

Evaluation of Online Motorcycle Taxi Performance In Surabaya and Sidoarjo Area, Indonesia

Achmad Wicaksono ^a, Harnen Sulistio ^b, Alan Wahyudi Wardani ^c and
Dwa Aulia Bramiana ^d

¹Department of Civil Engineering, Faculty of Engineering, Universitas Brawijaya,
Jl. MT Haryono 167 Malang, 65145, Indonesia

^a<wicaksono1968@yahoo.com>, ^b <harnen@ub.ac.id>

Keywords: Evaluation, Online motorcycle taxi, Importance performance analysis, Indonesia

Abstract. Surabaya is the second biggest City in Indonesia, and Sidoarjo is a regency close to Surabaya, where many people live in but they work in Surabaya. More and more citizen of Surabaya and Sidoarjo use motorcycle taxi, either conventional service or online service so call as “ojek”, operated by the company called as Go-Jek. The purpose of this research is to evaluate the performance of Go-Jek in Surabaya and Sidoarjo based on user point-of-view and to observe what factors that influencing user’s in selecting conventional or on-line ojek. The methods used Importance Performance Analysis (IPA). The result of IPA shows there are 3 factors that has to be improved: driving manner, attention to maximum capacity and helmet for passenger. This paper reviews our previous work [1], in which the studies of evaluation of Go-Jek performance using methods of IPA and a stated preference modelling is done.

1. Introduction

Surabaya is the second biggest City in Indonesia, with the population of 2.5 millions. Sidoarjo is a regency that have a borderline with Surabaya, where many people live in but they work in Surabaya. The population growth and economic development in the region of Surabaya and Sidoarjo is quite high and thus the activity and the movement of its citizens has increased. Peoples often use public transportation, especially in the form of two-wheel conventional and online motorcycle taxis. The online motorcycle taxi is operated by the company called as Go-Jek. In Jakarta, online motorcycle taxi in considered to be one of popular public transport mode, since they have meet the expectation of most of people and become the desired mode of society [2]. However PT. Go-Jek Indonesia previously do not get the business license, because motorcycle taxi is ilegal following the rule of Indonesian Traffic Act, so according to the law, motorcycle taxi is not part of the public transport mode [3]. The other constraints felt by some user is also the difficulty to find this online motorcycle taxi at bus terminals, railway stations, tourist attractions, etc [4]. On the other hand, the advantage of Go-Jek is easeness of bookings that can be made online using a smartphone and offer the prices that are relatively cheap.

Previous research shows that the effect of tariff on customer satisfaction are the most important key factors [4,5,6]. Recently, not only Go-Jek but also Uber online motorcycle taxis that has been operated and have been complained by conventional motorcycle taxi, as well as minibus public transport in some cities of Indonesia, as there is higher competition among them. Other research shows that users tend to select Go-Jek than Grab motorcycle taxis, with major advantages in terms of comfort and service [7]. The purpose of this study was to determine the existing operational performance of Go-Jek in the service area of Surabaya - Sidoarjo, and to determine what factor that influencing user to select Go-Jek better than conventional motor taxi. This paper reviews our previous work [1], in which the studies of evaluation of Go-Jek performance using methods of IPA and a stated preference modelling is done.

2. Methods

The respondents are those who are the user of both ojek, conventional and on-line, with total number of 220. Data collection was done by distributing a questionnaire on socioeconomic and trips characteristics. Researcher use a method so called as Important Performance Analysis(IPA) for evaluation of Go-Jek performance [8], while Stated Preference Analysis is used to observe the factors affecting the choice between conventional and on-line ojek. However, in this paper we only explain the result of IPA methods, while the Stated Preference model is explained in the previous paper [1]..

3. Result and Discussion

3.1 Characteristics of Passengers

At first, researcher explore the social economic and travel characteristics of passengers in order to facilitate the researchers in analyzing condition of study area, data collected includes: educational level, occupation, total monthly income and expenditure, trip purpose, frequency and payment types. Table 1 shows the major social economic and travel characteristics of 220 respondents in study area.

Table 1 Characteristics of Motorcycle Taxi Users in Study Area

NO	Respondent Criteria	Item	[%]
1	Education	Bachelor	45
2	Occupation	Private Company	44
3	Monthly Personal Income	3-5 Million	43
4	Monthly Family Income	3-5 Million	41
5	Monthly Family Expenditure	3-5 Million	44
6	Trip Purpose	Business	45
7	Trip Frequency	Twice a week	40
8	Who Pay the Cost	Personal	66

It can be summarized that user of motorcycle taxi in study area is mostly graduate that work on private company, with one person work in the family that earn and expenditure about 3-5 millions rupiah. The travel characteristics shows that they use motorcycle taxi mostly for business trip, on average twice a week, and pay by their own personal expenditure. Based on this survey results, it can be seen that the user are middle income people, who consider time is important therefore they use motorcycle taxi in order to reach their destination on-time.

3.2 The Result of Importance Performance Analysis

The Importance Performance Analysis method is consider one of the effective method to evaluate the existing services of Go-Jek, it can described importance and satisfaction level. In this study the service that has been evaluated are on 12 attributes; these are (1) Go-Jek identity on motorcycle, (2) driver identity and phone number, (3) maximum passengers/goods capacity, (4) driving manner, (5) helmet for passenger, (6) insurance, (7) waiting time, (8) raincoat for passenger, (9) trip fare, (10) booking systems, (11) passenger complaints mechanism, and (12) travel time. The analysis based on interview with respondents then be plotted in the IPA diagram (Figure 1) and give result on indicators scattered on 4 quadrant (Table 2).

Table 2 The Result of IPA on Attributes of Go-Jek user in Study Area

Quadrant	Information	Attributes
I	Services need to be improved	1. Driving manner (4) 2. Maximum passengers/goods capacity (3) 3. Helmet for passenger (5)
II	Maintain existing service	1. Go-Jek identity on motorcycle (1) 2. Waiting time (7) 3. Trip fare (9) 4. Travel time (12) 5. Booking system (10)
III	Less priority to be improved	1. Insurance (6) 2. Raincoat for passenger (8) 3. Passenger complaints mechanism (11)
IV	More than expected	1. Driver's identity and phone number (2)

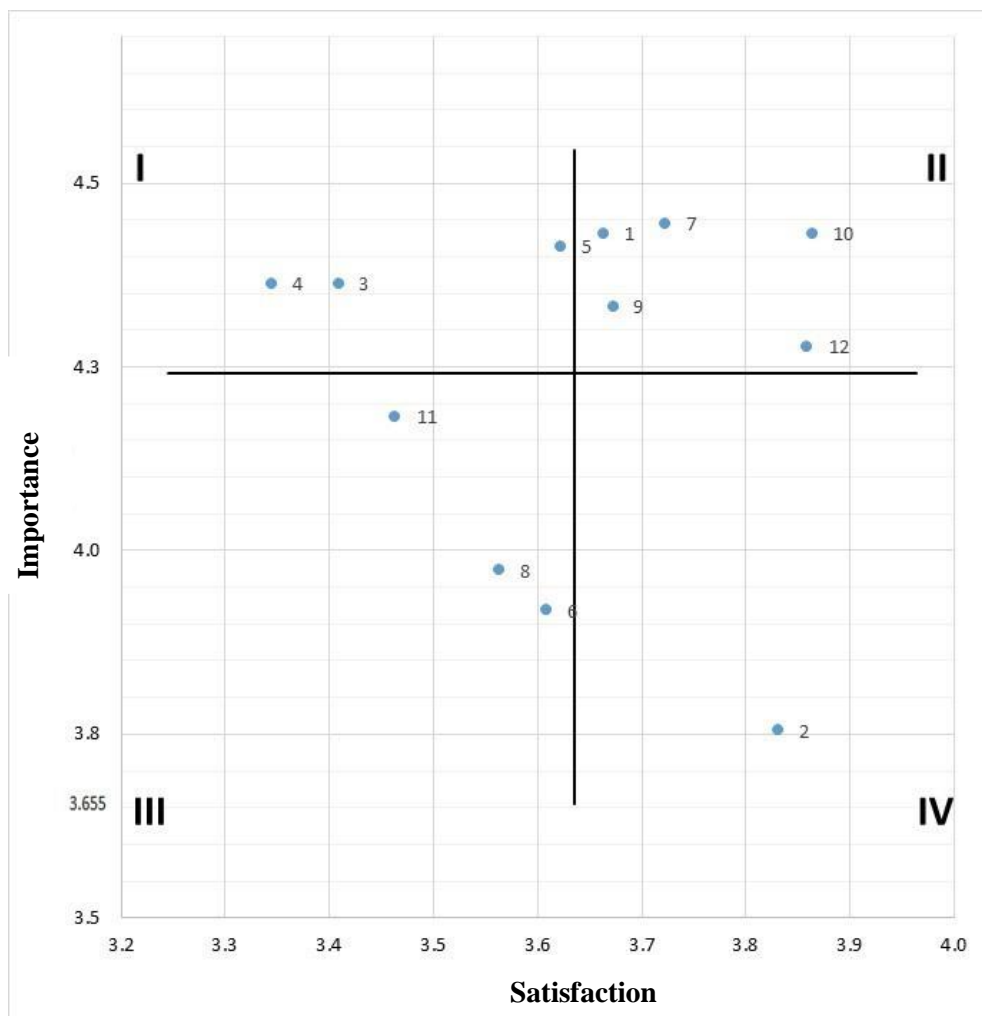


Figure 1. IPA Quadrant Analysis Results of Go-Jek in Study Area

Proceedings of International Conference on Technology and Social Science 2017
Invited Paper

Based on IPA, there were 3 indicators that need to be improved, these are:

- (1) driving manner, since Go-Jek driver sometimes break traffic rule for example red lights runner and driving through the middle of big heavy trucks.
- (2) maximum passengers/goods capacity, in some cases, driver give a service to more than 1 passengers or bring goods heavier or larger than the capacity.
- (3) helmet for passenger, as driver sometimes did not bring additional helmet that provided for passenger.

Therefore in the future, Go-Jek driver shall put more attention on this 3 attributes to be improved. The company shall put their driver into more discipline behavior, and giving punishment for driver who break the rule, especially traffic rule.

4. Conclusions and Suggestions

4.1 Conclusions

Based *Importance Performance Analysis* method, it can be found that there are 3 improvement that in the near future the Go-Jek management shall be done. First is driving manner, that some Go-Jek driver are carelessly driving, so that passenger afraid of. Second, the driver of Go-Jek put less attention on maximum capacity of persons and weight of goods that the motorcycle could afford. The last is the availability of helmet for passenger, since some drivers of Go-Jek do not bring additional helmet for passenger, and give his/her helmet to passenger, and the driver do not use helmet

4.2 Suggestions

This research give some suggestions hereby:

1. Due to limited time of interview, in the future, when the respondents are filling out the questionnaire, it should be accompanied by *surveyor* to avoid mistakes in understanding the question, so that the data will be more accurate.
2. Results of this research can be used as input for service provider of Go-Jek and any other online motorcycle taxi in improving and enhancing the services to the passengers in Surabaya-Sidoarjo service area.
3. This research is one of the explanatory research on online motorcycle taxi, however, In Indonesia, motorcycle taxi is consider to be illegal due to safety reason, therefore Indonesian government shall make a decision whether motorcycle taxi would be legalized or not.

References

- [1] Wicaksono, Achmad, Harnen Sulistio, Alan Wahyudi Wardani and Dwa Aulia Bramiana. Evaluation of Online Motorcycle Taxi (Go-Jek) Performance In Surabaya and Sidoarjo Area, Indonesia, **Journal of Technology and Social Sciences (JTSS)**, Vol.1, No.2, 2017
- [2] Nistal, Patrick D and Jose Regin F. Regidor. Comparative Study of Uber and Regular Taxi Service Characteristics. **Proc. of the 23rd Annual TSSP Conference**, August 9, 2016, Manila, Philipinnes.
- [3] Paronda, Arden Glenn A, Ma. Sheilah G. Napalang, and Jose Regin F. Regidor, Comparative Analysis of Transportation Network Companies (TNCs) and Conventional Taxi Services in Metro Manila. **Proc. of the 23rd Annual TSSP Conference**, August 9, 2016, Manila, Philipinnes.

Proceedings of International Conference on Technology and Social Science 2017
Invited Paper

- [4] Lee, Cassey. To Uberize or Not to Uberize? Opportunities and Challenges in Southeast Asia's Sharing Economy, **Perspective Issue**: 2016 No. 33. ISEAS, Yusof Ishak Institute. Singapore, 2016.
- [5] Rahman, Fadhlur. Legal Status of Online Motorcycle Taxi Business for Road Transport in Jakarta (A Case Study of PT.Go-Jek Indonesia). **Undergraduate Thesis**. Universitas Andalas, Padang, 2016. (In Bahasa Indonesia)
- [6] Wulandari, Widya. 2016. Effectiveness Analysis of Online Motorcycle Taxi For Transportation Mode Options in Jakarta (A case study: Go-Jek Indonesia). **Undergraduate Theses**. Universitas Esa Unggul, Jakarta, 2016. (In Bahasa Indonesia)
- [7] Go-Jek VS GrabBike – Survey Report. Retrieved February, 25th, 2017 from <https://blog.jakpat.net/go-jek-vs-grabbike-survey-report/>
- [8] Martilla, John A and John C. James, Importance Performance Analysis, **Journal of Marketing**, Vol. 41, No. 1, pp. 77-79. 1977.