



# A STUDY ON CONSUMER AWARENESS AND PROBLEM FACED WITH FASTAG WITH SPECIAL REFERENCE TO COIMBATORE CITY

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**Abstract:** This study explores consumer awareness and the challenges faced by users of FASTag in Coimbatore city. FASTag, an electronic toll collection system, aims to streamline toll payments and enhance efficiency on Indian highways. Through surveys and interviews, the research assesses the level of awareness among consumers regarding FASTag's features, benefits, and usage guidelines. Additionally, it identifies common problems encountered, such as technical glitches, recharge issues, and insufficient information dissemination. The findings reveal a significant gap in awareness, impacting user satisfaction and adoption rates. The study concludes with recommendations to improve consumer education and address the operational challenges associated with FASTag, ultimately enhancing its effectiveness and user experience.

**Keywords:** Consumer Awareness, Electronic Payments, User Challenges, Technical Issues, Satisfaction Levels

## I. INTRODUCTION

FASTag, an electronic toll collection system, has gained significant traction in recent years, reflecting a notable shift in consumer preferences towards convenience, efficiency, and digitalization in transportation. The adoption of Fastag can be attributed to several factors that resonate with modern consumer expectations. Firstly, it offers a streamlined and hassle-free toll payment experience, eliminating the need for cash transactions and reducing waiting times at toll plazas. This convenience is especially appealing to consumers who value time-saving solutions in their daily commute or travel experiences. Secondly, the growing emphasis on digital payment methods has encouraged consumers to embrace Fastag as a secure and efficient alternative to traditional payment options. With the integration of Fastag into various payment platforms and mobile applications, consumers can easily manage their toll payments and track their expenditure, enhancing transparency and financial control. Moreover, the increasing awareness of environmental sustainability and the need to reduce carbon emissions has prompted environmentally conscious consumers to opt for Fastag, as it helps minimize traffic congestion and fuel consumption by streamlining traffic flow at toll plazas. Overall, consumers' preference towards Fastag reflects a broader societal shift towards digitalization, convenience, and sustainability in transportation, signalling a promising future for electronic toll collection systems in meeting evolving consumer needs and expectations. In addition to the convenience, efficiency, and environmental benefits, consumers are also drawn to Fastag due to the incentives and discounts offered by toll authorities and financial institutions.

## II. LITERATURE REVIEW

This study observes the following researches for references, **B.M.Hiremath, S.L.Patil (2021)**, This paper intent of NHAI to introduce FASTag to collect toll electronically at all toll plazas is a right step towards the elimination of various issues such as long waiting in toll plazas, reduction in the fuel consumption, pollution control etc. Tolling-related technologies have picked up impetus in the present scenario. This is for enabling the acceptance of digital payments instead of physical cash at toll plazas. With an emphasis on implementing an effective and efficient toll collection framework, electronic toll collection (ETC), with FASTag as its brand name, emerged to be a key solution in enable an efficient, fast and cashless payment option for collection of the toll charge. **Mrs. Saranya Sundari, Dr.C.Thanga Lakshmi, Dr.M.Punitha (2022)**, This paper entitled as "A Study on Customer Perception

towards Fastag with Reference to Tirunelveli and Thoothukudi District," is done to understand the Customer Perception towards Fastag procedure followed by various Automated Toll collections at Tirunelveli and Thoothukudi District. This study is to identify the level of customer perception towards the Fastag and to know the level of customer perception towards the Fastag with reference to Tirunelveli and Thoothukudi District. **Akshaya N, Dr.R.Guna Sundari (2021)**, FASTag reduces the fuel consumption of the vehicle, reduces traffic congestion, reduces paper works and it also reduces air pollution. The essential objective of this study is to know the satisfaction level of people using FASTag with special reference to Coimbatore city. The present study has brought out the satisfaction level of passengers and the benefits they enjoy using FASTag and the problems faced by them and suggestions to be improved in FASTag for its betterment. **Muthulakshmi V, Jaisun M and Kovil Pillai S (2023)**, This study was conducted among FASTag users in Virudhunagar town to learn about the attitude and satisfaction level of users towards FASTag. The study also discusses the drawbacks of using traditional toll collection system and the necessity of using FASTag, an automated toll collection system. The problems and shortcomings faced in the conventional toll collection system prompted an immediate overhaul in the Indian toll collection system which resulted in the development of 'FASTag' by NHAI. **Dr.Shanmuga Priya (2022)**, The main focus of the study is on the general public opinion towards the traffic in a parcel of land and toll plaza operations. A road user study in terms of user survey was disbursed for an overall analysis of the performance of toll plazas and this assessment is required to judge how each toll performs. These analyses enable the citizens to supply feedback about the issues that prevail within the concept of FASTag and to enable the developers to grasp these problems which can further help to attenuate those problems. **S.Amrin (2019)**, This paper outlines the challenges encountered by conventional toll collection systems in India and brings out the need for having an automated toll collection system such as FASTag, a program rolled out by National Highways Authority of India (NHAI) for Electronic Toll Collection on National Highways. Also, plans are afoot by the Petroleum Ministry and private Oil Marketing Companies that FASTags could be utilised by consumers for buying petrol at petrol pumps and even for parking facilities. **Dr. B. Karthikeyan, Mrs. P. Malini (2023)**, The NHAI constructs, develops and maintains the National Highways. The NHAI has setup toll plazas / toll gates to collect a fee called toll charge from the vehicle Drivers. The toll fee is charged to recover the expenses incurred to construct the toll road and also to maintain the same. this findings of the study, it is known that majority of the sample toll road users have realised the importance of toll roads. They are aware of the FASTag mechanism to a greater extent. It can be conducted that National Highways / Toll roads are really a boon for the people who would like to travel quickly and save precious time. **M. Manikandan, M. Selvakumar & P. Nagalakshmi(2023)**, The study focuses on the heavy vehicle holder's perception of FASTag in Sivakasi. It takes an effort to ascertain the perception of heavy vehicle holders. Through this analysis, the perception level and the expectations of the heavy vehicle holders also help to identify the problem that the vehicle holders are facing at toll plazas by using FASTag. The facility was identified that would impact its services for all the toll users, and Electronic Toll Collection (ETC) through FASTag was implemented to save fuel, time, and curb pollution as well as ensure the seamless movement of traffic. The move also encourages digital payments. **Chintaman Santosh Bari , Ashish Dhamaniya and Satish Chandra(2022)**, This study has identified the criteria that affect service performance of tollbooth operators. The criteria are endogenous and exogenous in nature, including safety, comfort, physical and mental health, etc. The tollbooth operators were asked about these criteria and how they affect their service performance. Based on their responses, a database was generated. This database has been analysed to prioritize the criteria affecting the service performance of tollbooth operator to provide a ranking. **Dr. S. Sukumar(2020)**, This paper outlines The Fastag facility is identified which would impact of its services for all the toll users. It is depending upon number of vehicle passed, kinds of vehicles, road condition, facilities offered for NHAI users, driving methods, safety measures taken by the NHAI for road users, weighting time, cash collection and returning the balance amount, passing speed of the vehicle, recharge of Fastag and reloadable tag which can be used at toll plazas. **Dr. Guru Basava Aradhya S, Dr. Lakshmi KS, Mr. Shantanu Paul**, This paper highlights the effectiveness of mandating FASTag in National Highway and Cross Border Toll Collection Centres and brings out the actual scenario of how people are facing the new technology and how the people serving this service is going through the chores of their work. This paper explains the working process of radiofrequency in FASTag, the use of Sun Pass and Eazee Pass, and its advantages and disadvantages. **Shreya M. Oza (2022)**, This paper is based on the descriptive study on Fastag, highlights FASTag is a boon for transportation as it makes movement barrier free and fast by reloading the tag and deducting toll charges automatically. It uses radio-frequency identification (RFID) technology to make cashless payments through a prepaid account linked to it. It is concluded that fastag making the movement barrier free and fast. **Vipul Bhavar, Vishakha Borkar, Tanvi Hirave, Harsh Vishwanathan, Ranjita Asati(2023)**, This article highlights the various fraud detection system regarding the automated toll collection and its theft. FASTag is seen as an advantageous mode of toll collection system in India offering numerous socio-economic and environmental benefits to both – the user and the collector, until its drawbacks or the challenges are not uprooted to the base, the module shall continue to face serious crunch and may not work as intended. The Focus is on the system which helps to find the fraudulent FASTag of the vehicle on the size of the vehicle. **Subbara Rahul Kumar, Thalari Siva Prasad, Zafar Ali Khan N(2022)**, This paper mainly focused on the Fastag RFID scam outlines that many scams were happening like coping the radio frequency identification sticker pasting to there vehicle by that the actual person who registered to that are losing the money for this we can register to our car register number plate to radio frequency identification for that the car number plate should be visible this should be made as a rule by National Highways Authority of India (NHAI) has warned people about the selling of fake FASTag online. **Sandeep Sehra(2021)**, This study focuses on the current scenario of the digital toll payment system and issues and challenges regarding the payment system in India. The Toll Plazas framework or Toll Management framework ought to be able in catching vehicle pictures and vehicle enlistment numbers. In light of the information models created from pertinent information sources and 'Vahan' data set, there would be a potential for concessionaires to tie up with the partaking banks in the ETC program to strategically pitch items like vehicle protection and advances.

**III. OBJECTIVE**

The study aims to assess the level of consumer awareness regarding FASTag in Coimbatore City and identify the common challenges users face while using the system. It seeks to evaluate consumer satisfaction, analyse the effectiveness of FASTag at toll plazas, and explore the demographic factors influencing its adoption. Furthermore, the study aims to provide actionable recommendations to improve the overall user experience, streamline the FASTag system, and enhance the efficiency of toll operations in Coimbatore City.

**IV. METHODOLOGY**

The research design for this study is analytical, employing a multistage convenient sampling technique. Initially, a comprehensive list of peoples in Coimbatore city was compiled, including students, employees, business peoples, professionals, homemakers, totalling 120 respondents. Data collection involved primary data gathered through a structured questionnaire and secondary data sourced from relevant journals and articles for literature review. For data analysis, tools including percentage analysis, Likert analysis, and rank correlation will be utilized. The study's area of focus is confined to Coimbatore city.

**V. ANALYSIS****1. Simple Percentage Analysis**

Based on the Simple Percentage Analysis we have the following findings:

**Table No 1.1 Table Showing Gender Of Respondents**

S.NO	PARTICULARS	NO.OF RESPONDENTS	PERCENTAGE
1	Male	55	45.8
2	Female	65	54.2
	<b>Total</b>	<b>120</b>	<b>100%</b>

(Source: Primary data)

Table 1.1 indicates that 45.8% respondents were male and 54.2% respondents were female. Majority 54.2% of respondents are female.

**Table No 1.2 Table Showing Occupation Of The Respondents**

S.NO	PARTICULARS	NO. OF RESPONDENTS	PERCENTAGE
1	Student	65	54.2
2	Homemaker	8	6.7
3	Employee	28	23.3
4	Business	16	13.3
5	Profession	3	2.5
	<b>Total</b>	<b>120</b>	<b>100</b>

(Source: Primary data)

The above table 1.2, shows that 54.2% respondents are Students, 6.7% respondents are homemakers, 23.3% respondents are employees, 13.3% respondents are business, 2.5% respondents are professions. Majority 54.2% of respondents are students.

**Table No 1.3 Table Showing Location Of The Respondents**

S.NO	PARTICULARS	NO. OF RESPONDENTS	PERCENTAGE
1	Rural	49	40.8
2	Urban	56	46.7
3	Semi Urban	15	12.5
	<b>Total</b>	<b>120</b>	<b>100%</b>

(Source: Primary data)

According to Table 1.3, 40.8% respondents are from rural, 46.7% respondents are from urban, 12.5% respondents are from Semi urban. Majority 46.7% respondents are from Urban.

**Table No 1.4 Table Showing Respondents Having Fastag In Their Vehicle**

S.NO	PARTICULARS	NO. OF RESPONDENTS	PERCENTAGE
1	Yes	90	75
2	No	30	25
	<b>Total</b>	<b>120</b>	<b>100%</b>

(Source : primary data)

Table 1.4 shows that 75% respondents have fastag in their vehicle, 25% respondents do not have fastag in their vehicle. Majority 75% respondents have fastag in their vehicle.

**Table No 1.5 Table Showing Vehicles Used By The Respondents**

S.NO	PARTICULARS	NO. OF RESPONDENTS	PERCENTAGE
1	Car	69	57.5
2	Bus	18	15
3	Lorry	18	15
4	Auto	12	10
5	Others (Two Wheeler)	3	2.4
	<b>Total</b>	<b>120</b>	<b>100%</b>

(Source : primary data)

The above table 1.5 shows that 57.5% respondents use cars, 15% respondents uses buses, 15% respondents use lorries, 10% respondents use auto, 2.4% respondents use two wheelers. Majority 57.5% of respondents use cars.

**Table No 1.6 Table Showing Respondents Mode Of Payment For Recharging Fastag**

S.NO	PARTICULARS	NO. OF RESPONDENTS	PERCENTAGE
1	Credit Card	17	14.2
2	Debit Card	42	35
3	Net Banking	35	29.2
4	Paytm Payment Bank	16	13.3
5	Neft/Rtgs/Upi	10	8.3
	<b>Total</b>	<b>120</b>	<b>100%</b>

(Source : primary data)

The above table 1.6 shows that 14.2% respondents use credit cards, 35% respondents use debit cards, 29.2% respondents use net banking, 13.3% respondents use paytm payment bank, 8.3% respondents use NEFT/RTGS/UPI. Majority 35% of respondents use debit cards..

**Table No 1.7 Table Showing Where Respondents Purchase Their Fastag**

S.NO	PARTICULARS	NO. OF RESPONDENTS	PERCENTAGE
1	Online	42	35
2	Car Dealer	42	35
3	Through Bank	24	20
4	Pos Centers At Toll Plaza	12	10
	<b>Total</b>	<b>120</b>	<b>100%</b>

(Source : primary data)

The data shown in table 1.7 indicates that 35% respondents purchase through online, 35% respondents purchase through car dealers, 20% respondents purchase through bank, 10% respondents purchase through POS centers. Majority 35% of respondents purchase Fastag through both online and car dealers.

**Table No 1.8 Table Showing Respondents Convenience For Payment**

S.NO	PARTICULARS	NO. OF RESPONDENTS	PERCENTAGE
1	Cash(In Hand)	28	23.3
2	Fastag(Digital)	92	76.7
	<b>Total</b>	<b>120</b>	<b>100%</b>

(Source : primary data)

The above table 1.8 illustrates that 23.3% respondents are convenient to pay through cash(in hand), 76.7% respondents are convenient to pay through Fastag(digital). Majority 76.7% of respondents are convenient to pay through Fastag(digital).

**Table No 1.9 Table Showing Factors That Influenced Respondents Towards Fastag**

S.NO	PARTICULARS	NO. OF RESPONDENTS	PERCENTAGE
1	Time Saving	59	49.2
2	Cashless Transaction	33	27.5
3	Sms Alert	22	18.3
4	Save Fuel	6	5
	<b>Total</b>	<b>120</b>	<b>100%</b>

(Source : primary data)

According to table 1.9, 49.2% respondents are influenced by time saving, 27.5% respondents are influenced by cashless transactions, 18.3% respondents are influenced by SMS alerts, 5% respondents are influenced by saving fuel. Majority 49.2% of respondents are influenced by time saving.

**Table No 1.10 Table Showing Whether Respondents Waiting Period At Toll Plaza Being Reduced**

S.NO	PARTICULARS	NO. OF RESPONDENTS	PERCENTAGE
1	Yes	65	52.5%
2	No	35	29.2%
	<b>Total</b>	<b>120</b>	<b>100%</b>

(Source : primary data)

Table 1.10 shows that 52.5% respondents waiting period have been reduced, 29.2% respondents waiting period have not been reduced. Majority 52.5% of respondents' waiting period have been reduced.

**2. Likert Scale Analysis:**

- 5= Fully Aware
- 4= Aware
- 3= Neither Aware nor Not Aware
- 2= Not Aware
- 1= Fully Not Aware

- 5= Strongly Agree
- 4= Agree
- 3= Neither agree nor disagree
- 2= Disagree
- 1= Strongly Disagree

**Formula:**

$$\text{Likert Scale} = \frac{\sum f(x)}{\text{Total number of Respondents}}$$

While,

f = Number of respondents

x = Likert scale value

$\sum f(x)$  = Total score

**Mid Value:**

Mid value indicates the middle most value of Likert scale. Based on the Likert Scale Analysis we have the following findings:

**Table No 2.1 Table Showing Respondents Awareness Towards Fastag**

FACTOR	NO. OF RESPONDENTS	LIKERT SCALE	TOTAL SCORE
Highly Aware	39	5	195
Aware	45	4	180
Neutral	29	3	87
Unaware	7	2	14
Highly Unaware	1	1	1
<b>Total</b>	<b>120</b>		<b>477</b>

(Source: Primary data)

Likert Scale Value Is 3.9, Which Is Greater Than 3, So The Respondents Are Aware Of Fastag.

**Table No 2.2 Table Showing Respondents Level Of Satisfaction**

FACTOR	NO. OF RESPONDENTS	LIKERT SCALE	TOTAL SCORE
Highly Satisfied	26	5	130
Satisfied	59	4	236
Neutral	20	3	60
Dissatisfied	12	2	24
Highly Dissatisfied	3	1	3
<b>Total</b>	<b>120</b>		<b>453</b>

(Source: Primary data)

Likert scale value is 3.7, which is greater than 3, so the respondents are satisfied.

**3. Rank Correlation:**

Based on the Likert Scale Analysis we have the following findings:

**Table No 3.1 Table Showing Ranking Of Factors**

S.NO	FACTORS	RANK I	RANK II	RANK III	RANK IV	RANK V	TOTAL SCORE	RANK
1	Time Saving	70 (1) 70	11 (2) 22	10 (3) 30	8 (4) 32	21 (5) 105	259	V
2	Cashless Transaction	11 (1) 11	69 (2) 138	15 (3) 45	12 (4) 48	13 (5) 65	307	IV
3	Lesser Waiting Time	8 (1) 8	26 (2) 52	60 (3) 180	11 (4) 44	15 (5) 75	359	II
4	Save Fuel	23 (1) 23	26 (2) 52	17 (3) 51	40 (4) 140	14 (5) 70	336	III
5	Environmental Friendly	34 (1) 34	16 (2) 32	15 (3) 45	9 (4) 36	46 (5) 230	377	I

(Source : Primary data)

The above table 3.1 shows that out of 120 respondents, environmental friendly is in the rank 1, Lesser waiting time is in the rank 2, save fuel is in the rank 3, cashless transaction is in the rank 4, Time saving is in the rank 5. It resulted that environmental friendly is in the rank 1 of factors that influencing towards fastag.

**Table No 3.2 Table Showing Ranking Of Problem Faced**

S.NO	FACTORS	RANK I	RANK II	RANK III	RANK IV	TOTAL SCORE	RANK
1	Server Problem	83 (1) 83	21 (2) 42	9 (3) 27	7 (4) 28	180	IV
2	Safety Of Card	15 (1) 15	62 (2) 124	39 (3) 117	4 (4) 16	272	III
3	Wrongly Charged	22 (1) 22	27 (2) 54	66 (3) 198	5 (4) 20	294	II
4	No Customer Redressal	30 (1) 30	37 (2) 74	16 (3) 48	37 (4) 148	300	I

(Source : Primary data)

The table 3.2 shows that out of 120 respondents, No customer redressal is in the rank 1, Wrongly charged is in the rank 2, safety of card is in the rank 3, Server problem is in the rank 4. It resulted that No customer redressal is in the rank 1 of most commonly faced problems.

## VI. FINDINGS

### 1. Percentage Analysis

- Majority of respondents are female 54.2%.
- Majority of respondents are students 54.2%.
- Majority of respondents are from Urban 46.7%.
- Majority of respondents have fastage in their vehicle 75%.
- Majority of respondents use cars 57.5%.
- Majority of respondents use debit cards 35%.
- Majority of respondents purchase through both online and car dealers 35%.
- Majority of respondents are convenient to pay through Fastag(digital) 76.7%.
- Majority of respondents are influenced by time saving 49.2%.
- Majority of respondents' waiting period was between 1 - 2 minutes 35%.

### 2. Likert Scale Analysis

- Likert scale value is 3.9, which is greater than 3, so the respondents are aware of Fastag.
- Likert scale value is 3.7, which is greater than 3, so the respondents are satisfied.

### 3. Rank Correlation

- It resulted that No customer redressal is in the rank 1 of most commonly faced problems.
- It resulted that environmental friendly is in the rank 1 of factors that influencing towards fastag.

## VII. SUGGESTIONS

To make FASTag even better in Coimbatore City, there are some things we can do. First, we need to help people more when they have problems with FASTag. Setting up a good system to quickly solve their issues will make things easier for everyone. We also need to tell more people about FASTag, especially those in rural areas, so they understand how it works and why it's useful. Making improvements at toll booths will help transactions go faster and make people happier. Giving rewards or discounts for using FASTag regularly could also encourage more people to use it. Lastly, working together with banks, car dealerships, and others can make it easier for people to get FASTag when they buy a car or get a loan. These changes can make FASTag work even better and make transportation smoother in Coimbatore City.

## VIII. CONCLUSION

The study shows that most people in Coimbatore know about and like using FASTag, especially young female students. They find it convenient and time-saving, preferring to pay digitally and waiting less at toll booths. But they have trouble getting help when they need it. By talking more about how FASTag helps the environment and making it easier to get help, more people might use it and like it even more.

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