

Mobility and Safety: Women Passengers' Perception of Safety in Using Motorcycle Taxis in Metro Manila

Ma. Sheilah G. NAPALANG^a, Carmeli Marie C. CHAVES^b, Karen Ann B. JAGO-ON^c, Dina C. MAGNAYE^d, Cresencio M. MONTALBO, Jr.^e, Anna Clara MARCALL^f

^{a,b,c,d,e,f} *School of Urban and Regional Planning, University of the Philippines, Diliman, Quezon City 1101, Philippines*

^a *E-mail: mgnapalang@up.edu.ph*

^b *E-mail: ccchaves@up.edu.ph*

^c *E-mail: kbjagoon@up.edu.ph*

^d *E-mail: dcmagnaye@up.edu.ph*

^e *E-mail: cmmontalbo@up.edu.ph*

^f *E-mail: annaclaramarcall@gmail.com*

Abstract: (max: 150 words)

The study seeks to evaluate the factors which affect the decision of women to use motorcycles for hire and their perceived safety and security issues. A survey was conducted among female motorcycle users to gather information on the factors that are relevant to female passengers' decision to use motorcycle taxis. Based on the results of the survey, it can be deduced that women are quite comfortable and feel safe when using the MC taxi. The threat of physical harassment is not the foremost safety issue but rather involvement in a road crash due to incompetent MC taxi drivers. To address this, it is recommended to ensure that motorcycles are well maintained and drivers who follow traffic rules be dispatched. Moreover, it is suggested to encourage women to become MC taxi drivers.

Keywords: Ride-hailing, gender, mobility, safety

1. INTRODUCTION

According to Carvajal & Alam (2018), women represent the largest share of public transport users around the world, yet they face many barriers that limit their mobility. Some 80% of women are afraid of being harassed in public spaces. In developing countries, safety concerns and limited access to transport reduce the probability of women participating in the labor market by 16.5%, with serious consequences on the economy: the global GDP could grow by an additional \$5.8 trillion if the gender gap in male and female labor force participation is decreased by 25% by 2025 (International Labour Organization s.d. as cited in Carvajal & Alam 2018). Unsafe public transport limits women's rights and freedoms as equal citizens to access and enjoy their neighborhoods and cities and their mobility and freedom of movement as they avoid certain places, times, routes, and modes of public transportation (Action Aid, 2011).

In the Philippines, the inadequate capacity of public transportation, exacerbated by the sluggish post-pandemic return to normal operations, has made commuting more challenging. Based on the survey of The Passenger Forum, a transport advocacy network, 79% of respondents

agree that their waiting time to get a ride is too long while 96% disagree that the number of public utility vehicles on the road is enough to service commuters. This inefficiency has partly fueled the increase in the use of motorcycle taxis using ride-hailing applications, despite existing transport policies that ban motorcycles as public transport mode.

This Study seeks to evaluate the factors which affect the decision of women to use motorcycles for hire and their perceived safety and security issues. A survey was conducted among female motorcycle users to gather information on the factors that are relevant to female passengers' decision to use motorcycle taxis.

The paper is organized as follows:

Chapter 2 describes the use of motorcycle taxis in Southeast Asian and African countries.

Chapter 3 briefly describes gendered travel patterns and discusses nuances and differences between men and women with respect to travel choices, access, and gender roles.

Chapter 4 discusses safety and risk considerations and perception among women public transport users. It also presents international examples of how such perceived risks have been addressed.

Chapter 5 discusses the results of the survey conducted specifically for the current study.

Lastly, Chapter 6 presents policy implications of the findings of the study relevant to making motorcycle taxis safer, more efficient, and effective as it plays its part in the overall hierarchy of transport modes.

2. Utilization of ride-hailing motorcycle service in Southeast Asian and African countries

According to the research of Irawan et.al. (2022), affordability and reliability in terms of availability of motorcycles are the main factors for the popularity of ride-hailing motorcycle taxi as a major transport mode in Southeast Asian and African countries. Additionally, motorcycle taxis are perceived to have greater flexibility (Nugroho et al., 2020; Rahman et al., 2021 as cited in Irawan et al. 2022) and offer ride options customized according to the specific transport requirements of a region (Divall et al. 2021)

In Southeast Asia, nine companies offer ride-hailing services using motorcycles, namely, Grab, Gojek, Angkas, Joyride, Move It, GoBike, PassApp, Zelo, and Phumi / iTsumo (Chalermpong et al. 2022). The heightened use of ride-hailing services in Southeast Asian cities is attributed to the dissatisfaction with transportation services, which is an effect of underinvestment in public transportation systems. In addition to the users, ride hailing platforms are favored by informal transport operators because it allows them to access passengers directly, bypassing the need to become members of drivers' associations or cooperatives, a process which entails costs (Chalermpong et al. 2022).

Majority of the users of ride hailing applications (RHA) are women (Chalermpong et al. 2022). In six of ten studies analyzed, female users comprised 54.6% in Kuala Lumpur (Weng et al., 2017 as cited in Chalermpong et al., 2022) to 75% in Jakarta (Silalahi et al., 2017 as cited in

Chalermpong et al., 2022). The researchers also found that car and motorcycle RHA users were similar in terms of age and education. However, in the majority of motorcycle RHA studies, a significantly larger share (over 70%) of female users was reported, while no such clear pattern was found in car RHA studies (Silalahi et al., 2017 and Suatmadi et al., 2019 as cited in Chalermpong et al. 2022).

Irawan et al. (2019) further explains the socio-demographic attributes of different mode users. The authors present that in Bangkok, middle level income groups tend to use cheaper motorcycle taxis to go to bus and train stations compared to lower-income users. Lower-income groups prefer to walk (Pongprasert and Kubota 2017). In Vietnam, lower-to-middle income groups tend to use motorcycle taxis for shopping, going to work, study or leisure compared to higher income groups (Tuan and Mateo-Babiano 2013). The studies suggest that monthly income is a variable that significantly correlates with mode choice. However, this remains unclear in the case of motorcycle-based, ride-sources.

In Bangladesh, Wadud (2020) cites an innovation in motorcycle hailing apps in Dhaka, which is the recent introduction of women-only services, where the drivers and passengers are both women, e.g. Lily or OBon. Given the socially conservative nature of the country, women rarely own or use motorcycles in Dhaka or in Bangladesh, so the current growth in motorcycle ownership and the use of motorcycle e-hailing services are almost entirely driven by male users. As such, the author believes that if these female-only services become successful, it has the potential to bring about profound changes in motorcycle-based mobility in that gender segment (Wadud 2020).

In the Philippines, there are three dominant application-based motorcycle taxi for hire, Angkas, JoyRide, and MoveIt. According to the Angkas website (<https://angkas.com/>), it has 27,000 accredited bikers in the entire Philippines who “go through stringent background checks, safety training, COVID-19 preparedness training, and skills assessments. Motorcycles are quality checked to ensure passenger safety”. It claims to have a 99.997% safety record. To date, its application has 4 million downloads. JoyRide is a ride-hailing and delivery “superapp” with operations in Manila, Rizal, Cavite, Bulacan, Laguna, Cebu, and Baguio. It has more than 20,000 driver partners onboarded since December 2019 with 1 million app downloads in less than 3 months from launch. It claims that the highest number of bookings for a day was 500,000 (<https://joyride.com.ph/>). MoveIt, which has been acquired by Grab in August 2022, has 6000 driver-partners (<https://moveitphilippines.com.ph/home/>).

3. GENDERED TRAVEL PATTERNS

Research has shown that men and women have persistent different transportation needs, travel behaviors and levels of access to services and infrastructure. These differences are linked to key factors including household structure, gender roles, stage in life, income, and availability of travel options. Peters (2013, as quoted by Bhatt, A, et.al.) stated that “Within any given urban setting, women have inferior access to both private and public means of transport while at the same time

assuming a higher share of their household's travel burden and making more trips associated with reproductive and caretaking responsibilities".

4. SAFETY AND RISK

Several studies and surveys provide evidence on the differentiated feelings and experiences in transportation by gender. For instance, a study carried out in France in 2018 (Vanier & D'arbois de Jubainville, 2018 as cited in Lagos, Muñoz & Zulehner, 2019) shows that about 51% percent of women (compared to 38% of men), reported feeling unsafe in the public transportation system. Another recent study by the Development Bank of Latin America (CAF) and the FIA foundation revealed the sexual harassment suffered by thousands of women on public transport in Chile, Peru and Argentina. In Santiago, 73% of women feel unsafe using public transport (59% of men), 48% have witnessed or known of a case of sexual harassment and 51% have experienced it themselves (Allen, et al. 2017 as cited in Lagos, Muñoz & Zulehner 2019).

This issue has led to the development of Taxify, a ride-sharing platform and ride-hailing app for sedans and motorcycles that is operational in Kenya (Nairobi, Mombasa) Tanzania (Dar es Salaam, Mwanza) and Uganda (Kampala). Safety precautions include requiring that each motorcycle driver carries two helmets and two jackets. All passengers are required to wear a helmet and jacket with reflectors when on a motorcycle. Riders are screened by a third-party safety partner who is also given responsibility to respond to any accidents. Riders who wish to sign onto the service have to provide their own mobile phone and undergo driver training. The app requires GPS to charge customers accurately, although an option for fixed charges is being developed (Divall et al., 2021).

In Hanoi and Jakarta, safety was the top priority insisted upon by women as a condition for their use of public transport (Bray and Holyoak 2015; Tjeendra et al., 2010 as cited in Ng & Acker 2018). The study of Mateo-Babiano, et al. (2020) on student commuters revealed that sexual harassment in the transit environment is a key concern reported by women but not by men. Suatmadi, Creutzig and Otto (2019) found that women in Indonesia are more likely to switch from public transit to online ojek (motorcycle taxi), which might point to an underlying gender safety issue (Allen, 2018 as cited in Suatmadi, Creutzig & Otto 2019). They also argued that online ojek should focus on its function as public transit feeder, by providing mobility benefits without substituting mass transit, which was found to be more environmentally sustainable.

In India, the Rapido bike taxi service is used mainly by men. Its co-founder says only 10 percent of the daily customers are women, and the organization is working on bringing on board more women drivers. For Baxi Taxi, also from India, 5 to 6 percent of the customers are women (AutoNews 2016). The safety features of the applications include: mandatory training for the drivers; the details of the motorcycle are given to the passenger upon booking, including bike number and the details of the driver; possibility of sharing the ride details with other people; proper verification of the drivers; drivers and passengers are given helmets to wear; rating systems that allow passengers to rate the drivers; SOS button installed in the application which is monitored by the teams; drivers are given an identity card after proper police verification; a feature on the app

where a woman can book a preferred rider for the next ride. Rohit Koshy, a team member of Baxi Taxi, says that "If you ask the police they will also say women are not too worried on a bike as it is open." (AutoNews 2016).

In Manila and Jakarta, the cases of sexual harassment reported by women using public transport are seen as a problem linked to the conditions of over-crowding and the actions taken to prevent such occurrences remain categorized as responses to the volume of passengers (Herrera, 2007 as cited in Ng & Acker 2018). Interviews with transport professionals in these regions revealed a lack of awareness of the social and gender implications for transport policies, influenced by culturally learned discriminatory gender norms, such as the taboo of speaking about sexual harassment (Herrera, 2007 as cited in Ng & Acker 2018). Such discriminations have resulted in women traveling primarily at certain hours of the day and often with a companion to ensure their own safety (Herrera, 2007 as cited in Ng & Acker 2018).

5. RESULTS OF THE SURVEY

5.1 Respondents' Profile

This online survey has generated responses from 93 women. Among the 86 respondents who indicated their civil status, 91% are single and the rest are married. Most of them are not the heads of household. In relation to education, majority of the respondents have attained higher levels of education as 75% obtained a college degree, 13% have spent some years in college and 10% have postgraduate education. A small percentage are high school graduates (Figure 1).

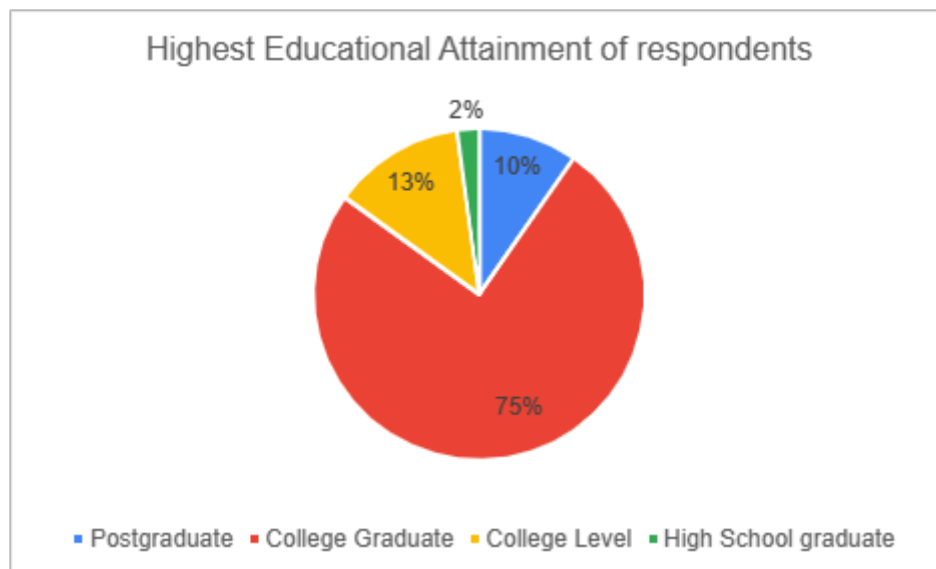


Figure 1. Highest educational attainment of respondents

About 90% of the respondents are employed, and among those employed, 77% have permanent jobs, while 23% are engaged in temporary employment. Figure 2 shows that 37% of the respondents have an estimated monthly income above PhP 80,000 (US\$1452). About 21% are within the income level of PhP 40,000-49,000 (US\$725-908), 15% earn between PhP50,000-59,999 (US\$ 908-1090), 13% have income of PhP 30,000-39,999 (US\$ 545-726), while the rest of the respondents earn about PhP 60,000-PhP 79,999 (US\$ 1090- 1452). Moreover, only a few respondents indicated the share of transport costs in their monthly expenses, which varies from 5-20%.

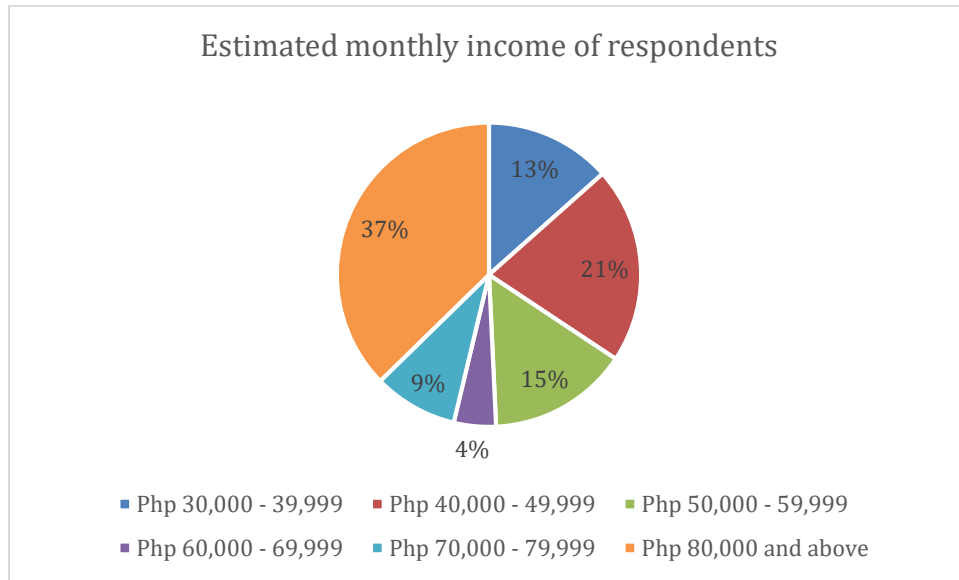


Figure 2. Estimated monthly income of respondents

5.2 Trip characteristics

Majority of respondents (80%) use the service for going to work. The others reported trip purposes are To School (13%), To Shop (2%), and To Church (5%).

The predominant reason why passengers use Angkas motorcycle taxis is that “it is fast” at 44%, followed by “it is available” at 32% and “it is cheap” at 24%. Speed is a characteristic of the service that is most relevant to work trips since work for most people is structured and scheduled. It also applies to other trip types (school, shopping, others) since people usually prefer to have the most efficient means of transport since travel is considered as a means to an end and not an end in itself.

Overall, around 56% of respondents use Angkas 1-2 days a week and 32% use the service from 3-5 days a week. For the work trips, 45% use Angkas at least 3 days a week, with 39% using it less frequently and 10% not giving any responses.

Table 1. Safety and Health Protocols Observed in Using MC Taxi

	Yes	No	Sometimes
Drivers Use Helmets	100%	0	0
Drivers Use Shoes	93%	0	7%
Drivers Use Facemasks	84%	0	16%
Drivers Use Uniforms with Logo	66%	17%	17%
Drivers have jackets with handholds	24%	42%	34%
Passengers provided with helmets	97%	3%	0

Based on the responses on the safety and health protocols of the riders, the use of helmets, shoes and facemasks are practiced pro-actively. However, only 24% of the respondents indicated that drivers have jackets with handholds for the passengers. However, even without handholds, the passengers indicate that they do not hold the waist or shoulders of the driver when on-board the MC taxi.

Table 2. Riding Behavior

	Yes	No
Hold waist of drivers	5%	95%
Hold shoulders of drivers	29%	71%
Use Handholds on jackets	62%	38%

5.3 Perception of safety

When asked whether they feel comfortable riding the MC taxi, 72% of the respondents answered in the affirmative. For those who stated that there were not comfortable, the top causes of discomfort are using a public/common helmet, pressing their bodies against the driver, holding the driver and exposure to air pollution.

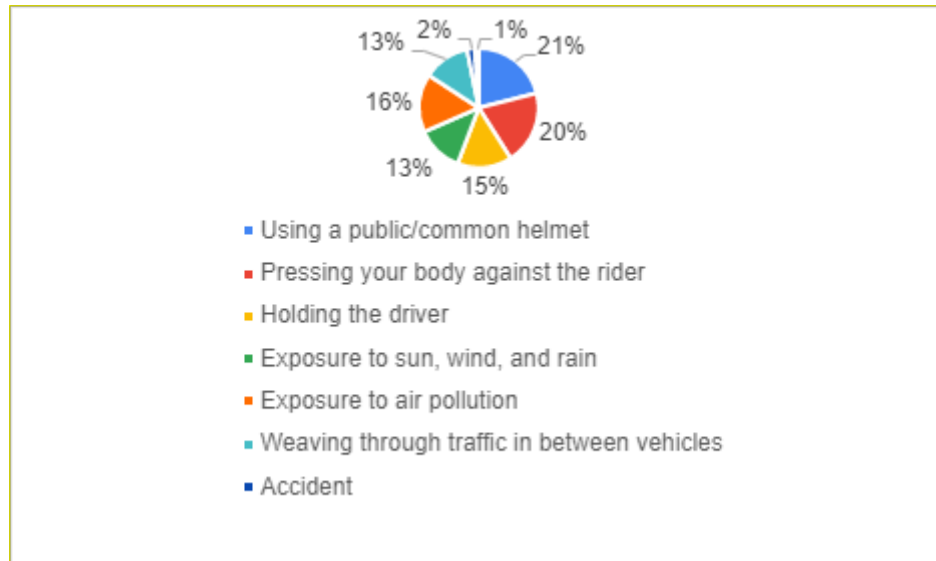


Figure 3. Causes of Discomfort when Using MC taxi

Consistently, 69% of the respondents do not feel unsafe riding the MC taxi as a woman. For those replied otherwise, the top reasons for the feeling of being unsafe are involvement in road crash/accident due to incompetent driver, weaving through traffic in vehicles, and possibility of sexual harassment.

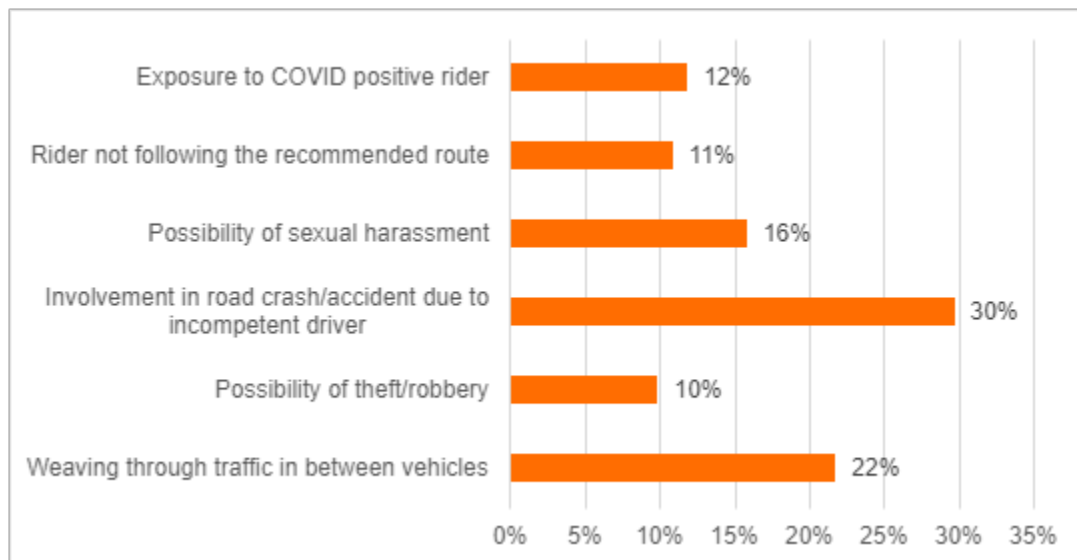


Figure 4. Reasons for feeling unsafe in using MC taxi

Insurance Coverage. It is worth noting that more than half or 62% of the respondents are not aware that the passengers of motorcycle-for-hire are covered by an insurance. More than one-fourth (38%) understands that passengers are covered by an insurance in case of accidents.

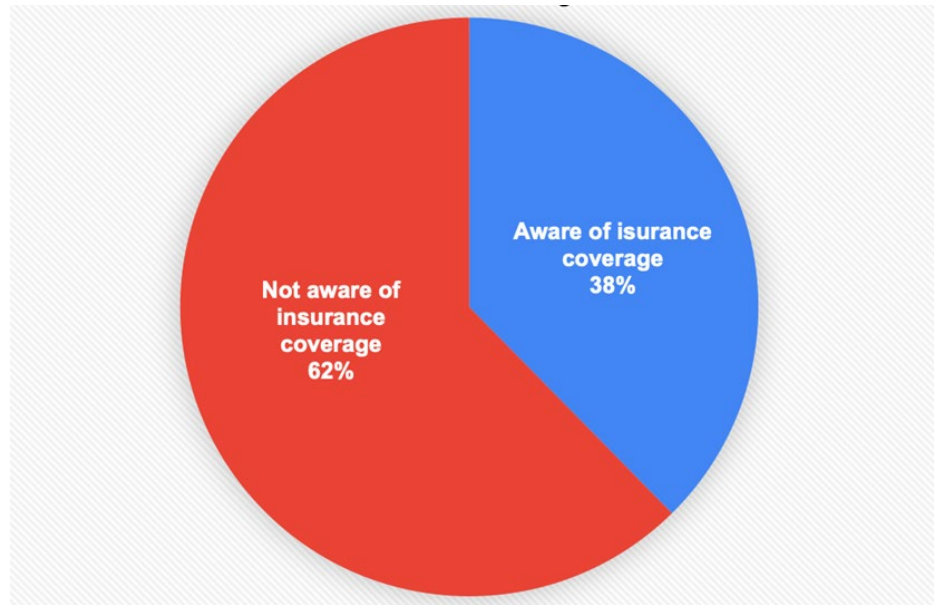


Figure 5. Awareness of Insurance Coverage for MC Taxi

Motorcycle taxi service providers provide insurance coverage for bikers and passengers. The motorcycle taxi service Joyride partnered with the Malayan Insurance Co. Inc. for insurance coverage for its “fleet of bikers and the riding public” (The Philippine Star, 2019). Likewise, the passengers of Angkas, one of the first bike for hire, are covered with personal accident insurance (Inquirer, 2020).

For the motorcycle taxi service, both the riders and the passengers are covered by accident insurance.

5.4 Price sensitivity

Price sensitivity reflects the change in the consumption behavior or demand of a consumer when availing a certain product or service. For the user of motorcycle taxis, this can be demonstrated in the pattern of utilization of the service at various surge prices.

Survey results revealed that given a 10% surge price, a large proportion (75%) of the respondents utilize a motorcycle taxi. The remaining 25% opted not to avail of the service.

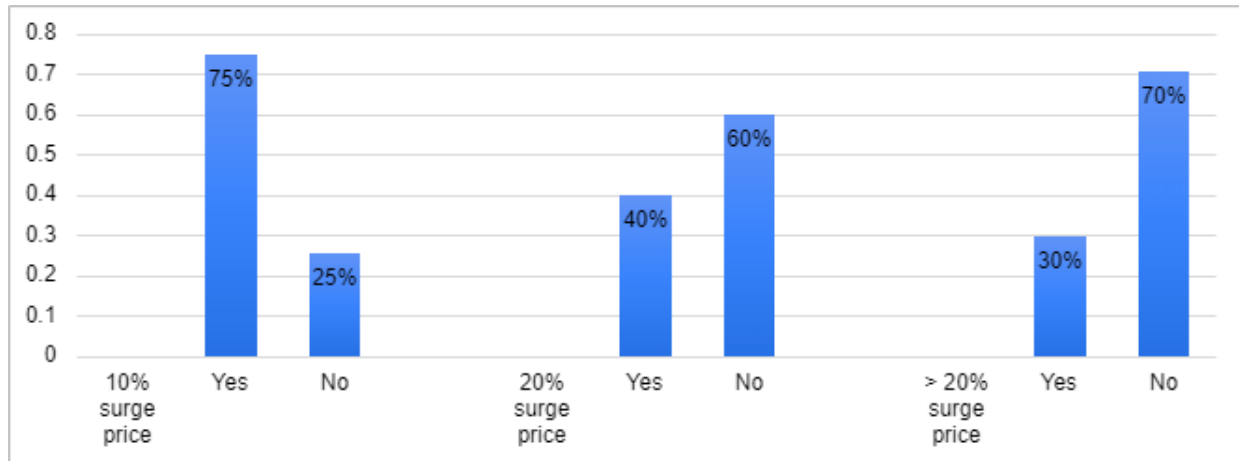


Figure 6. Utilization at Various Surge Prices

Further surge in price of up to 20% and beyond leads to a reduction in the utilization of motorcycle taxi service that ranges from 30% to 40% of the respondents. More than half (60% to 70%) will no longer avail of the service of a motorcycle taxi given the surge in price. This is consistent with the law of demand in economics that if all other market factors are considered constant, an increase in the price of a commodity or service will yield a drop in the quantity demanded.

The demand for motorcycle taxi becomes elastic since a surge in the price of the service result to users who are less willing to utilize motorcycle taxi as a mode of transport. The demand for motorcycle taxi becomes price sensitive when there is surge in the price of the transport service.

Survey results denote that the users of motorcycle taxi will not be willing to pay more to avail of the service when there is surge in price. Nevertheless, there are still those who use motorcycle taxi who are less price sensitive since they consider the transport service as a necessity. Zaldarriaga (2022) indicates that, “tapping motorcycle taxis have become a sensible choice for the commuting public as it significantly lessens travel time, and by far cheaper than other public modes of transportation.” The users of motorcycle taxi exhibit different price sensitivities depending on how they value the importance of the service to them.

5.4 Suggestions to improve safety of Motorcycles-for-hire

Based on the results of the survey, it can be deduced that women are quite comfortable and feel safe when using the MC taxi. This is consistent with the sentiment and perception of those who use Baxi Taxi in India. The threat of physical harassment is not the foremost safety issue but rather involvement in a road crash due to incompetent MC taxi drivers. To address these issues, the respondents suggested to:

- Make available women drivers;
- Ensure that motorcycles are well-maintained;
- Provide a feedback system for drivers of all motorcycle-based ride hailing services;
- Dispatch riders with high star ratings who follow traffic rules; and,
- Provide more safety protocols like camera and the like.

6. POLICY IMPLICATIONS

A quick observation of the streets of Manila would demonstrate the prevalence of MC for hire and confirms high demand for its services. However, under the Republic Act 4136 or the Land Transportation and Traffic Code, motorcycles are banned from being utilized as public transportation. To address this, a Motorcycle Taxi bill (House Bill 10571) has been approved in Congress which seeks to legalize the motorcycle taxis and put in place regulations and protocols to ensure safe operations. A thorough evaluation of the impact of this regulation how it can help address the inadequacies of the public transportation system in the Philippines while keeping the riding public safe.

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