

**A STUDY ON A SERVICE PERFORMANCE
OF EXPRESS BUS COMPANIES IN
A COMPETITIVE MARKET
(CASE STUDY: JOHOR BAHRU - KUALA LUMPUR ROUTE)**

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**A Dissertation submitted as a
Partial Fulfillment for the award of a
Degree of Master of Science in
Transportation Planning**

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JUNE 1995

ACKNOWLEDGMENT

In the name of Allah, the most Beneficent and the most Merciful.

A dissertation derived from the Latin *dissertare*, "to discuss", might be visualised as "bringing together, in proper order" a set of disparate ideas or facts by an author who is presumed to be an expert. This thesis is based on a set of disparate papers brought together in a logical manner.

I am greatly indebted to my supervisors, Dr. Abdullah Ab. Rahman and Prof. Madya En. Abd. Aziz B. Abd Muti, for their continuous support throughout the study. I would like to express my sincere gratitude to all express bus operators on the Johor Bahru - Kuala Lumpur route for a fruitful collaboration and for an extremely inspiring time in their willingness to provide valuable information. My appreciation's also goes to En. Rasemi B. Mat Alim and all staffs at Commercial Vehicle Licensing Board, Kuala Lumpur, who had assist me in gathering data and information in completing this exercise. Special thoughts go to all lecturers at UTM, who had somehow enriched my life; especially to Prof. Madya En. Mohd Noor B. Awang, Dr. Jamaluddin B. Mat and En. Badruddin B. Mohd Yussuf, all their time and patience to assist me is very much appreciated.

The moral support of my friends and colleagues kept me sane through the development of this work. My beloved brothers and sisters, their spouse and children, in grateful acknowledge for their unconditional love, patience, encouragement and the joy we shared together. Special thanks go to Khairul Asfamawi for his everlasting encouragement and enthusiasm about my work. Finally, I want to express my sincere thanks to my parents, for giving me ability and self-confidence it takes to succeed.

The study has been a great experience and has given me valuable insights into the field of bus industry especially and transport work in general.

Again, Thank You to Allah s.w.t, Alhamdulillah.....

Johor Bahru, June 1995
Fauziah Hassan

ABSTRACT

Competition between the firms in each of the five modes of transport does not only exist, but is of major importance particularly to the express bus operators. The existence of competition in transport industry, is felt and made aware by the operators. The express bus industry in Malaysia is undergoing a major transition where 1423 new licenses is being released by Commercial Vehicle Licensing Board(CVLB) on the 26th March 1992. The action of CVLB allowed competition between bus services after about 20 years of protection of established services through road services licensing.

The Johor Bahru - Kuala Lumpur route was very much sought after by transport operators. This is due to the fact that it is one of the most profitable route in Peninsular Malaysia. This sudden overflow of services competing for the JB - KL route had caused highly competitive market situation among express bus companies.

The intense competitive environment has affected both users and the bus operators. Generally, the impact on the users includes more choices of services and ample services. Whereas, the impact on the operators is the intense competition which has brought forth the problems of surplus in services and smaller market share; and this is the subject of the study for which the Express Bus Costing Survey(EBCS) was conducted with detailed records of service and financial performance of four express bus companies operating the service on the JB-KL route.

In the current transport environment, the express bus operators have to be competitive in order to survive and prosper. The express bus companies which are operating in the highly competitive market often have to deal with the problems to achieve profitability. Too many permits of the JB-KL route have produced a wasteful competition for local express bus services, thus leading to a stage where it becomes harmful to the industry.

Due to the intense competition, recommendations of changing the structure of the bus industry are given in this study. The franchising bus system and public transport co-ordination have been suggested to be the best solutions to the problems.

ABSTRAK

Persaingan dalaman antara pengusaha-pengusaha pengangkutan bukan hanya wujud tetapi menjadi persoalan utama kepada pihak yang terbabit di dalam industri ini. Kewujudannya amat dirasai dan disedari oleh pengusaha-pengusaha pengangkutan. Industri bas ekpress sedang mengalami perubahan besar apabila Lembaga Perlesenan Kenderaan Perdagangan (LPKP) meluluskan sebanyak 1423 permit-permit baru kepada pengusaha-pengusaha bas ekpress di seluruh negara. Pengeluaran permit yang berkuatkuasa pada 26 Mac 1992 ini telah mengujudkan keadaan persaingan sengit dikalangan pengusaha-pengusaha bas ekspres.

Laluan Johor Bahru- Kuala Lumpur menjadi tumpuan utama pengusaha-pengusaha bas ekpress kerana ia merupakan salah satu laluan yang menguntungkan. Persaingan sengit yang berlaku di dalam industri ini telah membawa kesan kepada pihak yang terbabit iaitu pengusaha bas dan juga pengguna perkhidmatan ini. Secara amnya pengguna akan mendapat faedah dan manafaat hasil daripada persaingan ini, dimana banyak perkhidmatan yang tersedia disamping mudah untuk mendapatkannya. Sebaliknya keadaan ini menyebabkan pengusaha terpaksa bersaing dengan 'sengit' untuk mendapatkan penumpang. Persaingan ini menjadi tidak sihat dan menambahkan masalah kepada pengusaha sedia ada dan juga penguatkuasa undang-undang. Kajian ini dijalankan untuk mengukur sejauh mana persaingan ini telah memberi kesan kepada pengusaha sediaada dan juga untuk menilai prestasi pengusaha-pengusaha baru.

Di dalam industri pengangkutan masa kini, pengusaha bas haruslah mempunyai daya saing yang tinggi serta berani untuk terus kekal dan mampu bersaing dengan pengusaha yang lain. Di dalam persaingan yang terlalu sengit keuntungan adalah sukar untuk dinikmati dan kemungkinan untuk rugi adalah tidak mustahil. Hasil daripada kajian ini dapat dirumuskan bahawa pengeluaran permit yang berlebihan menyebabkan berlakunya persaingan yang terlalu sengit dan situasi ini adalah amat kritikal dan perlu diberi perhatian bagi memastikan perkhidmatan bas ekpress terus kekal sebagai alat pengangkutan antara bandar yang utama. Penulis mencadangkan agar sistem pengangkutan bas masa kini perlu diubah kepada 'Bus franchising system' bagi menyelesaikan permasalahan yang wujud.

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CHAPTER I

CHAPTER I

INTRODUCTION

1.1 Introduction

Public transport systems provide the most efficient means of moving large numbers of people, especially in dense urban or city areas. Bus services, in particular, provide considerable flexibility in meeting demand for public transport. In many developing countries, buses are the only choice of a majority of the population and are the only means of transport that can be afforded by the urban poor.

The inter-city travel market has been growing as income grows in real terms and, therefore, the amount of money available to be spent on leisure and optional travel has also increased. Coach services particularly express buses have been given an additional boost by the development of motorways which have significantly reduced journey time.

The express bus services are provided nation-wide as an important transportation service to the users. Almost every town and city in Peninsular Malaysia has a daily link with much of the part of the country through the national network of express bus services. Commercial Vehicle Licensing Board Act 1987 has defined Express Bus as a bus used for the carriage of passenger at separate fares on a service which contains no fare stage less than 16 km. Express bus services also operate on a fixed schedule, over given routes, at controlled fares, but have less frequent stops, and they generally cater for longer journeys than stage services and provide a competing, albeit slower and cheapest and for the intercity service

The express bus will play an important role as an inter-urban public transport mode. Railway and air links do not provide the same degree of access to areas in the

Peninsular Malaysia as the express bus. The travel cost by express bus is also much lower than all other public transport modes, although third class railway fares are comparable. For example the fare of the express bus for the Johor Bahru - Kuala Lumpur is about RM16 to RM20, whereas it costs RM35 by train and RM89 by air plane.

The express bus industry is a highly regulated industry, and as such licenses are difficult to obtain. Only a few additional licenses are granted from time to time. However, beginning 26th March 1992 the Commercial Vehicle Licensing Board (CVLB) changed the policy and made it easier to enter the industry. As a result of this change 1423 licenses were issued to the express bus operators throughout the nation. The reason for the change in policy based on the research done by the board that there was an insufficient service to cater for the ever increasing demand. In addition, the actions also rested on the assumption that it would lead to a competitive market for local express bus services which would also alleviate any particular operators to monopolise the industry. Competition will then produce benefits including cost savings, lower fares, and improved services.

The action of increasing the number of licenses issued by the CVLB allowed the emergence of many new bus operators. As a result the industry has now become highly competitive. This study will highlight the impact of the change in policy to the express bus operators. The Johor Bahru-Kuala Lumpur (JB-KL) route was selected as the area for research.

1.2 Problem Definition

If an express bus route is open to any number of operators, and they must operate without any form of collusion or co-operation, will there be a stable pattern of service? If so, what sort of pattern will it be? These are important questions for authorities to answer, having introduced competition in express bus services after

about 20 years of freezing such permits.

The critics of the new policy indicated that the competition would lead to a wasteful duplication of services, timetable matching and instability in services and fares. New operators would concentrate on providing duplicate services on those routes where passengers demand was the greatest; Johor Bahru-Kuala Lumpur route is one of the appropriate case of example. This has certainly been example where overall bus frequencies were greatly enhanced in numbers of passengers, operators have been unable to tolerate the resulting uneconomic load factors indefinitely and the competition which has curtailed.

Regarding the current situations on the JB - KL route, the express bus services is a highly competitive industry with 30 express bus companies are competing each other. The emergence of new additional operators providing the single route, has brought some impacts and changes to the established operators; whereas the new operators has brought some new style of the express bus services which indirectly changed the phenomenon of the industry.

The established operators claimed that too many permits issued by CVLB for the JB-KL route produced a wasteful competition for local services. The operators confessed that a competitive environment is needed. However, they complaints that the competition has reached a stage where it has become wasteful and harmful, and to get 50% seats occupied per trip on weekdays was very difficult. However, they have to run the service as on schedule and the concept of transport cannot be stored always apply in their business where the unoccupied seats mean losses to them.

Some of new operators are very much aware that the business that they have entered is a competitive industry; thus they really have to struggle in order to stay in the scene. A highly competition had constituted the operators to out do one another without caring for the costs. The operators tend to cut the price especially during

off peak period in order to attract passengers to use its services.

Where public safety is involved, intramodal competition does not always lead to a desirable goal. The desire to achieve the cheapest service in a competitive struggle may lead to lower standards of maintenance, unusual hours of work for operators with resultant accident hazards, and unsafe operation of transportation vehicles endanger either the users of the service or the innocent co-user of the facilities. These matters are of the particular importance in bus industry, and society has seen fit to regulate these agencies with the safety of the public at least partially in mind.

Intramodal competition, then, has both its desirable and undesirable aspects. Choice among the various firms providing a given type of transportation is highly desirable, but only to the extent that choice does not lead to unusual duplication and unusual waste of resources, inadequate service from the point of view of reliability, availability and trustworthiness, and service which is unsafe for the public and the operator.

1.3 Objectives of the Study

The main objective of this study is to analyse and evaluate the service performance of the express bus operators in a competitive market i.e., after CVLB issued more licenses to the industry. Specifically, the objectives of the study are:

1. To establish that competition between operators of express bus services is abundant.
2. To highlight the impact of the competition on the established operator arising from the emergence of new express bus operators.
3. To make a justification of the current express bus competition with regards to the service performance and financial aspects.
4. To suggest and recommend solutions that will help in solving the problem.

1.4 Research Methodology

The approach used in this study is empirical and task oriented involving extensive collection of primary and secondary data including interviews and meetings with from express bus operators.

1.4.1 Primary Database

Type of survey carried out:

Express Bus Costing Survey (EBCS)

The main purpose of this EBCS is to establish the financial performance of express bus operators and the express bus industry. Viability and profitability are generally difficult to ascertain. In conducting this EBCS, four express bus operators have been interviewed and they were randomly selected after having expressed in wiliness to cooperate in the survey. Hence this survey includes collection of operating cost items as well as revenue earned monthly and annually for four years, from 1991 to 1994 for the established operator (refer to Company A) and two years financial performance(1993 and 1994) for new operators (refer to Company B,C and D). The data were collected from daily way bills for off peak, moderate and high peak travel seasons.

a. Operating cost items includes cost for the following:

1. Diesel
2. Grease
3. Spare parts
4. Tyre and tube
5. Repair cost
6. Road tax and license

7. Drivers wages, allowances and overtime
8. Fleets depreciation and
9. Other maintenance cost.

b. Operating revenue items includes:

1. Passengers volume
2. Number of tickets sold
3. Fare

c. Other service items includes:

1. Fleet size
2. Total actual distances (Vehicle mileage)
3. Total actual trip (Trip volume)

In order to measure the financial performance before and after the implementation of the new policy by the CVLB data was collected from 1991 to 1994. Company A has been in the industry since 1978 and it is expected that changes in government policy has an affect on the company. For the other three companies which only started operation in late 1992, two years financial performances have been collected (1993 and 1994), since data were only available for those period.

1.4.2 Observations

The researcher made regular rides on the route to provide the general account of the service of each company. Information includes the conditions of the buses, quality of ride and assessment of drivers.

14.3 Secondary Database

The secondary data required for the study was retrieved from the following sources:

i. Books and Magazines.

More information for the study has been gathered through research from library books, journal, reports, magazine, newspaper cutting and others for literature review. All these materials which are related to bus operation, management and finance are used in this study.

ii. Filed Company Data

Data from the companies' files is very useful in the study. Filed data such as the Profit and Loss Account are very much useful to the researcher.

1.4.4 Data Analysis

Performance is the key variable to assess the impacts of a change in market structure. Performance measure is constructed by selecting a relevant output and combining into them (as a ratio of output and to input) into a single measure. In theory, this step can be conducted on all possible combinations, but in practice only the set of "feasible" combinations should be considered. In this study the financial measure is used to analyse the performance of the selected express bus operators.

These measures represent the managerial and monetary performances of the operators. The measures reflect the traditional balance sheet and income statement entries as prescribed by standard business-firm accounting practices. Financial measures suggest a specific dimension of performance (and ultimately of service) by focusing on the basic incentive of all business enterprises: profit.

Financial measures can be divide into two components: operational and consolidated. Operational financial measure is used in this analysis since it is strictly relate to transportation operation, like operating revenues and operating expenses.

Consolidated financial measures are more comprehensive since they cover all phase of the agency, including non-carrier investments and it is not suitable to measure the performance for the specific service of a particular route.

The efficiency elements below indicate how well or badly a bus company is operated and can provide both internal measures and inter-companies comparisons. Stuart Cole(1987, suggested some efficiency indicators which can be used to measures the performance of bus companies. The efficiency indicators to measures the performance includes:

1. Fleet size

Fleet size is used to determined the capacity of the company in providing the service. It is the number of buses that company has to serve the route.

2. Vehicle mileage

Vehicle mile is the quantity of miles(km) produced by the buses and it is computed by multiplying the number of trips with the length of the route (which assumed to be constants at 337km).

3. Trips volume

Trips volume is the number of trips produced which is calculated by multiplying the number of trips daily with the number of days operation. However, the volume do varies when the company made the additional trips at certain time

4. Patronage levels

One of the most important measures of a public transport system is the number of passenger being carried. Patronage levels indicate how attractive the service is in relation to the other possibilities for travel and various attributes about the journey made indicate how well the service is catering for people's travel needs and desires. Measurement of patronage has been computed from ticket sales recorded in daily waybills.

5. **Passenger Load factor**

Load factor is the actual load carried divided by the capacity provided and expressed as percentage; for passenger traffic seat factor is the number of seats filled divided by the number of passenger seats available on the fleet/bus. This comparison produced the passenger load factor.

$$\frac{\text{loaded seat}}{\text{capacity seat}} \times 100 = \text{percentage load factor}$$

6. **Passenger per trip**

Passenger per trip is the number of passenger carried over the actual trips volume.

7. **Passenger per bus**

Passenger per bus is the number of passenger carried over the fleet size.

8. **Revenue per km**

Revenue per km is the product of passenger carried and the distance over which they are carried

9. **Revenue per trips**

Revenue per trips is the product of passenger carried and the number of trips over which they are carried.

10. **Revenue per bus**

Revenue per bus is the product of passenger carried and the number of bus over which they are carried.

11. **Operating cost per km**

The express bus industry per km cost item is derived by dividing annual cost item by the total km, covered by an express bus for one month or one year. This unit cost concept indicates what the cost of each item is for one km, and if the cost for particular route is required it is easily obtained by multiplying the unit cost with the distance of that route.

12. **Operating cost per trip**

Operating cost per trip is derived by dividing the cost item over the number of trips.

13. **Operating cost per bus**

Operating cost per bus is derived by dividing the cost item over the fleet size.

14. **Share of passengers**

Share of passengers is obtained by examining the proportion of passengers carried by each company. It is computed by dividing the patronage volume of each company with the total patronage volume carried by four selected companies and it is expressed by percentage.

15. **Profitability ratio**

Ratio analysis of business enterprise centers on efforts to derive quantitative measures or guides concerning the expected capacity of the firm to meet its financial obligations. The financial obligations involved typically take the form of interest and preferred dividends and payment of the principle amount of debt or preferred stock at maturity. Past data are used to provide the firm's performance. Accordingly, ratio analysis centers to large extent on historical data; through such data the ability of the firm is judge. This is essentially a matter of subjectively estimating a firm's ability to meet its obligations. Profitability is important for creditors because of the presumption that payment of the interest on debt (dividends on preferred stock) and repayment of principle will derive from the profitability of the firm. For owners, profitability is important because of the bearing it has on the cash dividends shareholders receive and the market value of their claims.

Profitability ratios relate to the firm's efficiency as presented in various financial statements. In this study the *operating ratio (OR)* is used to measures the profitability because it represents what is commonly referred to

as the *margin of profit* derived from revenues. In other words, it indicates the percentage of each ringgit (dollar) of revenue available to the firm before income tax payments and service of capital claims (that is, debt and ownership). The operating ratio used to measure the profitability for a particular year is the ratio of Total Operating Income (TOI) to Total Operating Revenues (TOR), i.e., TOI/TOR . In general, one would expect this ratio to be about 25 to 50 percent for public utilities such as express bus industry (Archer Stephen H. and D'Ambrosio, Charles A., 1972).

Comparative operating ratio is used to compare the performance for each operator. In analysed the data, the researcher used the efficacy indicators which have been discussed earlier to measures the performance. The result from this measurement will be presented in term of percentage(%) and representing them in table as well as graphic form.

1.5. Scope and Limitation of Study

The main purpose of this research is to establish facts about the changes in operations and services of the express bus industry associated with competition, particularly on the JB - KL route. Competition in the express bus industry might be expected to result in congestion, pollution, scarcity of terminal space, accidents and also will result in land use development . However, for this purpose of study all these implications will not be covered.

In conducting this study the researcher will only look at the operators' point of view and the company's information about their operation and services. For better understanding of the implications on the established companies, this study will make a comparison of the operation two years before and two years after the CVLB's action.

The implications of the competition to the express bus operators which covered in this study are such following:

- i. The financial aspect of the competition among the express bus operators on the Johor Bahru - Kuala Lumpur route.
- ii. The operation system of the express bus operators in providing the services in the competitive situation.

1.5.1 Problems in the measurement of transportation performance

Efforts at devising measures of transportation performance are certainly not new. Such measures have been available for a very long time and are used as a matter of course by a wide variety of individuals and organisations concerned with transportation. While everyone in the transportation field is certainly familiar with measures such as ton-miles, vehicle-miles and passenger-miles, it is significant to note that frequently the data and constructs used to measure transportation performance have been the by-product of administrative and reporting system.

On the output side, most analysts agree that virtually no single measure will suffice. In the theoretical literature on the subject, the fundamental distinctions go no further than indicating that output may reflect either (1) an annual volume; or (2) a rate of output; or (3) a size grouping or batch of output. In fact, even this type of distinction may be the exception to the rule.

Even though agreement might be reached on the appropriate output unit, still cannot encompass several other important dimensions which are implicit in measuring output. Some of these other dimensions include:

1. The difference between moving an object through a high impedance as opposed to a low impedance medium
2. The value, or the utility, to the beneficiary of the object movement
3. The importance of accessibility changes induced by both for actual or

potential movement

4. The (potentially movable) objects not moved because of transportation consideration (e.g., communication substituted for transportation)
5. The many public policy uses of transportation output measures

On the input side, the major problem appears to stem from the collection of data. In many cases of transportation and economic modeling, inputs can be specified very appealingly. Quite often, however data to support these inputs are either are either lacking or impossible to collect.

The difficulties of measurement relating to outputs and inputs present more than analytical issues. They also have important practical implications in this area of cost allocation. If transportation system require rates to reflect costs, then a precise knowledge of the unit to be cosseted is necessary so that no distortions in the rate making process arise. Otherwise, discrepancies between costs and rates will sustained and resource misallocation in transportation will continue (Kneafsey, James T.1974).

1.6 Importance of the Study

It is important to understand the outcome of the policy in practice. Specifically:

1. To make a contribution by justification of present scenario of express bus competition which will help the authority to revise its role and policy.
2. To make a contribution by assessing of the present express bus competition which will help the operators revise their operation system in order to ensure that their company can survive and be able to stay in the business.

1.7 Area of the Study

The route under study is from Johor Bahru to Kuala Lumpur. The distance is about 360 km and the traveling time by express bus is about five hours. The corridor between Johor Bahru and Kuala Lumpur was among the first to receive intensive express bus service with comprehensive road network and feeder services provided by taxi and stage bus. The JB - KL route is very much sought after by transport operators due to the fact that it is one of the most profitable route in Peninsular Malaysia (Rasemi Mat Alim, January, 9 1995)

The rapid development of Johor Bahru has increase the needs for good transportation network. Similarly, the express bus industry requires some measure of service improvement too. The 150 per cent increase in number of licenses issued by CVLB for Johor Bahru - Kuala Lumpur route is due to the fact that it is the one of the most profitable route after Ipoh - Kuala Lumpur route.

The objective of the case study is to monitor the changes in bus express service and service quality associated with competition, and to identify its effect on operators.

The fully completed of North - South Expressway has shorten the journey from Kuala Lumpur to Johor Bahru by about two hours. This improvement in travel time together with improved services and competitive fare structure makes the express bus services more attractive to the users.

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