

# Assessing Socio-Economic Conditions, Factors Influencing Choice of Profession & Entrepreneurial Traits of E-Rickshaw Drivers

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## Abstract

E-Rickshaws are battery operated 3 wheelers popularly called totos in West Bengal and are being increasingly recognized as para transits. Over the years the toto services have proliferated in various Indian states including West Bengal. They are mainly suited for small towns, tier II, tier III cities and offer people an alternative as well as supplement for bus services and other means of transport for short distances. People prefer this mode of transport for their easy availability, availability within small time gaps (or short waiting times), flexibility of the routes and affordable fare. Their growth has also been supported by the Government since they lessen the environmental pollution by not emitting harmful gases. State Governments all over India as well as other countries are encouraging the E-Rickshaws as an Alternative Energy Vehicle. The E-Rickshaws have been able to generate employment opportunities for a number of people in recent times. It has been observed in recent years that the pedaling cycle rickshaws are disappearing from the towns and small cities and are replaced by E-Rickshaws. A number of cycle rickshaw pullers have been converted into E-Rickshaw drivers and also there are a lot of new entrants to this unregulated area of transportation. This paper will attempt to study the socio-economic backgrounds of the toto drivers and factors that fuelled their entry into the profession. The paper will also take into account the presence of entrepreneurial traits of the toto drivers. These traits will determine their chances of turning to entrepreneurs in the field. The study is set on a small town Uttarpara, in Hooghly district, about 10 km from Howrah.

**Keywords:** Para transit, E-Rickshaws (totos), Environmental Pollution, Entrepreneurship

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## Introduction

### *Para transit*

The meaning of the Greek word “para” means alongside. Para transit system is considered an

alternative and informal means of transit in many countries across the globe. They run parallel to the formal means of transportation like trains, bus services etc. Their popularity has increased phenomenally across India as the formal means of transport are overburdened with the rising

population availing them daily. Para transits fill up the gap created by the formal transport services through their easy availability, short waiting times and ability to get into narrow lanes where other means of transport fail to ply. A study by (Madhu, 2013) in Kochi finds that there are two types of services which are offered by the para transit systems – one running on a definite route with scheduled stops to enable passengers to get up and get down and the other is a door to door service from any pick up area to the desired destination of the passengers.

### *E-Rickshaws*

One of the most popular means of para transit is the E-Rickshaws or electric rickshaw. It is a three wheeled battery operated vehicle which was first introduced in India by the Exide industries. It has a 4 seater capacity at the back and an additional seat in front along with the driver (the additional seat is not an authorized seat). The vehicle has reverse gears and a hand brake or a foot brake and a full front safety glass as in a car.

The E-Rickshaws or totos as they are called in West Bengal have a clear advantage over other para transits mainly autos in that they do not contribute to environmental pollutions by emitting toxic carbons. This has added to their popularity and they currently comprise of 83% of the electric vehicle market in India. According to a 2019 estimate, India has an average of 15 lakhs E-Rickshaws and an average sale of 11,000 every month (Gupta, 2021). The reasons behind the mushroom growth of totos in India are many: socio-economic, political and environmental. The totos are affordable options to many than buying an auto and the maintenance costs are also substantially lower than the autos. Thus it is found that many unskilled persons are buying totos and driving them for earning their livelihood. So, the E-Rickshaws are generating employment opportunities for many

unskilled persons with low education levels in small towns and cities and contributing significantly to the economic graph (Priye et al, 2021). Malik et al (2018) in his study of E-Rickshaw drivers in Delhi found that even with low educational levels, they are able to raise their socio-economic status by earning fairly. At the same time, it is seen that a considerable number of cycle rickshaw pullers are also entering the profession mainly because of the low physical labour that needs to be given to drive E-Rickshaws. The low physical labour and little special training required to drive e rickshaws attracts people of all ages and sex to join the profession. At the political level, there have been many supportive policies from the Central and State governments like National Urban Livelihood Mission, 2013, National Electric Mobility Mission, 2013 to encourage persons to enter the profession of driving E-Rickshaws. Easy loans, subsidies offered by the state Governments are also facilitating the buying of the vehicles and driving them. The environmental benefits of minimizing air pollution and noise pollution have also contributed to the totos emerging as a winner in the arena of para transit systems.

### *Environmental Pollution*

Air pollution poses a serious threat to our health. Breathing polluted air may even lead to death. Of all the carbons that are emitted in India and cause air pollution, 11% comes from the transportation. The air pollution in India has reached such phenomenal levels that World Health Organization has identified 14 cities in the country among the 20 most polluted cities across the globe. The more the petrol and diesel driven vehicles are crowding Indian roads, the more is the intensity of air pollution. The E-Rickshaws are a respite in this regard as they are battery driven and do not emit carbons and add to environmental pollutions. The Government of India is taking initiatives to transform the current public transportation system

in the country to a clean, green energy driven transportation vehicles. Thus, the E-vehicles have much potential for growth in the coming years. The E-Rickshaws are therefore likely to exist as an important mode of para transit in the country in future.

### *Entrepreneurship*

An entrepreneur is an individual who has initiatives and can plunge into a business venture by taking risks and by making use of the available opportunities. A number of schemes are available in India which encourages entrepreneurship in different fields including E transportation like The Women Entrepreneurship Platform (WEP), Swarojgar Credit Cards, Pradhan Mantri Mudra Yojana. The Government of West Bengal has implemented a scheme under FAME II since 1<sup>st</sup> of April, 2019 in order give a momentum to the adoption of electric vehicles by offering an incentive on the purchase of such vehicles. The scheme also aims at establishing necessary charge infrastructure. The scheme needs to get popularized through the media so that more people are aware about the scheme and are motivated to buy E vehicles under the scheme. A number of banks like PNB, SBI, and Bank of India are offering loans to interested individuals for meeting their short term working capital requirements.

### **Review of Literature**

The E-Rickshaws were first seen in India during the Commonwealth Games in 2010 in New Delhi. They gained popularity in the year 2015. Singh (2014) investigated the socio-economic implications and technical characteristics of claiming normalization of state E-Rickshaws in an article entitled "Study on Battery-powered E-Rickshaws in Delhi". Attempts have also been made to understand the role of industry in urban employment and income generation and the

various issues that affect the system. The study inferred that 37 per cent of the E-Rickshaws drivers were either unemployed or were cycle-rickshaw pullers before turning to the profession. Another 21 per cent were working in small factories as daily wage laborers and had low job security and high level of physical work. It was also found that about 89 per cent of the E-Rickshaws drivers experienced an increase in their income after they entered the profession.

The Times of India (Jan 2016) reported that the invention of toto is a stellar achievement in the country's history. It said that the toto is an inexpensive, uncomplicated, pollution free, easy to operate vehicle that has emerged as a clear winner in the transportation arena of India.

Throughout the world, the vehicles contribute to a very high level of air pollution which in turn increases global warming. It is thus necessary to look for vehicles which will contribute to a green environment by reducing pollutions through carbon dioxide emissions. The E-Rickshaws or the tolos address the issues of environmental pollution. The increasing number of vehicles and the decreasing land size make ordinary people think on alternative energy vehicles (Kapoor and kapoor, 2017) and tolos are one of them.

Jamil (2017) reported that a new transport called E-Rickshaws are becoming popular in the roads of Delhi, Haryana, U.P, West Bengal, Bihar and Orissa for travelling short distances specially near metro stations, markets, schools, colleges, rail stations, bus stops etc. They are supplementing and at times becoming an alternative to the existing transport system in the locality.

A study on toto operators in two adjacent municipalities in West Bengal by Chaudhuri et al. (2019) reported that the lure for entering the profession of E-Rickshaws driving mainly comes

from the fact that it generates a stable steady income enough to sustain a nuclear family. The author found that one of the influencing factors for entering the profession is that the job is less laborious in comparison to other jobs and do not have a fixed timing. Owning an E-Rickshaw is influenced by the availability of easy loans and easy repayment schemes of various banks like PNB Green Ride. The generation of stable income is supported by the Urban Transport Income Report (2015) which stated that an E-Rickshaws driver is able to earn a monthly income higher than the minimum wage level specified by the Govt. of India. The drivers who are also the owners of the vehicle are able to earn even more.

Saxena (2019) in his study on E-Rickshaws opined that the E-Rickshaws are already widely acknowledged in India as a means of “last mile connectivity”. Their growth over the years have ensured a reduction of air and noise pollution, reduction in the import bill of LPG and generating employment for the unskilled, semi-skilled young urban uneducated poor.

Priye et al. (2021) in their study on socio economic backgrounds of E-Rickshaws, Cycle Rickshaw, Auto Rickshaw drivers found that females are entering the profession of E-Rickshaws by breaking the social stigma with support from the Government. They also reported low educational backgrounds of all the three types of drivers. They inferred that since high education, high skill and huge capital are not required in the profession, E-Rickshaws attract a large number of persons to enter the profession for earning a decent livelihood.

The E-Rickshaws are attracting quite a number of people to become small entrepreneurs. Low cost parts are imported from China and are assembled in the body in India to produce E-Rickshaws at an affordable price (Saxena, 2019).

## Research Gap

Limited studies have been carried out in the study area on the socio-economic conditions and different factors which influences a person's entry into the profession of E-Rickshaw driving. Former studies have not addressed the entrepreneurial traits in the E-Rickshaw drivers.

## Research Objectives

1. To find out the socio-economic background of the respondent E-Rickshaws (toto) drivers of Uttara Para Kotrang Municipal area.
2. To find out the factors that fuelled the E-Rickshaws (toto) drivers' entry in the profession.
3. To find out the entrepreneurship spirits of the E-Rickshaws (toto) drivers.

## Research Methodology

*Sampling Type:* Purposive sampling technique (due to lack of sampling frame) has been used to collect responses from a sample of 103 E-Rickshaws (toto) drivers with the help of a structured questionnaire.

*Sample size:*

Cochran (1977) Formula has been used to calculate a representative sample for proportions:

$$n_0 = (z^2 p q) / e^2$$

Where,

$n_0$ : is the sample size,

$z$ : is the selected critical value of desired confidence level,

$p$ : is the estimated proportion of an attribute that is present in the population,

$q = (1 - p)$ ,

$e$ : is the desired level of precision.

*Modification for the Cochran formula for sample size in smaller populations*

$$n = n_0 / 1 + [(n_0 - 1) / N]$$

Confidence = 95%

Margin of error = 0.05

*Required sample size = 80*

*Research Design:*

*Primary Data:* Primary data was collected with the

help of a structured questionnaire.

*Response rates and Sample description:*

103 toto drivers driving their totos in the Uttarpara Kotrang Municipal area were approached with a structured questionnaire. 88 of such respondents provided complete answers to all questions in the questionnaire. The overall response rate was 85.4%. A breakdown of response rates can be seen in Table-1. Mangione's (1995) model (Bryman, 2008, p. 219) rates this as an excellent response rate (Table-2).

**Table-1:**

Number of respondents approached	Number of complete responses	Response rate (%)
103	88	85.4

**Table-2: Mangione's Classification of Bands of response rate**

Over 85%	Excellent
70-85%	Very good
60-69%	Acceptable
50-59%	Barely acceptable
Below 50%	Not acceptable

Source: Bryman, A. (2008). *Social Research Methods (3rd edition)* Oxford University Press.

**Socio-economic profile**

*given below in table number 3*

*The Socio-economic profiles of the respondents are*

**Table – 3**

**Socio-economic profile of E-Rickshaw drivers [N=88]**

Gender	No. of Respondents
Male	85 (97%)
Female	3 (3%)
Age (years)	No. of Respondents
Less than 21	6 (7%)
21-30	22 (25%)
31-40	23 (26%)
41-50	30 (34%)
51 and Above	7 (8%)

Highest Educational Qualification	No. of Respondents
Elementary	9 (10%)
Up to primary	17 (19%)
Up to Secondary (10th)	27 (31%)
Higher Secondary (12th)	29 (33%)
Graduation and above	6 (7%)
Marital Status	No. of Respondents
Married	45 (51%)
Unmarried	34 (39%)
Widowed/divorced	9 (10%)
Drivers' Home State	No. of Respondents
Local	58 (66%)
Migrant	30 (34%)
Monthly Earning of E-Rickshaw (toto) Driver	No. of Respondents
Upto Rs. 5,000/-	13(15%)
Rs. 5,001/- Rs. 10,000/-	51 (58%)
Rs. 10,001/- & above	24 (27%)
Status of Owing E-Rickshaw (toto)	No. of Respondents
Owns	39 (44%)
Rent	49 (56%)
No. of Months in Driving	No. of Respondents
Up to 12 months	17 (19%)
13 – 24 months	14 (16%)
25 – 36 months	16 (18%)
37 – 48 months	19 (22%)
49 - 60 months	13 (15%)
61 months and above	9 (10%)
Fulfillment of Family Needs by Earnings	No. of Respondents
Easily Manage	56 (64%)
Cannot Manage	32 (36%)
Total Number of Family Members	No. of Respondents
1 - 3	36 (41%)
4 - 6	41 (46.5%)
>7	11 (12.5%)



Previous Occupation	No. of Respondents
Fresh	16 (18%)
Rickshaw Pullers (Pedaling)	45 (51%)
Wage earners	9 (10%)
Self-employed (Other than Rickshaw puller)	18 (21%)

Source: Primary survey data

The data on socio-economic profile found that 97% of the E-Rickshaw drivers were males and 3% were females, showing the entry of female drivers in the male dominated profession, however small the representation might be as of now. The females are beginning to break the social and cultural impositions on them and entering into professions which were dominated by males. With respect to the age distribution, it is seen that maximum representation that is 34% of the drivers belonged to the age range 41 to 50 years, whereas 26% and 25% of the drivers belonged to the age range 31 to 40 years and 21 to 30 years respectively. There were only 7% of the drivers who were below 21 and 8% were above 51 years of age. 33% of the E-Rickshaw drivers were educated till the higher secondary level and 31% were educated up to the secondary level. 7% of the drivers were found to be graduates and 10% and 19% were with elementary education and primary education respectively. This reveals that the profession is not necessarily comprised of people with low educational levels as compared to previous studies. 51% of the E-Rickshaw drivers were married while 39% were unmarried and 9% were found to be widow/widower or divorced. 66% of the drivers were local inhabitants compared to 34% of the

drivers who were migrants and whose families migrated to this town in search of a livelihood. 58% of the E-Rickshaw drivers had a monthly income between 5000 INR and 10,000 INR, whereas 27% reported that their monthly income exceeded 10,000 INR. A meager 15% reported that their income was till 5000 INR which was attributable to part time driving and not getting enough commuters in specific routes. 64% of the drivers reported that they could easily fulfill the needs of the family with their income while 36% of the drivers opined that they found it difficult to meet family needs especially in cases where the family size is large. The study found that 51% of the E-Rickshaw drivers were cycle rickshaw pullers who switched profession. This explains the phenomenon of gradual disappearance of cycle rickshaws from the town over recent years. 18% were fresh entries in the profession, 10% of the drivers worked as labours in factories against wage and 21% were self-employed in various ventures. 56% of the E-Rickshaw drivers took their vehicle on rent and drove them whereas 44% drivers were the owners of the vehicle they drove.

*Scale used:* Nominal (yes / no) and five point Likert scale (adapted) ranges from 1 to 5.

**Table-4**

Scale Range	Responses
5	Strongly Agree
4	Agree
3	Neutral
2	Disagree
1	Strongly Disagree

*Secondary Data:*

External secondary data from public sources were used. i.e., articles, journals, books, internet etc.

*Period of Study:*

Data collection took approximately two months

October, 2021 - December, 2021).

## Analysis & Discussion

*Motivating factors behind becoming an E-Rickshaw driver:*

**Table-5**

Factors	Response	
	Frequency	%
Unavailability of other jobs due to low education level	45	52%
Lack of money to invest in capital intensive business ventures	47	54%
Sudden loss of previous job	7	8%
Long hours of physical labour at previous employment	52	60%
Ease of getting an E-Rickshaw on rent and driving it	48	55%
Stable income with flexible working hours and low physical labour	80	91%
Ease of entering the profession any time and at any age because of absence of regulations	78	89%
Limited training required to drive an E-Rickshaw	82	93%
Ease of purchasing an E-Rickshaw under various Govt. schemes	30	34%

*Source: Primary survey data*

The E Rickshaw drivers were asked about the factors that influenced them to enter into the profession. 52% opined that they were in this profession due to unavailability of other jobs since their educational qualification was low. 54% of the respondents were deficient of enough money to invest in capital intensive business ventures while 8% said they were forced to enter the profession for a livelihood after they lost their previous jobs. 60% opined that long hours of physical work at previous employment influenced them to enter this profession. This stands particularly true for those Cycle Rickshaw pullers who have switched the profession. 55% of the respondents opined that the ease of renting an E-Rickshaw and driving it was the stimulating factor for taking up the profession. This is in agreement with similar studies which showed that renting an E-Rickshaw and driving it allows the driver to forego the issues of

maintenance of the vehicle and secured keeping of the vehicle. Assurance of a stable income with flexible working hours and low physical labour in the profession influenced 91% of the respondents to take up the profession while 89% of the respondents thought that the flexibility to enter the profession at any time and age and absence of regulations have lured them to be a part of the profession. 93% respondents opined that the limited training needed to drive an E-Rickshaw influenced them to be E-Rickshaw drivers. Only 34% of the respondents said that they entered the profession because of the ease of purchasing the E-Rickshaws under various Government schemes. This shows that there is a need on the part of the Government to raise awareness regarding the availability of various schemes to purchase these alternate energy transport vehicles.



*Self-perceptions of benefits of the profession (E-Rickshaw):*

Table-6

Statement	Response	
	Frequency	%
Secured occupation as compared to previous occupation	55	63%
Better living condition from that of the past	46	53%
Change in social status from that of the past	63	71%
Increased income from previous occupation	61	69%

Source: Primary survey data

Speaking about the benefits of being an E-Rickshaw driver, 63% of the respondents considered it a secure occupation than that of their previous occupation and 53% opined that there has been an improvement of the living conditions. 71% were of the opinion that there was an upliftment in the social status from that of the past. This holds true especially for the ex-cycle rickshaw pullers and the wage earners. Driving an E-Rickshaw on

rent and owning and driving it were both considered prestigious when compared to past occupations. 69% of the respondents experienced an increase in income levels when compared with their past occupations.

*Entrepreneurial traits E-Rickshaw (toto) drivers believe they possess:*

Table-7

Entrepreneurial Traits toto drivers believe they possess	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
Self confidence	3	7	12	21	45
Independence	3	4	5	13	63
Determination	3	2	4	23	56
Initiative	5	6	5	19	53
Risk taker	2	3	8	10	65
Foresight	3	4	10	22	49

Source: Primary survey data

Six entrepreneurial traits – high self-confidence, desire to be independent, strong determination, initiative, risk taking ability and having a foresight, were taken and the E-Rickshaw drivers were asked whether they believe they possess them. 51% strongly agreed that they have self-confidence, 72% strongly agreed that they have the desire to be independent, 64% have strongly agreed that they were determined, 60% strongly agreed that they possess initiatives, 74% strongly agreed that they could take risks and 56% strongly agreed that they

possess foresights. With the increasing importance of E-Rickshaws as an effective para transit and the Government of India emphasizing on the needs of the alternate energy transports, entrepreneurship opportunities in the field is also gaining prominence both in the domain of sellers as well as the users (Chandel & Shrotriya, 2019). Thus, this component was added in the questionnaire to find out the entrepreneurial traits the respondents and their desire to become entrepreneurs in future.

### Research Findings

- 33% of the E Rickshaw drivers were found to be educated up to the higher secondary level and 7% were graduates. This points out to the fact that E-Rickshaw driving is not restricted to persons with low or no education only. In these trying times where unemployment levels are high in the state, E-Rickshaw driving is a potential option to many youths to earn their breads.
- It is notable to find out that about 51% of the E-Rickshaw drivers were previously cycle rickshaw pullers. This shows that the cycle rickshaws are gradually decreasing from the town and their place is taken by the E-Rickshaws. E-Rickshaws have several advantages over the traditional cycle rickshaws. The E-Rickshaws require lesser manual labour, provide greater speed, better seats, ability to carry 4 to 5 passengers at a time, provide an overhead roof to the drivers to save him from the blazing sun and rain.
- The entry of women as E-Rickshaw drivers is noted in the study. The taboo of keeping women restricted to certain professions only is gradually fading. Women are taking up the profession of E-Rickshaw driving and helping their families with the earnings equally as men.
- 64% of the E-Rickshaw drivers reported that they are able to manage their families well with the income from their profession indicating that the profession offers individuals a secured and stable income. The respondents not only experienced a stable income but also were able to have better living conditions and the status in

the society also improved.

- The ease of driving the E-Rickshaw which requires a minimum training has been the most influential factor for entering into the profession for most of the drivers in the study. Other factors were the guarantee of earning a stable income with flexible working hours and the ease of entering the profession at any age.

### Conclusion

The study showed that the E-Rickshaws have gained importance as affordable last mile connectivity in the small town of Uttarpara and has created employment opportunities for many urban youths as well as aged persons who are physically fit. Within a span of few years the E-Rickshaws have become very popular and have attracted large number of persons to enter the profession. Women are also entering the profession and driving vehicles efficiently as their male counterparts. There has been appreciable increase in the earning, living standards of the E-Rickshaw drivers in the area. The Government needs to provide more financial assistance and increase awareness regarding such schemes so that the drivers are lured to own the vehicles and not only drive them on rent. The lowering of cost of the batteries, batteries that charge faster, greater longevity of the batteries and overall lowering of the maintenance cost can enable more drivers to become owners thereby increasing their income levels. The respondents have shown their entrepreneurial traits and there lies immense scope for entrepreneurship in the E-Rickshaw business. The Government needs to provide assistance to nurture the entrepreneurial spirits of the E-Rickshaw drivers. Most of the E-Rickshaws that ply in the area are unregistered. There is a need to regularize these vehicles by registering them with the municipality. Production of safe standardized vehicles should also be encouraged so that this green, pollution free mode

of transport turns out to be a sustainable one.

### Recommendations

- There should be adequate charging points at strategic locations in the town so that the E-Rickshaw drivers can charge their vehicles easily. Lack of charging facilities have been a constraint in buying of E-Rickshaws.
- The price of the battery to be reduced so that more drivers can afford to own the E-Rickshaws.

### Limitations

- The population was limited to Uttarpara Kotrang Municipal area only.
- Respondents may have their own biasness towards answering the questions.
- Purposive sampling method has been used; generalization needs to be done cautiously.

### Scope for Future Research

As most of the E-Rickshaws that ply in the area are unregistered, there is a need to register these vehicles so that their exact numbers can be ascertained and future researchers get a scope of availing the sampling frame. That will enable them to go for a random sampling and help them to find out the association between different variables and arrive at a generalization. The present study has not taken into account the perceptions of the E-Rickshaw users. Future Research can take into account how the E-Rickshaws are viewed by the users to meet their transportation needs and their recommendations if any, and incorporate those for the improvement of services of the E-Rickshaws.

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