

STUDY ON PUBLIC TRANSPORT SYSTEM IN JAKARTA AND PUBLIC PREFERENCE RELATED TO OPERATIONAL ISSUES CASE OF SOEKARNO-HATTA AIRPORT TRAIN

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In 1985, the Soekarno-Hatta International Airport (CGK) was commercially operated, replacing old Kemayoran Airport as the principal airport of Jakarta, the capital city of Indonesia. The operation was marked by the opening of Terminal I of CGK with capacity of 9 (nine) millions passenger per year. The Airport is continuously developed during the time with the latest completion of Terminal 3 Ultimate in 2017 which made its capacity to become 43 (forty three) millions passenger per year. In the same year the total passenger traffic in CGK has reached more than 63 (sixty three) millions passengers. However, the development of the Airport is not supported with the sufficient development of infrastructure to access the airport. With the increasing total passengers and limited access, traffic conjunction has been part-of-the daily commuting to and from CGK. To support the development of CGK, the central government of Indonesia initiate a plan of CGK train as an alternative access to the airport. The project was commercially operated since 2018. However, after almost a year of its operation, it has not made a significant contribution to reduce the traffic conjunction. The train was initially designed with daily capacity of 33,728 passengers. However due to infrastructure limitation, currently the train operates with daily capacity of 19,040. Far from the expectation, the average occupancy of the train was in the verge of 30% from its current total capacity. As the CEO of PT Railink, the operator of CGK train, Heru Kuswanto is faced with a big challenge to analyse the situation and prepare the turnround.

Company Profile - PT Railink

Until the end of 2012, there's only one main land-access to CGK through airport highway that mainly served the passenger that going to and return from CGK. This highway also used as an access in public's daily commute as the airport is surrounded by residential area as well as business and commercial area. Although some lane widening has been completed, the traffic conjunction is frequently occurred especially during the busy hours, and impacting to the average travelling time up to 2 hours before passenger can reach the airport. To minimize the traffic conjunction, the President Decree No.83/2011 was issued to instruct and accelerate the construction of CGK Airport Train which also called as the Soekarno-Hatta Airport Railink Service (ARS-CGK).

PT Railink was established as a joint venture company by PT Kereta Api Indonesia (Persero) (KAI) and PT Angkasa Pura II (Persero) (AP II), both are the state-owned entity under the Ministry of Transportation. PT Railink operates two Airport Railink Services (ARS) which are ARS Kualanamu that linked Medan City with Kualanamu International Airport (KNO) and ARS Soekarno-Hatta that linked Jakarta City with CGK. Project of the ARS-CGK was commercially operated on 26 December 2017. As of October 2017, ARS-CGK serve passenger in five stations. The BNI City station was newly built as the main station and head office of ARS-CGK, which was designed to provide customer with exceptional travelling experience. The facilities include: spacious parking lot, ticket vending machine, waiting lounge, commercial area, food stall, minimarket, ATM centre and meeting room.

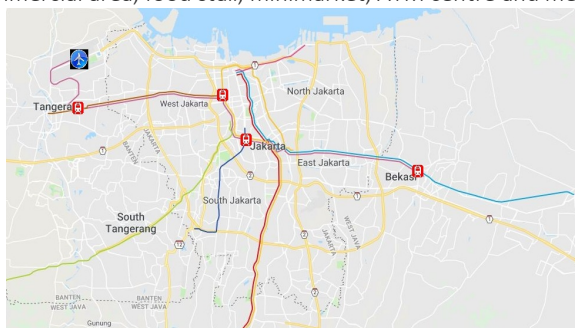


Figure 1. – Location of ARS-CGK Stations

ARS-CGK was simultaneously constructed with the construction of CGK Sky Train that connects Terminal 1, Terminal 2 and Terminal 3. Previously people need to take shuttle bus to move from one Terminal to another Terminal. Sky train also connect all Terminals with the ARS-CGK station in the airport area.

The Development of Indonesia Aviation Industry and Soekarno-Hatta International Airport

The geographical condition in Indonesia as an extensive archipelago has made air transportation mode to be the most preferable

alternatives for people to move from one to other places, especially in the terms of time efficiency and effectiveness. Therefore, the aviation industry in Indonesia has played an important role both for Indonesian people to support their needs as well as to the tourist who wants to visit more places which made a positive trend for the past 5 years. Especially for CGK, as the major hub and located next to the Capital City of DKI Jakarta, has made it the busiest airport of Indonesia. Currently CGK has operated 3 (three) passenger terminal plus 1 (one) Hajj-dedicated terminal. Taken from the data released by the Airports Council International (ACI), CGK is ranked 17th (seventeenth) as the busiest airports by passenger traffic. This is inseparable from the demographic conditions, where CGK is the main airport that supporting the Jakarta Greater Area – or so called Jabodetabek area. Jabodetabek is the official administrative definition of the urban areas that geographically surrounding the Jakarta, which consists of five cities from three different regencies and provinces. As of 2015, the total population of Jabodetabek is predicted to have reached more than thirty million people. It also made it as the urban area with the highest number of population after Tokyo, the capital city of Japan.

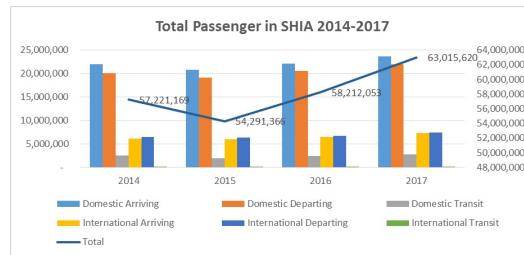


Figure 2. – Total Passenger of CGK, 2014 - 2017

The ARS-CGK was inaugurated on January 2nd, 2018. However, due to the development of the supporting infrastructure, the service was not operated with the initial design. The service is operated initially only from 4 stations out of initially designed 5 stations. It is due to the infrastructure condition where ARS-CGK used the existing railway which was originally used by PT Kereta Commuter Indonesia (KCI) as the operator of domestic train transport. Therefore ARS-CGK should utilize the existing railway alternately with KCI. As KCI served as one of the backbones for public transportation for Jabodetabek, many citizens rely on its service on daily basis, therefore it still prioritized by the government. This condition led to limited quota for ARS-CGK to utilize the existing railway, which impact to the limited trip. The total capacity which initially designed to have 32,640 passengers with 120 trips daily, can only serve the public with 70 trips with capacity reduced to only 19,040 passengers daily. From this capacity, in 2018 the average occupancy on daily basis is 13%.

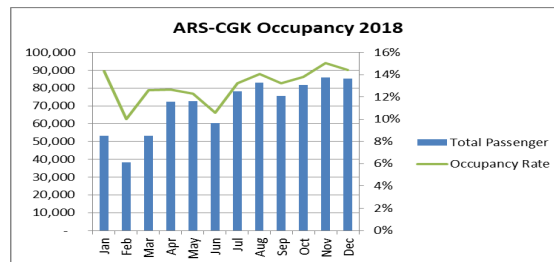


Figure 3. – Occupancy ARS-CGK in 2018

With increasing passenger traffic in the CGK that reaching almost 180,000 daily passenger, the stakeholders and public start questioning the contribution from the operation of the Airport Train and whether it can achieve the initial target and reliability when it was designed. The market size seems not the main problem as the CGK constantly facing the increasing demand from the airlines to increase the passenger and flight capacity. Not mentioning the non-airlines-passenger who also utilizing the ARS-CGK e.g. employees of the airport, airlines and tenants as well as those who live and works around CGK. The train and station was designed and equipped with wide-ranging facilities to give total convenience to the passenger. The marketing initiative has been launched by giving lower price for frequent user and group passenger. What could be the optimum strategy?

ALTERNATIVES

Access

Access is a very important factor. Being accessible means also being reachable as it enables a location, a business place to become available to its environment and surroundings. A transportation business rely most of its business to the accessibility, as it will enable people to use its service. From the Figure 1 above, the existing station are represents with the red station icon, these existing 5 stations mostly located at the centre of Jakarta, which is mostly occupied by the business and office centre. With

current station that available to the service of ARS-CGK, most of the public needs to put an extra efforts to access and utilize the service. It is due to the urban residential area are mostly located at the greater area of Jakarta. These areas are where the major potential user of ARS-CGK domiciled. Although the service has been developed to the Bekasi Station but the number of trip served was very limited, only 4 trips per day and the trip schedule in less-busy hour. This is due to the limitation of the rail-tracks. As currently there are only 1 tracks to Bekasi and has been fully utilised by the Commuter-Lane which served public in local rail-route and Trans-Jawa train.

Therefore, it is important that ARS-CGK continuously assessing the accessibility of its stations. In assessing the accessibility of a place, there are three major points that needs to be considered:

- The availability of transportation mode and the demand level. The presence of transportation mode is very critical to make one place become reachable; various transportation modes provided will gives people more options. It's also important to understand the demand situation of the existing transportation, whether the capacity is sufficient to meet the all the existing demand.
- The time constraint. The availability of the transportation needs to be matched with the specific timing of when does the transportation is needed the most, and whether time consumed during the trip is acceptable.
- The limitation of formal and informal institution. Socio-cultural and personal perspective is a major influence in individual's decisions making process, including on how an individual see the accessibility of one place. There's also some limitation issued by the formal institution such as age restrictions or usage of certain access card with prepaid vouchers balance.

Relevant to the topic for the case of ARS-CGK, to increase its accessibility PT Railink has to continuously expand its service coverage by building a new station and dedicated railway to serve people from outside Jakarta Area. However, such development requires a lot of investments and a longer investment return period. Other alternatives will be through integration with other transport provider and operator. The facility and infrastructure to support such integration will also require additional investment; however it shall be borne collectively with other involved operator. The other benefit is that it also can attract the daily users of those operators.

Public Transport Integration

Several research have shown that coordination and integration of transit services can improve public transportation system connectivity and reliability. When people think of transport integration, most of them consider the integration as physical-integration, in which the integration that happened in more physical way such as vehicle and station sharing between operators and transport mode, or route integration. In fact, an integration of transport has more impact other than physical integration. The less tangible integration is no less important than the physical one. It also include of system integration which consist of payment (universal transit fare card or passes), schedule (coordination and synchronization of arrival and departure times) and service sharing.

Transit Oriented Development (TOD)

One of the latest initiatives in public transport integration is the concept of Transit Oriented Development (TOD). Major cities and government around the world has put its effort to find best practices on how to deal with the concerns of sustainable public transportation system combined with environment issue. This is where the concept of Transit Oriented Development is seen as the solution for the deteriorating transportation condition in most of the Major City. TOD considered as a sustainable transportation approach and as a form of land use, attempt to reduce the amount of travel by car by promoting use of public transit and higher density mixed use. There is no literature and universal definitions of the TOD. In his research, Arsalan Faghri, 2012 summarized the parameters to be used in his research in regards to main points of TOD concepts. These parameters are the common denominator of the definitions of a transit-oriented development found in the literature, which include::

- **Mixed used developments** – The variance of land use can be either concentrated in a single parcel, or be spread through a corridor that is well served by transit. The transit technology can include heavy or light metrorail, streetcar, trolley or bus.
- **Walking distance** – A convenient walkable distance to a transit station, preferably 0.25 mile or less, is probably the most important criteria in defining a Transit-oriented environment.
- **Moderate to high density developments** – Increased density of the land use is arguably the most important contribution of TODs in reduction of Vehicle Miles Travelled (VMT) and congestion.
- **Pedestrian and bicycle friendly** – In order to satisfy criteria No. 2 above, well connected pedestrian and bicycle facility is necessary.

The main BNI-Sudirman station is located in Dukuh Atas which intersect with other public transport mode such as, Bus Rapid Transit (BRT), Jakarta Mass Rapid Transit (MRT), Commuter-Lane, and upcoming project of Light Rail Transit (LRT). As stated in the Governor's Decree, that Dukuh Atas area will be developed as one of the main TOD. However, since this integration involves many transport operators with different infrastructure type, different class of passengers and of course different interest,

therefore to ensure smooth integration and to fulfil every interest on the table will be a major challenge, especially in implementation of joint fare. Several transport researcher and practitioner give the importance of the establishment of an so called “Agent” who has a main function as the body who authorized to coordinate this integration among all existing operators. A precursor to successful and effective service integration policies is inter-operator coordination that helps establish the conditions necessary for two or more transit properties to jointly develop a means to integrate some aspect(s) of their services (Miller, 2004). It is also important that commitment and interest are all synchronized and agreed between the operators in order to have an effective integration.

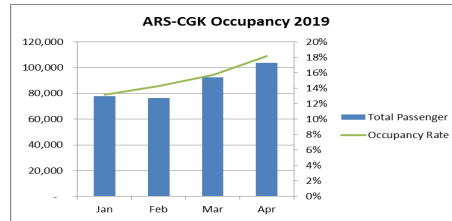


Figure 4. – Occupancy ARS-CGK in 2019

The effect of the integration was instantly affecting occupancy rate of ARS-CGK. After almost two weeks since the commercial operation of MRT on 1 April 2019, the occupancy rate of ARS-CGK has already increased by 11%. This shows that the integration will enhance the connectivity and accessibility of public transportation which eventually will increase the public willingness to utilize the public transportation.

Customer-centric Strategy

The way we view service parallels the way we view quality: The customer is (or should be) the focal point of all decisions and actions of the service organization (Chase, et al). It gives a reasonable idea, as the main process of the service company is to serve its customer. In transportation industry most of regulator and operator has wrong perspective and concept of customer. Indeed, the main purpose of the transportation is to carry and move people from one place to another place. It is therefore, many operators and regulators put aside the importance of other aspect in service itself. People are treated as user, with only one purpose to be moved with cost as low as possible. This paradigm, especially in Jabodetabek has now been a focused for one reason to change the behaviour of people in public transportation. Mr. Ir. Alvinskyah M.Sc., an expert in transportation has delivered his idea of the importance to change the current paradigm of customer in public transportation.

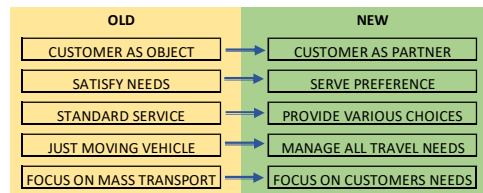


Figure 5. Paradigm Transformation in Public Transportation (Mr. Alvinskyah)

Customer-centric development has strong relation with the marketing initiative to understand the ‘real’ customers. Kotler and Armstrong, 2012, define marketing as the process by which companies create value for customers and build strong customer relationships in order to capture value from customers in return. By creating value for consumers, they in turn capture value from consumers in the form of sales, profits, and long-term customer equity. It is important to set and design a customer-driven marketing strategy. There are four major steps, the first two steps involves a process to selects the customers that it will serve. The final two steps, involves the process to decides on a value proposition—how it will create value for target customers.

From the survey conducted to understand the public preferences in relation to the operation of ARS-CGK, it is understand that public preference towards transportation mode to access CGK, online-sharing-transportation leads with 33.6%, while Taxi and Personal Car shares almost the same number of 25.7% and 25%, respectively. The survey also shown that Travelling Time considered as the most important factor, followed by Punctuality, Price and Access/Station Location on second, third and fourth places. The least important factor is the ticket reservation and payment method. The survey also indicates that from 41% respondent who unsatisfied with current travelling time, 68% agree that the total travelling time should be reduced. It’s an opportunity to increase passenger satisfaction by reducing the travelling time.

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