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A STUDY ON DEVELOPING A TAXI SERVICE FOR WOMEN TO DECREASE THE CRIME RATE

***Annotation.** The present study aims to understand the levels of women's public safety and the demand for an exclusive women's taxi service. The study is based on primary data collected from 52 female respondents (majorly working) of various cities including Bengaluru, Hyderabad, Delhi, etc. The five-point response category of the Likert type has been used for examining the responses. With the help of percentage analysis and various chart representations, data has been analyzed. The empirical results indicated that 67% of responses faced inconvenience during public transport usage. In fact, most of the women expressed their need for a women's taxi service with additional safety features like a GPS tracking system, shatterproof glass, easily accessible emergency buttons, etc. and they are also ready to pay a premium amount for these features. This means that many of the women will choose an exclusive women's taxi service over a regular taxi service if provided. Limitations and business models have also been discussed.*

Keywords: *Crime Rate, Women public safety, Exclusive Women Taxi Service, Female Respondents, Public Transport.*

Introduction. Violence is being experienced by women of all ages and social classes, all races, and nationalities, across the world. It is overwhelmingly perpetrated by this male-dominated society. In fact, it's one of the most pervasive violations of human rights in the world today. A significant number of women and girls face harassment or violence during the day, particularly at night and in crowded spaces such as metros or buses. Approximately, seventy-five percent of bus journeys are undertaken by women and every one in three of them has experienced any kind of physical or sexual violence.

A major study by Madan and Nalla (2016) in Delhi, the capital city of India, involving 1,387 men and women who availed public transport found that 38% of the women, had been harassed while 79% reported the same while waiting for a bus or cab at bus stops. Even cab services with male drivers have bad stories to look for.

Table 1

**The crime rate against women (IPS=SLL)
in metropolitan cities of India: 2017-2019**

City	2017	2018	2019	Rate of total crime against women (2019)+
Bengaluru	3565	3427	3486	54.4
Chennai	642	761	729	16.9
Delhi	11542	11724	12902	170.3
Hyderabad	2272	2332	2755	73.5
Mumbai	5453	6058	6519	76.5
Pune	2032	1481	1390	58.1

Crime rate: Delhi has reported the highest number of crimes against women among all the metropolitan cities of India despite the overall crime rate in it dipping by 16% in 2020 as compared to 2019.

Transportation scenario in India. Presently, India is encouraging sustainable urban development and thus, is promoting sustainable modes of transport like metro rail, light rail system, etc. But these facilities are available only in a few Indian cities. Hence, public buses have become important, and in most cities, the only mode of public transport. Moreover, as a developing nation, India has witnessed an increase in the literacy rate of women over the years and a subsequent increase in the female workforce participation rate (WFPR). The female WFPR increased from 9.2 percent in 1992 to 11.9 percent in 2001 and even further to 15.6 percent in 2011 (Census of India, 2011). With the increase in working women's rate, the demand for safe public transport for enabling them to commute to their workplace is also raising continuously.

Review of Literature. Meghna Verma, et al., (2019) have studied the women's perception of safety in public buses with respect to Ahmedabad and Bangalore cities. Their analysis resulted that most of the women felt unsafe traveling the latght. In Ahmedabad, out of the women who feel safe in buses, a quarter of the women have experienced at least one issue while commuting in a bus. Their article also discussed at the end that further research can be done by extending the study area and capturing the perception of women in other cities of India as well.

An investigation by Rohana Sham, et al., (2013) aimed to determine the exact location of crime among women commuters and found that along the journey, walking to and from the bus stop was considered a critical point where most crimes happen. The second hot spot crime area is while waiting for the bus at the bus stop.

There is also a very high positive correlation ($=0.96$) observed between the total number of crime incidents and incidents of crime against women (Dr.Rambooshan Tiwari 2019). Despite the number of crimes, only 1% is being reported to the police (Aashish Gupta 2014). As per National Family Health Survey (NFHS) data every third of Indian women within the age group 15 to 49years experience physical and sexual violence. However, it is neither well understood nor sufficiently challenged but often tolerated by society. Hence there is a need for societal and legal changes to address the shortcomings.

Many of the women despite having sound educational qualifications are willing to take charge as female drivers because most (73.8%) of the women are single or lack financial support for their household—they are single mothers, widows, or divorcees—and 85.48% have children to bring up (Luis David Berrones-Sanza, et al., 2019).

Research Methodology. Significance of the study. A study on developing a taxi service for women to decrease the crime rate reveals the ratio of criminal actions and violence taking place against women in the present society. It also identifies the core locations where women are feeling insecure to travel or choosing a transportation service. This study acts as a useful diagnostic instrument for assessing the causes and problems behind the crime rate against women. The findings from the study help the entrepreneurs to form a business idea to decrease the crime rate as well as create employment opportunities for women especially.

Objectives of the study:

1. To understand the experiences of women with public transport.
2. To know the women's perception and awareness of the women's taxi services.
3. To understand the expectations of women from the women taxi service provider.

4. To identify the demand for women’s taxi services.

Sampling Method. The present investigation is an exploratory study undertaken to understand the crime rate against women, especially during traveling.

Sampling Design. The survey covered 52 female respondents. These people are heterogeneous in nature with different ages, locations, and working statuses. The majority of the respondents are working women and college-going girls. The sample is categorized to cover all demographic and chronological factors of the respondents.

Table 2

Demographic Profile of the respondents

Demographic Variable	Category	Number of Respondents	Total
Age range	18-24 years	36	52
	25-32 years	13	
	33-40 years	2	
	41 years and above	1	
Educational Qualification	PU	3	52
	UG	19	
	PG	30	
Description	Working professional	25	52
	Student	25	
	Homemaker	2	
Most likely preferred transportation mode	Public transport	12	52
	Cab	18	
	Self-Vehicle	22	

The Tool. The tool of the study consists of a set of 21 questions related to the title of the study which is administered to the respondents to assess their attributes, opinions, information, and perception which are needed for the project.

Collection of data. Data is collected from two types of sources. They are primary data and secondary data.

PRIMARY DATA: Primary data is collected from different categories of females by distributing questionnaires that consist of 21 questions each. The investigator distributed the questionnaire by meeting customers personally and also with the support of online for collecting the data by clearly explaining the purpose of the survey. The survey covers 52 female respondents.

SECONDARY DATA: The data was collected by referring to the relevant research papers, articles, and books related to the study. Websites were also used to obtain accurate information.

Limitations of the study:

1. Due to Covid-19 norms, the majority of the fieldwork couldn't be performed.
2. Converting qualitative data into quantitative data may often lead to inaccurate results.
3. Few respondents were uncomfortable revealing their experiences while answering the questions.

1. Data Analysis.

Table 3

Showing data analysis of the study

Question	Options provided	Response Percentage
How frequently do you use the public transport service per day?	Once	53.8%
	Twice	34.6%
	Thrice or more	11.5%
Have you ever faced any	Yes	67.3%

inconvenience during public transport usage?	No	32.7%
What is the main reason you wouldn't use the taxi service in general?	Price range	67.3%
	Discomfort	26.9%
	Bad past experience	5.8%
What would you prefer more?	Public transport	34.6%
	Private transport	32.7%
	Secured taxi service	32.7%
Do you think that public transport is safe for traveling especially for women?	No	40.4%
Your overall satisfaction in terms of safety regarding public transport.	Neutral	51.9%
If there are two options, which one would you choose?	Taxi service with a male driver	7.7%
	Taxi service with a female driver	92.3%
Have you ever experienced any attack or misbehaving during the traveling?	Yes	21.2%
Why do you usually prefer public transport in general?	Availability	34.6%
	Fair Prices	36.5%
	Safety	28.8%
Have you ever traveled by women's taxi service?	No	82.7%
On a scale of 1 to 5, how frequently would you choose a women's taxi service over a regular taxi service? (5 being	1	11.5%
	2	0%
	3	26.9%
	4	13.5%

the highest value).	5	48.1%
Which factor may disappoint you from choosing a women's taxi service?	Price	3.8%
	Availability	67.3%
	Driver skills	28.8%
What additional safety features would you like to have in a women's taxi service?	GPS tracking	11.5%
	Easily accessible emergency buttons	9.6%
	In-car pepper spray	5.8%
	Shatter proof glass	0%
	All of the above	73.1%
Would you be willing to pay a premium amount for the above services?	Yes	61.5%
If a women's taxi service with a well-trained women driver is offered, will you choose it?	Yes	73.1%
	No	5.8%
	May be	21.2%

2. Findings of the study:

1. 34% of the sample size usually opts for cab services. This indicates that there is a good market for cab service providers.
2. In fact, in total 46% of respondents said they use transport service at least twice per day.
3. 35 respondents that are 67% of the sample agreed that they face inconvenience during public transport usage.

4. 67% of respondents admitted that they are concerned about the price ranges of taxi services. This shows if a comfortable taxi service with reasonable prices is offered, women are most likely to use it.

5. 32% of respondents said they would prefer a secured taxi service if offered. This also indicates the demand for women's taxi services.

6. Approximately 93% of respondents said they will choose a taxi service with a female driver over a male driver if provided. Because 21% of them felt insecure or experienced misbehaving during their rides.

7. In fact 34% of respondents usually prefer public transport for its easy availability. This indicates they would also opt for women's taxi service if it's easily available.

8. The scarcity of exclusive women's taxi services in the market can be supported by the finding that 82% of the sample never traveled by it.

9. Many of the respondents are disappointed with the exclusive women's taxi service's availability and driver skills. Hence if an easily accessible cab service with well-trained women drivers is provided, females will definitely opt for it.

3. Business proposition: What do we offer to the customer?

Our business idea offers an exclusive women's taxi service driven by women for women.

Some of the exclusive features which will be offered by our service are:

- Well-trained lady captains (drivers) in self-defense & defensive driving.
- Wi-Fi-connected cabs for easy tracking and accessibility.
- In-cab security features like a GPS system, panic buttons, etc.
- Our cab service has safety, security, reasonable pricing, and comfort.

Figure 1 - Benefits that the proposed exclusive women's taxi service offers.

Convinient	Safe	Affordable
Comfortable & Eco friendly	Easy availability	In cab entertainment

Fig. 1. Benefits that the proposed exclusive women’s taxi service offers
How is the value proportion created?

Through market research, it has been identified that there is a demand for proper exclusive taxi services. Though there are few companies that offer an exclusive women’s taxi service almost all of them have a limited operating system with fewer cabs and drivers etc. But our cab service system will consist of a well-designed operating model and a large number of captains to meet the client’s requirements.

Why is it profitable?

In this society and especially in metro cities like Bengaluru, Delhi, or Hyderabad, many women are working. Hence, they don’t mind spending a little more money on their safety, because now a day’s safety is more important to people than money. Hence this business plan will be profitable. The major motto behind this project is not only to make huge profits but help society and women citizens.

Figure 2 - SWOT analysis of the business model.

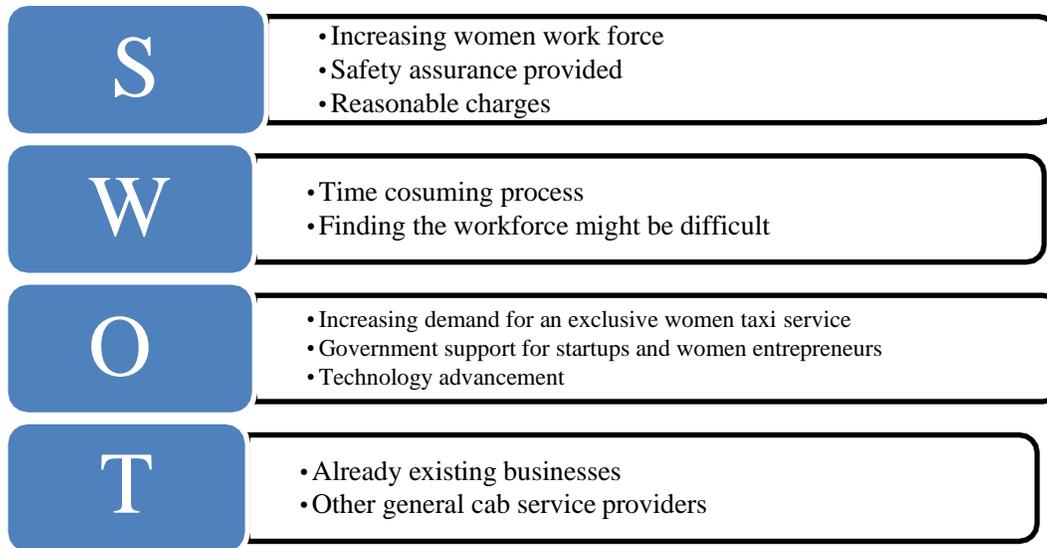


Fig. 2 - SWOT analysis of the business model.

7. Implication of the study:

Approximately 93% of respondents said they'll choose a taxi service with a female driver over a male driver if provided. This showcases the demand for an exclusive women's taxi service. The reasons behind this preference by most of the women as per the project survey are:

- insecurity;
- safety concerns;
- increasing crime rate.

As per data released by the National Crime Records Bureau (NCRB) nearly 10,000 cases of crime against women were registered in Delhi last year.

Conclusion. As a developing nation, India is witnessing an increase in the literacy rate of women over the years and a subsequent increase in the female workforce participation rate (WFPR). The female WFPR increased from 9.2% in 1992 to 11.9% in 2001 and even further to 15.6% in 2011 (Census of India, 2011).

With an influx of working women, the demand for safe public transport for enabling them to commute to their workplace is rising continuously. This demand

for transport safety brings the need for an exclusive taxi service for women in India and especially in crime rates high metropolitan cities like Delhi, Mumbai, Bengaluru, and Hyderabad.

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