	12.973	27.535
3	1.682	10.515	42.175	1.682	10.515	42.175	1.939	12.118	39.653
4	1.445	9.033	51.208	1.445	9.033	51.208	1.849	11.556	51.208
5	1.367	8.544	59.752						
6	1.082	6.765	66.517						
7	.879	5.492	72.010						
8	.779	4.868	76.877						
9	.715	4.468	81.345						
10	.651	4.069	85.414						
11	.525	3.284	88.698						
12	.504	3.151	91.849						
13	.400	2.503	94.352						
14	.333	2.083	96.436						
15	.315	1.971	98.407						
16	.255	1.593	100.000						

Extraction Method: Principal Component Analysis.

#### Determination Based on Percentage of Variance

The number of factors extracted can also be determined in a way so that the cumulative percentage of variance extracted by the factors reaches a satisfactory level. Here according to the analysis, the cumulative percentage of variance extracted by the 4 factors is 51.208 % (from the table TOTAL VARIANCE EXPLAINED), which is average.

## Factor Interpretation

**Table 6: Rotated Component Matrix**

**Rotated Component Matrix<sup>a</sup>**

	Component			
	1	2	3	4
Uniformearning				.575
Accountblocking	.811			
Paymentbreakup		.577		
Accuracyofcancellationcharge	.503			.558
Knowledgeofpassenger		.737		
Meetriderexpectation				.691
Difftopickup			.466	
Lunchtime			.711	
Targetachievement		.517		-.444
Longdisttravel	.621			
Safetymechanism			.548	
Custcareempathy			.590	
Ratingbypassenger			.507	.436
Verificationbycomp	.653			
Penaltyforlowrating	.634	.482		
Earningsatisfaction		.676		

Extraction Method: Principal Component Analysis.

Rotation Method: Equamax with Kaiser Normalization.

a. Rotation converged in 7 iterations.

Factor interpretation is facilitated by identifying the variables that have a large load on the same factor. That factor can be interpreted in terms of variables that load high on it.

In the ROTATED COMPONENT MATRIX, Component 1 has high coefficients for the following variables: Account blocking, Verification by the company; whereas Component 2 has Knowledge of passenger, Earning satisfaction; Component 3 has Lunchtime; Component 4 has Meet rider expectation.

## INTERPRETATION OF MULTIPLE REGRESSION ANALYSIS

**Table 7: Model Summary**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.721 <sup>a</sup>	.520	.482	.556

a. Predictors: (Constant), Meetriderexpectation, Verificationbycomp, Earningsatisfaction, Lunchtime, Knowledgeofpassenger, Accountblocking

The above table represents the value of R, the multiple correlation coefficients. Here the value of "R", 0.751 indicates a high level of prediction. The R square value is 0.520, which indicates that it is a good model.

Here dependent variable is 'Overall Satisfaction' and the 6 independent variables considered for the study are Meet rider expectation, Verification by company, Earning satisfaction, Lunchtime, Knowledge of passenger, Account blocking.

**Table 8: Regression Coefficients**

**Coefficients<sup>a</sup>**

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.480	.372		1.292	.200
	Accountblocking	.099	.102	.085	.967	.337
	Verificationbycomp	-.149	.137	-.098	-1.094	.277
	Knowledgeofpassenger	.033	.072	.040	.463	.645
	Earningsatisfaction	.544	.076	.611	7.175	.000
	Lunchtime	.042	.211	.016	.199	.843
	Meetridereexpectation	.374	.098	.307	3.798	.000

a. Dependent Variable: Overall satisfaction

Unstandardized coefficients indicate how much the dependent variable varies with an independent variable when all other independent variables are held constant.

So, the equation from the regression output is as follows:

Overall Satisfaction = 0.480 + (.099 \* Account blocking -.149\* Verification by company +.033 \* Knowledge of passenger +.544 \* Earning satisfaction +.042 \* Lunchtime +.374\* Meet rider expectation)

The output reveals that 'Meet rider expectation' and 'Earning satisfaction' have the major impact on Overall Satisfaction of the app cab drivers.

## CONCLUSIONS

It was found after conducting different statistical tests that the dataset for drivers' responses is reliable and is free from any bias. There is no significant relationship between age group and overall satisfaction. It may be concluded that meeting riders' expectation and earning satisfaction have a high influence on the overall satisfaction of the app cab drivers. It implies that if the industry wants to ensure well-being of the drivers thus increasing their productivity, they should focus on all the factors as reported above. The major area of concern is their earning dissatisfaction. It arises mostly due to inaccurate calculation of the cancellation charges (drivers being charged even when the passengers cancel the trip), regular account blocking preventing the drivers from completing the required number of trips and earning their incentives and also having to travel long distances to pick up the passenger. The drivers find it difficult to meet riders' expectation which is having an impact on their satisfaction level. The drivers have to travel long distances to pick up the passengers, which is a loss, since fuel cost for that period is not borne by the company or the passenger, and also leads to time wastage. The ratings provided to the drivers by the passengers are not verified by the company, as reported by the drivers. Without checking the credibility, they often block the drivers' account based on passenger's low rating or poor comment. The drivers are also allocated long trips as a penalty for the low rating. Apart from the above-mentioned factors revealed by the statistical tests, the majority of the drivers have reported that they don't get any lunchtime, which is taking a toll on their health. Drivers' accounts getting blocked is a major issue which must be dealt with. The customer care should deal with more empathy and listen to the drivers' issues and try to resolve them so that they can work comfortably.



## RECOMMENDATIONS

- The app cab companies should design their system in such a manner so that the drivers are charged accurately and also they may achieve their targets and earn incentives.
- Drivers face difficulty in meeting riders' expectations. This may be dealt with by the companies by providing adequate information to the passengers regarding the norms of app cabs and their expected behavior with the drivers.
- Sometimes drivers face the issue of being allocated long distance rides. Proper care should be taken by allocating short distance trips and nearby pickup points, thus helping them to achieve their trip targets.
- It is imperative for the companies to verify the ratings given by the passengers before taking actions (like blocking accounts, allocating long distance trips as a penalty, etc.) against the drivers.
- It is very important for the companies to allow the drivers to have lunch as per their convenient time, without forcefully allocating trips during that period.
- Some of the suggestions given by the drivers' while interviewing them are as follows: to provide them with insurance, to provide certain retirement benefits, to increase the incentives, to design the system in such a way so as to ensure that the pickup location of the passenger is accurate, to provide bonus before festivals, to provide detailed calculation of their payment and to implement effective safety mechanisms for drivers driving at odd hours.

## Future Scope

This research lays the foundation stone for future investigation in the app cab industry. One of the ways may be by enhancing the scope of research may by expanding the target area by including the international app cab market to evaluate and benchmark the drivers' satisfaction level using statistical methods.

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