

# APPLYING VALUE CREATION FRAMEWORK TO OFFER PUBLIC TRANSPORT IMPROVEMENT

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## Abstract

Public Transportation in urban areas is expected to be main choice for people's mobility. The aim of this research is apply value creation framework based on S-D Logic and Trans Jogja from Yogyakarta and Värmlandstrafik AB Sweden are the case study. This research use direct observation and interview to the related person/ company as the primary data, and to support them use group discussion with the users. This research also use secondary data from some journals, reports, documentations, etc. From the analysis and discussion Värmlandstrafik AB is address the value creation service and opportunity more than Trans Jogja. From conclusion, the need of applying value creation framework in Trans Jogja is to offer public transport improvement as has been illustrated by Trans Jogja. Although the achievement of value creation opportunities are not as high as that achieved by Värmlandstrafik AB, but Trans Jogja should learn about what needs should be improved.

**Keywords:** S-D Logic, Value Creation Opportunity, Trans Jogja, Public Transport Improvement

## Abstrak

Transportasi publik di daerah perkotaan diperkirakan menjadi pilihan utama untuk mobilitas masyarakat. Tujuan dari penelitian ini adalah terapkan nilai kerangka penciptaan berdasarkan SD Logika dan Trans Jogja dari Yogyakarta dan Värmlandstrafik AB Swedia adalah studi kasus. Penelitian ini menggunakan observasi langsung dan wawancara kepada orang yang terkait / perusahaan sebagai data primer, dan mendukung mereka menggunakan diskusi kelompok dengan pengguna. Penelitian ini juga menggunakan data sekunder dari beberapa jurnal, laporan, dokumentasi, dll Dari analisis dan pembahasan Värmlandstrafik AB adalah menangani pelayanan penciptaan nilai dan kesempatan yang lebih dari Trans Jogja. Dari kesimpulan, kebutuhan penerapan kerangka penciptaan nilai di Trans Jogja adalah untuk menawarkan perbaikan angkutan umum seperti yang telah digambarkan oleh Trans Jogja. Meskipun pencapaian peluang penciptaan nilai yang tidak setinggi yang dicapai oleh Värmlandstrafik AB, tapi Trans Jogja harus belajar tentang apa kebutuhan harus ditingkatkan.

**Kata-kata Kunci:** SD Logic, Peluang Penciptaan Nilai, Trans Jogja, Perbaikan Angkutan Umum

## INTRODUCTION

The increasing number of private vehicles on urban roads leads road congestion, air pollution, difficulties in the provision of parking spaces, and also may increase the number of traffic accidents. Public Transportation in urban areas is expected to be main choice

transportation for the people mobility and should solve the traffic problem and also meet the transportation needs of the community safer and more comfortable.

This study offers public transport improvement with value creation approach based on Service-Dominant Logic (S-D Logic). Based on Enquist et.al. (2010), the term value creation is about joint creation of value by the company as service provider and the customer. Value creation allows customer to co-construct their experience to suit their personalized context. Value creation relies on joint problem definition and solving between customer and companies, and also related to experience environment in which consumers can have active dialogue and co-construct personalized experiences. By constructing personalized experiences, customers participate actively in the value creation. Service-Dominant Logic (S-D Logic) is a new approach that suggested by Vargo and Lusch (2004) to understand value creation (Edvardsson et.al., 2010). In S-D Logic suggests that all providers are essentially service providers (Vargo and Lusch, 2004). Service, defined as the application of resources linked to competencies (knowledge and skills) for the benefit of the customer, is the basis of economic exchange. S-D Logic describes how customers, employees and other actors become effective and efficient resource integrators in value co-creation (Vargo and Lusch, 2004). S-D Logic suggests that companies should develop innovative ways for customers to integrate and use the necessary resources for service provision and value co-creation (Ballantyne and Varey, 2008). The value creation framework used in the present context originated from Prahalad's (2004) in Enquist et al (2010). The framework consists of five dimensions along value creation opportunities occur. The dimensions along value creation opportunities are customer engagement in which customer's emotionally involved in the marketing activities, self service in which offering the options of self-service to customers, involving customers in staging customer experiences, solving the problems of customer and getting customers involved in designing services (Enquist et al, 2010). Then illustrates these concepts in a case of Trans Jogja BRT from Yogyakarta, Indonesia, and Värmlandstrafik AB from Värmland, Sweden. Researcher expect that Trans Jogja, as a modern public transportation in Yogyakarta, addresses more intensively of value creation opportunities by engaging customers in its marketing opportunities, providing self service options to the customers, creating customer experiences, solving the problems of customer, and co-designing service together with customers.

This research ends up with conclusion and recommendation that aims to offer public transportation improvement in Indonesia especially in Yogyakarta. With improved public transport is expected to reduce private vehicles in the road and encouraging people to use public transport for transportation modes.

## **EMPIRICAL STUDY**

### **Yogyakarta, Indonesia**

*Provinsi Daerah Istimewa Yogyakarta* (DIY), or Yogyakarta Special Province, is a province in Central Java, Java Island, Indonesia. Trans Jogja as public transport in Yogyakarta engage customer emotionally by communication the benefit of using its. These advantages/ benefits are Trans Jogja use to attract passengers as its customers to use public transport as a means of transportation choice in Yogyakarta. Trans Jogja engages customers emotionally by communicating the benefits, but does not emphasize an open dialogue on risks. For example to reduce the risk on getting on the wrong bus, there are should provide with verbal and non verbal announcement which bus it is before each bus departs.

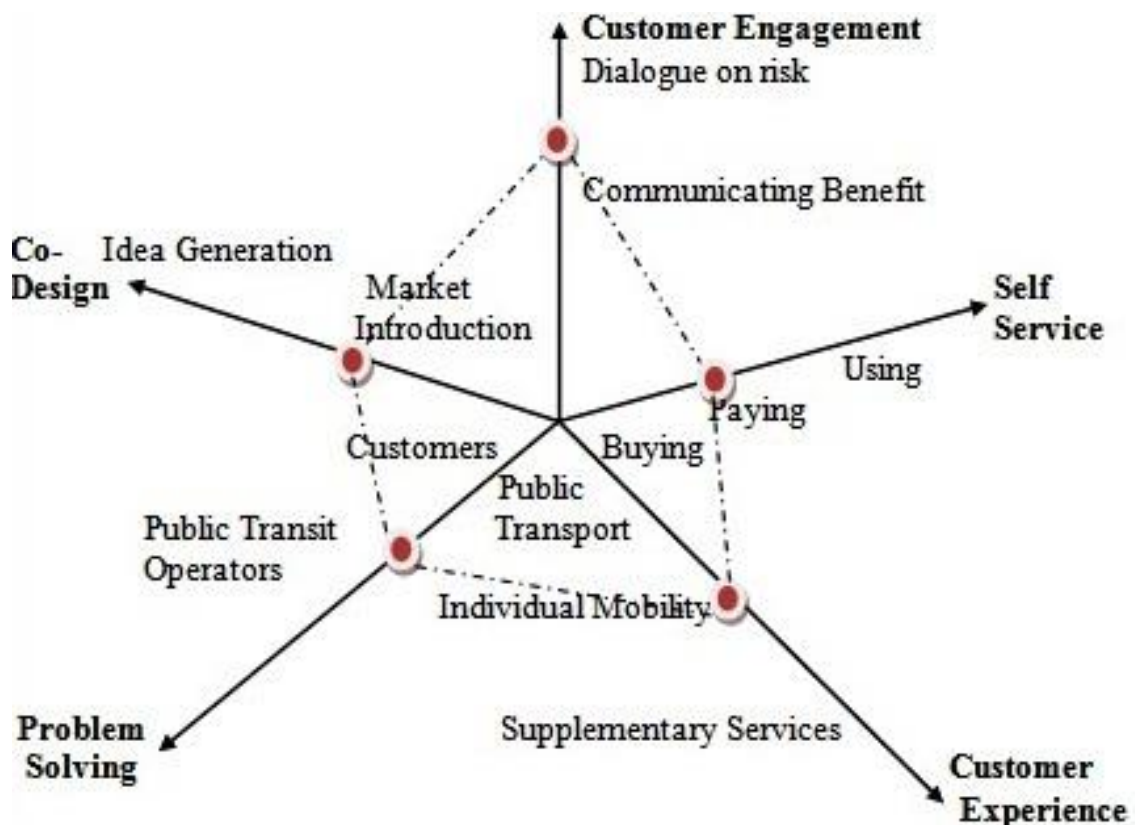
Self service in public transport, the most important are electronic ticket counters and ticket purchasing and information service through mobile phones and internet. This facility is not yet implemented in the Yogyakarta public transport, especially in Trans Jogja, but in the future, there is a possibility to implement it. The actual self service system then offered by PT. Gamatechno Indonesia (Gamatechno), on 29 December 2011, Gamatechno introduced a multi-bank prepaid ticket system for Trans Jogja. Prepaid ticket integrates a variety of banks in Indonesia, and can be used as electronic bus tickets. The purpose is to make easier for bank customers to use Trans Jogja. But this system is still being tested, so it has not been able used by the public. Trans Jogja has limited self-controlling mechanisms, it mean the passengers are not fully do self-controlling when use Trans Jogja. Trans Jogja still using conventional method means that customer still has to make queue to entrance the shelters.

In customer experience, Trans Jogja has integration between different modes of public transportation such as airplanes-commuter trains-Trans Jogja bus. Integration between these modes is shown by the establishment of Trans Jogja bus shelter in Adisutjipto Airport. The other integration is integration between Trans Jogja–Prameks commuter train–Batik Solo Trans. On 12 February 2012, Batik Solo Trans, a bus system from Solo city, Central Java Province, introduced and socialized an intermode card, this card called BNI-Prepaid Intermoda Card. At present, only the customers of BNI Bank can use this card which is connecting three public transport modes. Trans Jogja has some bus shelters that provide park service for passenger vehicles such as motorcycle, car, or bicycle for individual mobility, and also in each Trans Jogja bus shelter also has access way to facilitate any people with disabilities.

Trans Jogja takes solving customer problems about the lack of information of bus shelters location and routes through the pocket route map that distributed by Provincial Transportation Authority. With pocket route map the customers will easier to know the Trans Jogja route, and it will make easier also to use Trans Jogja, reduce unclearly about

the location of bus shelters and routes. Besides that, Trans Jogja also takes solving other passengers' problems through the website that provided by the Provincial Transportation Authority. But the customers also can tell the complaint of little problem that occur through the employees in bus shelter directly.

In public transport, co-design implies either to use customers better aligns services and customer needs during market introduction, or involving customer already in the creation of new service idea. Trans Jogja, Ministry of Transportation, and Gadjah Mada University (UGM) launched the activation of UGM student card that can be used also for Trans Jogja bus ticket. UGM in cooperation with Trans Jogja is to facilitate customer need of public transport. Trans Jogja also launches the mobile bus shelter. With the mobile bus shelter, the locations where bus shelter should be constructed but the land is not possible if a permanent shelter is built will use this mobile bus shelter. So, these illustrates that co-designing occurs already at developing and creating innovations, new service ideas in order to create services that are more appropriate to the customer's needs and wishes. Based on that explanation, applying the value creation framework in Trans Jogja can be illustrated through radar plot depicted in Figure 1.



**Figure 1** Applying The Value Creation Framework in Trans Jogja

## **Värmland, Sweden**

Värmland is a county located in west central Sweden. It borders the Swedish countries of Dalarna, Örebro and Västra Götaland, as well as the Norwegian countries Østfold, Akerhus and Hedmark to the west.

Värmlandstrafik AB engages customer into its marketing activities by communicating benefits of using its. Public transports in Värmland county such as Värmlandstrafik AB, including buses and commuter trains, and also Karlstadbus are using environment friendly and energy efficient vehicles. Värmlandstrafik AB also offering ways to attract and give benefits to the customers to use public transport, such as frequent trip, on time departure or arrival, modern and easy ticketing system, safety, and appropriate facility for passengers.

Värmlandstrafik AB uses self-service options on buying and paying tickets. They provide ticket machines, SMS, and online ticket in order to facilitate and make easier for travel, and reduce cash on travel. Värmlandstrafik AB also announces self-controlling mechanisms with its network.

Värmlandstrafik AB addressing the customer experience with the integration of public transports in Värmland county such as between railways, bus system, and water transportation. The integrations are physical integration and ticketing system integration. Värmlandstrafik AB also provide park and ride facilities to facilitate private vehicle users. Värmlandstrafik AB provides supplementary service in form of free internet access through Wi-Fi connection inside their buses and commuter train.

Värmlandstrafik AB solving these problems about uncertainty in travel time and waiting time with provide real time information and schedule for passengers. If the passengers have some problems related their travel or about services of Värmlandstrafik AB, they can complaint through Värmlandstrafik AB website or directly call the operator. Värmlandstrafik AB also provide transportation needs for people with disabilities, or people who needing transportation service for emergency situations such as people who are sick by provide a special vehicle through taxi or mini buses or it called public transport-by-demand.

Värmlandstrafik AB developing some new services ideas in order to create a service that is more appropriate to the customer's needs, and wishes. Värmlandstrafik AB developing the new transport system for Hammarö, it called "System 900". To create this system, Värmlandstrafik AB creating dialogue with customers. With this new system has given better public transportation to the city. Värmlandstrafik AB also developing integrated modes and ticketing system for the national level and along with others PTA's in Sweden. For example, Värmlandstrafik AB cooperation with SJ Train and Västtrafik Göteborg is developing new travel from Karlstad to Göteborg. Based on these, applying the value creation framework in Värmlandstrafik AB can be illustrated through radar plot on Figure 2.

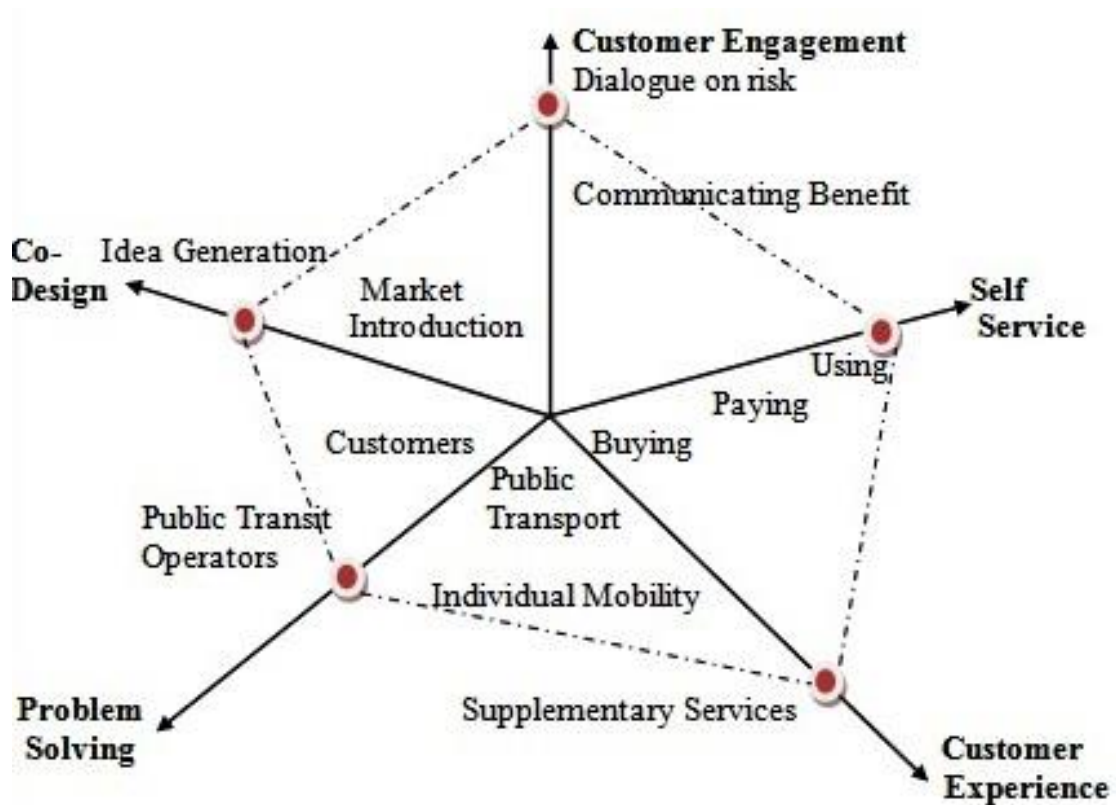


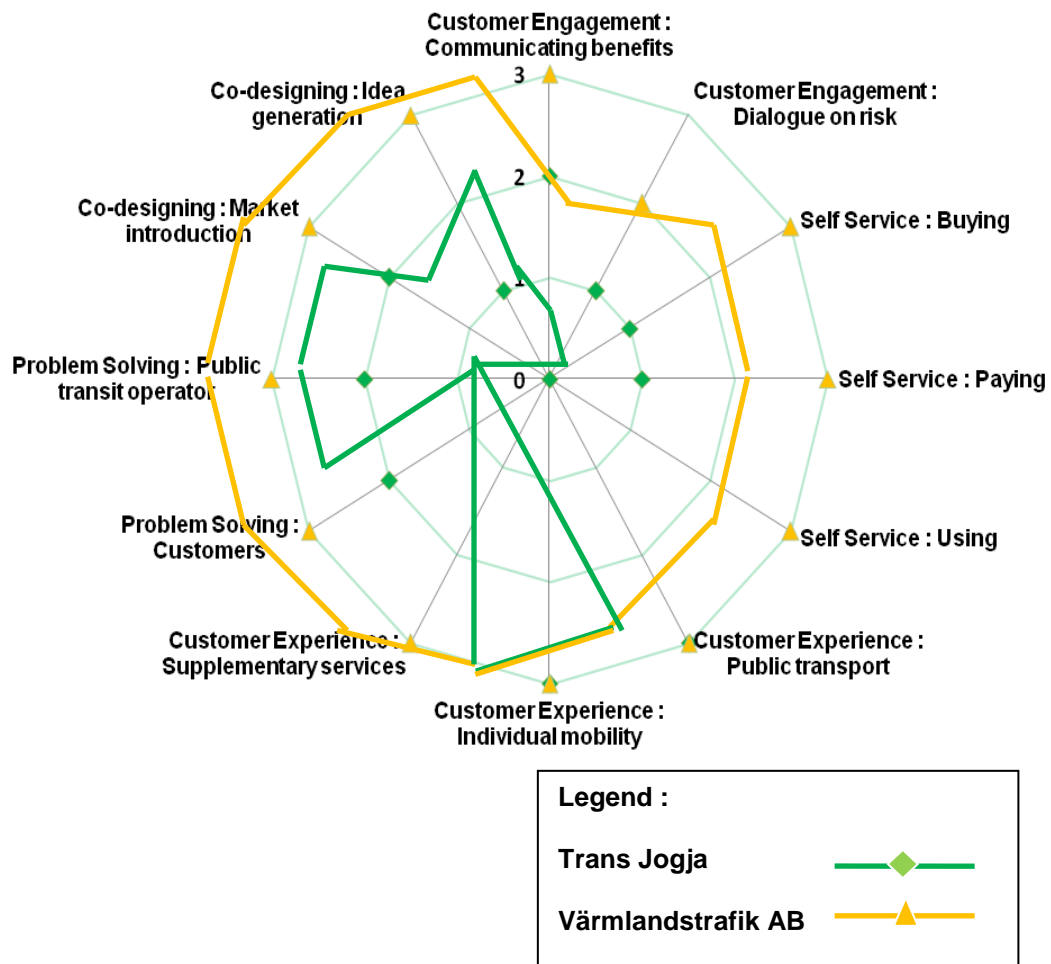
Figure 2 Applying The Value Creation Framework in Värmlandstrafik AB

## RESULT AND DISCUSSION

Based on analysis, Trans Jogja has many advantages if compared with other traditional city bus in Yogyakarta. The traditional city bus it mean of city buses such as Aspada, Kopata, or Puskopkar are the old public transportation in Yogyakarta, they are still use traditional way to collecting fares, no minimum service procedure, and more focused on business interest without showing other aspect such as service, safety, and convenience of users. With the advantages Trans Jogja promoting a solution for urban transportation in Yogyakarta, and attract peoples to use public transportation. And to do that Trans jogja has value creation opportunities which arise from applying value creation framework based on S-D Logic.

The result of value creation opportunity in Trans Jogja and Värmlandstrafik AB can be shown through the spider graph or radar plot in Figure 3 below. The spider graph shows the score of achievement for every level in each dimension of value creation opportunity. Score is given in each level of dimension in value creation opportunity. The score is 0 to 3. Score is given by author experience on using Trans Jogja and Värmlandstrafik AB. The score indicates that no achievement of value creation opportunity level in each dimension of value creation framework until high achievement of value creation opportunity level.

Based on Figure 3, Trans Jogja little address the value creation based S-D Logic compared with Värmlandstrafik AB. Such as, Trans Jogja has limited choice of self service options/ not many options like in Värmlandstrafik AB, and also limited self-controlling mechanisms, and the customers still have limitations to obtain information such as bus schedule, or solve their own problems through “live” information in the form of application software or through the announcement system. Customer involvement with the authority or with the operator to deliver ideas or notion, new service ideas, criticisms and suggestions are also still not developed well. Värmlandstrafik AB is address the value creation service and opportunity more than Trans Jogja. However, the implementation of Trans Jogja in Yogyakarta public transport is to provide and accommodate better public transport service by developed BRT system which has aim to accommodate a number of passengers in a large of number, better services and facilities, and much faster than the traditional public transport. While Värmlandstrafik AB is the public transport from Värmland county, Sweden in form of bus and also commuter train system.



**Figure 3** Score of Value Creation Opportunity in Trans Jogja and Värmlandstrafik AB

## CONCLUSION AND RECOMMENDATION

Applying value creation framework in Trans Jogja is needed because Trans Jogja as a modern public transport and different with the traditional city buses in Yogyakarta is expected to be an example to other public transport that in deliver the services to the users/passengers, public transport should not only concern with profit, but also concern of users/passenger's need, provide with appropriate facilities, some innovations, and in Trans Jogja also has relation with other parties in order to create a positive cooperation that is useful for the mutual benefit, and that all is aimed to offer public transport improvement, especially in Yogyakarta with deliver service, convenience, and safety to the passenger as has been illustrated by Trans Jogja. Public transport should change from the old view of marketing when value was created by public transport companies in the activities of transporting people from origin to destination by providing transportation capacities only with minimum service, convenience, or other user needs (G-D Logic), to the new view of marketing process, when value is perceived as a form of co-creation where companies of public transport and their users are creating value together and develop innovative ways for customers to integrate and use the necessary resources for service provision (S-D Logic). It is, and also promoting the advantages of using public transport are expected to improving public transport and then increase the number of public transport users which implies to reduce the private vehicle users, and reduce negative impact, both on the driver itself and in terms of economy and environment.

Trans Jogja does not have a high achievement level in the value creation framework. Some items that are still requires attention for example, in self service Trans Jogja still develop and not many choices like in Värmlandstrafik AB, and also limited self-controlling mechanisms, and the customers still have limitations to obtain some informations, and customer involvement with the authority or with the operator are also still not developed well. But the things in behind of those that causes this achievement is not as high as that achieved by Värmlandstrafik AB is not clearly known yet, probably comes from issues of financial, institutional, or because of there is a policy that has been set that the existing system must/normally work like that. Although the achievement of value creation opportunities are not as high as that achieved by Värmlandstrafik AB, but Trans Jogja should learn from Värmlandstrafik AB about what needs should be improved, so it can be an example of improvement to other public transportation.

From the results, there are some further improvements, such as:

1. Customer engagement dimensions, Trans Jogja and other public transport in Yogyakarta should learn about environment friendly and energy efficient vehicles. Learning from Värmlandstrafik AB, they use bus and commuter train vehicles with Euro II regulation and using electricity for the commuter train.



2. Self service options, it can to develop and implement, not only just developing without implementing, self service options in order to facilitate and make easier for travel, and reduce cash on travel. After that socialize it to the whole community. For example: multi-bank prepaid ticket, SMS, and online ticket.
3. Providing some supplementary services. The aim is to extend the breadth of service beyond the scope of transit services by providing customer experiences. For example Trans Jogja make cooperation with cellular phone provider to provide service for reloads the mobile phone balances for passenger while waiting the bus.
4. To solve the customer problems about the information of bus schedule, routes, and the upcoming shelter, Trans Jogja can learn from Värmlandstrafik by provide real time information and the announcement system in form of audio and running text inside the buses.
5. In co-designing new service ideas, integrated policies with stakeholder, service providers, and social community that give more priority to mass transportation. Involving customers in the design of new services, or new innovations come to give an idea, it will give an opportunity to the customer to actively participate in improving public transport.
6. Should provide with clearly customer service/customer centre to complaint if the problem happens, and also for deliver the ideas or the constructive criticism to the service provider.
7. Improve the facilities for passenger, such as increased the number of benches, expand the bus shelter size, provided with parking facilities for vehicles like car, motorcycle, or bicycle, and also improve the facilities for the people with disabilities.
8. The customers can promote Trans Jogja to the whole community by telling their experiences, benefits using it, some innovations on it, and other positive progress through blog, social media, newspaper, advertisement, or other media, in order to make Trans Jogja more popular.

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