



A study on client's satisfaction with fastag

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Abstract

With the intention of eliminating long queues and jams across the country, the Government of India (GOI) had decided to make it mandatory for all four-wheeler vehicles to install a FASTag on them. This tag would help them cross all toll plazas that are on the National Highways Authority of India without having to stop for cash payments. Eliminating the manual collection of tax in cash at toll plazas, the FASTag uses a Radio Frequency Technology Device (RFID) to detect the tag on a vehicle and deduct the amount from the linked digital wallet as the toll tax amount. FASTag system is more helpful to the toll users. It helps to avoid using cash, waiting in queue monthly recharge, access at any toll plaza and vehicle tracking system.

Keywords: fastag, satisfaction, eliminating, tracking system

Introduction

Introduction of electronic toll collection (ETC) system, commonly called FASTag in India, aims to decrease service time, delay, and vehicular emissions. The present study attempted to evaluate the success of FASTag over manual toll collection (MTC) under mixed lane traffic while considering service time as a measure of effectiveness. The results showed that the service time for FASTag lane varies from 0.12 seconds (s) to 13.12 s while for MTC lane 2.36s to 45.36 s. It is also observed that there is significant difference in service time with vehicle class in case of MTC and FASTag lane. Service time is minimum for a small car (SC) and maximum for the trailer when the vehicle passes through MTC lane. Further, the study revealed that with the use of FASTag lane, the average service time decreases by 77 percent. This ultimately reveals that a reduction in service time increases the throughput. The average increase in capacity is observed as about by 318 percent due to FASTag implementation.

Further, the service time-based tollbooth equivalency factors (STEF) are developed in the present study for the conversion of the different vehicle class into a standard vehicle, i.e., standard car. The STEF value ranges between 0.89 and 1.43 for the MTC lane and from 0.78 to 1.06 for the FASTag lane. Thus, the present study output will be used to check the capacity, level-of-service and pollution level at toll plazas due to implementation of FASTag system.

Our case study indicates that for IEC 61131-3 safetycritical control software, automated test generation can achieve similar code coverage as manual testing performed by industrial engineers but in a fraction of the time. The use of automated test generation in IEC61131-3 software development can potentially save around 90% of testing time. Even when achieving full code coverage, automatically generated test suites are not necessarily better at finding faults than manually created test suites. In our case study, 56% of the test suites generated using COMPLETE TEST found less faults than test suites created manually by industrial engineers. Overall, it seems that manually created tests are able to detect more faults of

certain types (i.e, logical replacement, negation insertion and timer replacement) than automatically generated tests. Using the detection of these specific mutations in addition to structural properties as the coverage criterion used by an automated test generation tool, we could generate more effective test suite.

Objectives of the study

- To examine the awareness of the users towards FASTag.
- To analyze the level of satisfaction of users

Research methodology

The study is based on primary and secondary data. The primary data had been collected from the respondents through questionnaire and secondary data is collected from articles, books, magazines and newspapers. The study is with the most regard to Coimbatore city. The sample size for the study is limited to 102 respondents. Convenience sampling technique is used for the study. The tools used for analysis are Simple percentage analysis, Weighted Average Method and Rank analysis.

Review of literature

Shivani Sawarkar Vidhita Kamble *et al* (2017) ^[1] conduct a study to review on online toll collection system based on optical character recognition the main objective of the project is to improve the efficiency an performance of the system the objective is which it will detect the number plate of the vehicle and through that, it will grasps all the information of the owner such as owner name owner contact details account no of the particular bank, etc.

Abhishek Sontakke (2019) ^[2] examined a study on Intelligent Automatic Traffic Challan on Highways and Payment through FASTag Card. This study aims in taking steps in the field of trafficking to initiate a hassle-free and most convenient way such as using (RFID) Radio Frequency Identification cards to pay at the toll plazas. The finding deals with the application of the latest technology of the FASTag which is beneficial in avoiding the traffic hassle

at the National toll Plaza. th the use of FASTag installed on the front windshield of vehicles, toll generation is made a fun job. Automatically, the toll charges are deducted from the FASTag linked to the vehicle.

B. Gayathiri [3] and Dr. K. Ravindran (2020)5 conducted a study on custome Discernment towards FASTag Implementation in Madurai District. The objective of this study was to analyze the customer discernment towards electronic toll collection systems and system payment methods. The methodology used in the study was primary and secondary data collection. The finding of this study was most responders have aware of the FASTag and its importance, and the majority of the vehicle are cars, vans and other kinds of four-wheelers that have the welfare.

N. Akshaya and Dr. R. Guna Sundari (2021)6 [4] in their article entitled, a study on passenger’s satisfaction using FASTag with special reference to Coimbatore city. The main objectives of the study was to understand the demographic characteristic of the people using FASTag and to examine the problems faced by the people due to the implementation of FASTag. They used the methodology of primary and secondary data collection. Hence, the finding has concluded that people using FASTag are more satisfied with the ease of payment in fastag

Analysis and interpretation

Table 1: benefits of using fastag

Benefit	Number of Respondents	Percentage
Time saving	39	38.2
Safety	14	13.7
Fast	13	12.7
All of the above	36	35.3
Total	102	100

Source: Primary data

Interpretation

from the above table it shows that 38.2 % of the respondents are benefit of time saving and 13.7 % of the respondents are

Table 4: satisfaction level of factors influencing usage of fastag (weighted average)

Factors	Highly Satisfied	Satisfied	Neither Satisfied or Not Satisfied	Dissatisfied	Highly Dissatisfied	Total	Weighted Average Score
Saves Time	52	43	5	0	2	449/102	4.40
E - Access	29	55	16	2	0	417/102	4.08
Avoidance of queue	47	37	14	3	1	432/102	4.23
Cash free transaction	34	52	13	2	1	422/102	4.13
Accident free zone	33	50	14	2	3	414/102	4.05
Saves fuel	24	56	19	2	1	406/102	3.98
Total Weighted Average							24.87
Weighted Average							4.145

Source: Primary data

Interpretation

From the above table inferred that cash free transaction provided by FASTag with a score of 4.13 was the factor that influenced most of the respondents to buy FASTag. It is Concluded that the factors influenced the respondents to buy FASTag had a weighted average of 4.145 which is close to cash free transation by FASTag with a weighted average of 4.13

benefit of safety and 12.7 % of the respondents are benefit of fast and 35.3 % of the respondents are benefit of all of the above.

Table 2: Problems Faced In Fastag

Problems in fastag	Number of Respondents	Percentage
Risk	9	8.8
Technical issue	41	40.2
Separate cost for vehicles	24	23.5
None of the above	28	27.5
Total	102	100

Source: Primary data

Interpretation

From the above table it shows that 8.8 % of the respondents is faced the problem of risk and 40.2 % of the respondents is faced the problem of technical issue and 23.5% of the respondents is faced the problem of separate cost for vehicles and 27.5 % of the respondents is faced the problem of none of the above.

Table 3: types of vehicles used in fastag

Types of Vehicles	Number of respodents	Percentage
Car	75	73.5
Taxi	6	6
Lorry	13	12.7
Heavy trucks	8	7.8
Total	102	100

Source: Primary data

Interpretation

From the above table it shows that 73.5 % of the respondents using the vehicle for fastag is car and 6 % of the respondents using the vehicle for fastag is taxi and 12.7 % of the respondents using the vehicle for fastag is lorry and 7.8 % of the respondents using the vehicle for fasatg is heavy trucks.

Table 5: facilities to attract the customer in usage of fastag

Facilities	Number of respondents	Percentage	Rank
Online recharge	50	49	1
Cashless transaction	33	32.4	2
Spend tracking	16	15.7	4
Environmental friendly	15	14.7	5
Save fuel and time	22	21.6	3
All of the above	25	24.5	
Total	102	100	

Source: Primary data

From the above table it shows that 49 % of the respondents are attracted by facility of online recharge, 32.4 % of the respondents are attracted by cashless transaction, 15.7 % of the respondents are attracted by spent tracking, 14.7 % of the respondents are attracted by environmental friendly and 21.6 % of the respondents are attracted by save fuel and time and 24.5 % of the respondents are attracted the fastag by facility of all.

From the above table its shows that ranking the fastag facilities of online recharge is first rank, cashless transaction is second rank, save fuel is third rank, spend tracking is fourth rank and environmental friendly is fifth rank.

Findings

- Majority (43.1 %) of the respondents are know the fastag in advertisement.
- Majority (38.2 %) of the respondents have benefit in using fastag is Time saving.
- Majority (51 %) of the respondents has spent amount in fastag tollgate entries is less than Rs. 1000
- Majority (40.2 %) of the respondents faced the problem in using the fastag is Technical issue.
- Majority (91.2 %) of the respondents are satisfied with usage of fastag
- Majority (37.3 %) of the respondents are using fastag offen.
- Majority (73.5%) of the respondents type of vehicle using for fastag is car.
- Majority (56%) of the respondents factor influencing usage of fastag is save fuel
- Majority of the respondents prefer rank 1 for the facility of fastag is online recharge
- Majority (52.9%) of the respondents overall satisfaction level of using the fastag is Satisfied.
- Majority (59%) of the respondents facilities to attract the customer is online recharge.

Suggestions

- Fastag is good option for the persons who are travelling on Highway roads.
- There are used by many of the peoples
- The fastag satisfies the customer by saving them time and fuel.
- There must be cash collection and also automated collection for fastag users
- Fastag is very useful for its users it saves their time and cashless transaction

Conclusion

Fastag makes travelling makes through toll gates a lot faster, more secure, is user friendly. Fastag Toll has decreased the problem of waiting in long queue by automatically sending bills to the account of the user on the website. This system will provide a safer journey of passengers and saves times. Fastag makes advantage of both user and collector. Automated process of toll collection will save time, effort, and man power. Automatic toll collection which speeds up the toll collection process and hence reduces the traffic jams at the toll plaza.

FASTag system is more helpful to the toll users. It is helps to avoid using cash, waiting in queue, monthly recharge, access at any toll plaza and vehicle tracking system. Vehicle owners and driver felt the system is good, requested to simplify the procedures, not able to solve the problem

whatever happen in FASTag payment because it is not easy to reach officials to get clarification.

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