

Seamless Freights Movement towards the Quality Services at Cross Border Checkpoints between Malaysia and Thailand

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Abstract: *The research aims to investigate the services of commercial vehicle operators at cross border checkpoints at Bukit Kayu Hitam and Padang Besar. The literature review was established on the relevant ways in road transport activities through their quality services as practiced by drivers of commercial vehicles in road transport industry at foreign countries. It also covers drivers' roles specifically on perception towards the quality services in their daily activities, linking to contribution towards bilateral trades. Moreover, the cross border business involves logistical requirements, movements, government, and regulatory functions for better opportunities and services through transaction at border checkpoints. The survey was conducted by using respective stakeholders at cross border check points. The Regression Analyses and ANOVA were used to measure the correlation of the services. The finding suggests that the establishment for better services should begin with proper used of service quality's frameworks and commitment by all stakeholders. This is to ensure for better services towards bilateral trades with seamless freight movement at the border checkpoints. The framework is suggested for future bilateral business at cross border check points for both countries in future.*

Keywords: Drivers, Road Transport, Cross Border Checkpoints, Bilateral Trades, Quality Services Frameworks, and Seamless Movements

1. Introduction

The transport issues at cross border can be categorized into procedural and system-related, such as human capitals, organizations, institutional, documentations, infrastructural, and transport facilitation. On the other hand, the system-related matters pertaining to the standards of transport facilities, infrastructures, inspections, and integrations of transport networks are the most important elements in cross border activities which need to be investigated. Through the support of related facilities, the movement of trucks and containerized vehicles in transporting freights could enhance cross border services. The perception of the imbalance of standards and qualities of infrastructure contributes to the cross border transport services.

Hence, if the above-mentioned barriers are addressed to various parties involved at cross border areas, the related procedures would have been investigated. Besides, this phenomenon would serve as contributed factor and enhance the Level of Service (LOS) at cross border businesses (Lakshmanan & William, 2001). Better services would integrate for future international logistics networks which are essential for freight distribution for both countries. The integration of the intermodal transportation system together with the coordination between the regulatory and cooperation of transport operators are able to measure the commercial vehicles operations for future improvement of services in bilateral trades. Moreover, the entry checkpoints are the most

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integrate for future international logistics networks which are essential for freight distribution for both countries. The integration of intermodal transportation system together with the coordination between the regulatory and cooperation of transport operators are able to measure the commercial vehicles operations for future improvement of services in bilateral trades. Moreover, the entry checkpoints are the most important areas of the study and catalyze growth for economic in both countries. These involved regulatory requirements such as documentation, customs procedures, checklists, point of destinations, immigration, and other regulatory inspections. Meanwhile, the understanding and communication between transporters and cross border authorities are found to be a contributing power to the significance of this study. The discretion over the charges, imposed procedures, and the time factors in checking are found to be additional difficulties to the commercial transport operators. In addition, the problems of the research development are reflected on the whole operational processes in the trans-border activities. This shows that times for opening and closing of the checkpoints or point of entries are required to be studied. The times taken in checking at both points of entry are found not properly coordinated by the appropriate regulatory bodies. Several procedures imposed by different regulatory departments result in the delayed vehicular movements. The time factors during the checking jeopardize the whole movements for the transport operators in reaching the destination; seaport, dry port, airport, and rail modes. Ultimately, lack of understanding on operational procedures and systems regulatory requirements by parties involved at the crossing are contributing to the delays of the movements. Hence, this study aims to investigate on the service quality of commercial operators at border crossing. Emphasize is more on investigating on driving experiences towards quality of services at trans-border services, examining the perceptions of service quality as practiced by driver of transport

operators at trans-border areas, explore the relationship between perception and service quality as practiced by transport operators and drivers, examine the levels of expertise rendered by drivers towards customers' satisfaction, examine the drivers perception, and the services of regulatory bodies at trans-border areas and finally understand the level of cooperation between commercial industry and regulatory bodies.

2. Literature Review

Some of the most influential models in the service management literature (Gronroos, 1990; Parasuraman, 1985) focused on the concept of Service Quality Gap (SQG). There are things that required to be done, especially management's requirement towards the concept of service quality in transport industry. Parasuraman (1985) definition is a pioneering model with five SQGs, the concepts of which are amplified in (Lakshmanan & William, 2001) model. The latter has five types of encompassing gaps, information, feedback-related, design-related, implementation, communication, customers' perceptions, and expectations-related gaps. Additionally to this model amplification, other authors (Gronroos, 1990) have pointed the relevant SQGs that have not been considered previously. There are benefits and problems issues associated with cross-national supply chain management for better services (Angela & Hausman, 2004). For example, logistics issues on what opportunities or problems exist and how do they affect the quality of services in trans-border relationships (Angela & Hausman, 2004). There are also studies on how the borders changed, future challenges, and plans for adapting to change as well as for future opportunities to capitalize on them (Teegan & Doh, 2002). Besides, there has been research on the transport governance systems and trade expansion in the border of United State, Canada, and Mexico, which gives abolishing tariff for better service quality (Lakshmanan & William, 2001). Indeed, cross border transaction provides small business opportunity between countries in EU areas (Sukla, 2004). A successful cross border supply chain relationship emphasizes the appropriate strategies in service quality (Hausman, 2004). This includes better services in simplifying, computerizing documentation, procedures, separating the link between vehicle and cargo documentation to reduce vehicle delays. Other than that, introducing risk assessment methods of customs clearance, one-stop processing of controls for all border agencies, and combining processing procedures. However, the problems of congestion at the border-lines occurred, this is mainly due to inefficient processing and flow. The investment in improving basic facilities and processing equipments are

necessary to improve efficiency at border areas. The government initiatives to accelerate economic growth and elevate bilateral agreement through the border trading are welcomed by the industry of transportation. Through the reviewed literature on similar study of most influential models in the service management literature focuses on the concept of SQG (Gronroos, 1990; Parasuraman, 1985). The study revealed the factors contributing to the effectiveness of services in commercial industry related to service quality. Therefore, the related frameworks in measuring the effectiveness of the services in commercial vehicles industry were used in this study. Furthermore, the study determines the significance of transport border in the North of Kedah, and Perlis towards future development at border areas. The infrastructures including place for inspections, highways, transit areas and terminal, depots, warehousing, airport, and seaports were also part of the discussion in the study. The problems on the Level of Services (LOS) were also discussed. The LOS in operating conditions on facility in terms of traffic performance measures related to speed, travel time, freedom to maneuver, traffic interruptions, comfort, and convenience are also being considered. The study would also include the waiting time frequency of services, times taken, quality of services, accessibility of depots, and perhaps other criteria as well. The destination towards nearest ports of export and import are also being discussed. Other than that, the study also covers the related connection of transport business at trans-border including the following:

- i. Logistics: The aim is to significantly diversify the tertiary sector and accelerate the move into more "modern" services industries and road transport systems and procedures.
- ii. Infrastructure: The present infrastructures at the border areas, physical infrastructure, gadgets, utilities, and equipments.
- iii. Human Capital: The present practices, vehicle operators, driver's strength, training and resources to the regulatory bodies, and transport operators.

The benefits of better services in transport industry emphasize the problems with cross-national supply chain management (Sukla, 2004a). The study by Gronroos (1990) had proposed the same nature of discussion. Table 1 indicates the gaps on the service quality which had been studied by the various researchers for further extension for the research. There are twelve indicators proposed the previous researchers on the service quality for the purpose of research.

Table 1: The Comparatives Study on the Gaps of Quality Service of Commercial Industry and the Analyses Conducted by the Previous Researchers

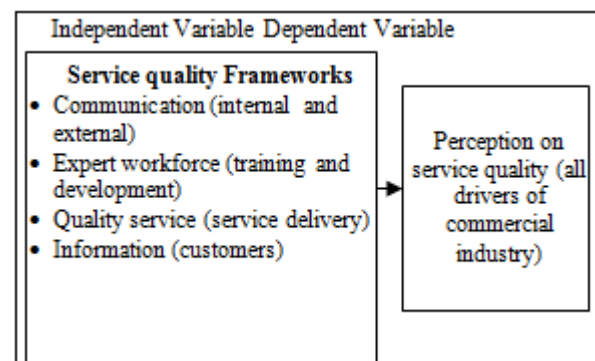
No.	Inconsistency/ gaps	Parasuraman 1985	Gronos 1989	Gammerson & Gronos 1987	Lovelock 1982	Garwin 1987	Brogowicz 1990
1	Managing perceptions	X	X			X	X
2	Service quality strategy		X			X	X
3	Service design and specification	X	X			X	X
4	The Quality				X		
5	Internal communication		X	X			
6	Integration and coordination	X	X	X	X		X
7	Better selection, training, power, rewards to personnel (workforce)		X				X
8	Service delivery (quality service)	X	X	X	X	X	X
9	External communication	X	X	X			
10	Personal perception and customers expectation	X	X	X	X		
11	Consumer s information	X	X	X			X
12	Service quality evaluation	X	X		X	X	X

(Source: The Angela Hausman -Mexican-US Border, 2004)

The aims of the table are to significantly diversify the tertiary sector and accelerate the move into more “modern” services industries towards the objectives of the study. The table indicates on the importance of service expectations and perceptions which are involved in the intangible products i.e. service industry. The service delivery systems involve; personal, training, empowerment, and rewarding in the whole process of business. The table also explains on the communication between the service providers and customers towards the vision, mission, and strategy to avoid the gaps between two parties, i.e. service providers and customers. In managing perceptions, the customers’ perceptions towards the services are proposed. The research identify the indicators that had been proposed especially on personnel contacts, which is supported by the management, service delivery systems, human capital, external communication, customers perception, vision, and mission. As suggested, four indicators in service quality are used for further development in cross border study which is communication (internal and external), expert workforce (training and development), quality service (service delivery), and information (customers).

3. Theoretical Frameworks

The perceived or perception refers to understand or interpret something in a particular way. In this case, the understanding of the service industry characteristic is the most important. The actual service quality is used to emphasis something being referred to as genuinely involved. Thus, the actual services as rendered by the cross border industry for the particular study towards regulatory bodies and their involvement in trans-border activities. Table 2 depicts the overall theoretical framework for the whole processes of the study.

Table 2: The Theoretical Framework

(Source: The Angela Hausman -Mexican-US Border, 2004)

The variables consist of compulsory requirements which are confirmed by service provider in operational activities. This study comes up with some variables, while the investigation was done through survey analysis. Besides, the hypotheses were developed and tested by taking perceived and actual service quality of commercial vehicle operators at cross border checkpoints into consideration towards the better bilateral trades between the two countries. These variables were suggested by the previous researchers and used in this study. Moreover, the variables summarized the similar concepts which are measured on the effectiveness of trans-border businesses through better quality services. In understanding the whole concepts, the proposed frameworks of service quality have to be implemented. Therefore, the literatures identified on the service quality’s indicators as proposed includes; personnel contacts, support by the management, service delivery systems, human capital, external communication, customers perception, vision, and mission. Hence, the study disseminates the appropriate steps as needed for better service industry as required by the commercial industry at cross border checkpoints. Better understanding of the preliminary of top bottom processes was revealed to be essentials in this study. The literature on the effect of service quality in cross border is important for future development particularly for both countries. The commercial transport operators play an important role in promoting economic growth which is supposed to be handled in effective manner by the government. The better services are closely related to commercial drivers and customers’ requirements. Even though, the literatures may

not be similar in nature but planning outcomes are different between Malaysia, United State, and European Union, however, some basic knowledge and research guidance were provided. The study is able to reveal certain issues which are different from the past studies. The study absorbs that perceived service quality through the drivers' opinion and services quality's frameworks are necessary to be developed. The next chapter further reviews the research methodology of the study techniques and the actual problem in commercial industry of services at cross border businesses.

4. Research Methodology

This research was conducted by using a survey approach. The purpose of conducting a survey is for preparation towards future report on perceived services in the commercial industry at trans-border businesses. The survey should be free from any conflict of interest and structured statement on results of research's questions. Thus, the plan of research has to be formulated before hand and outlines of research process should incorporate the basic steps of study (Sukla, 2004b; Teegan & Doh, 2002). They have identified seven phases in a research process i.e. idea generating, problem definition phase, procedure design, observation, data analysis, interpretation, and communication phases. The first two phases involve the identification of a topic of interest and refinement of general ideas into a precise question, expected to be studied which resulted in the formulation of research problem. It is crucial at this stage to relate the research problems to the existing theories or knowledge in order to facilitate the subsequent steps in research process. It is a deductive process of defining concepts and variables relating to the research problems based on theories (Sukla, 2004a; Angela & Hausman, 2004). It forms the basis for the formulation of the conceptual framework for the study. The final part of this stage is to test the objectives of study based on the relationships of the concepts and variables. Next, the design procedure and observation phases involve the identification of specific procedures to be used in gathering data through the actual data collection by using an appropriate procedure. At this stage, the types of data and the methods of data collection are identified. The data analysis and interpretation phases involve the analysis of data using appropriate statistical techniques and comparison of research's results predicted on the basis of theory. This inductive process would support or reject the theory based on the research findings. The final phase is the communication phase which involves the presentation of the research findings in a written document.

1) The Respondents and Survey

Data was collected using an interactive survey method which is direct questionnaire distributions or face to face interview or via the respondents head of department in the organization. The respondents of the study are from the commercial operators and drivers which have direct involvement in the trans-border activities. The service provider (the commercial vehicles' drivers) is a term used in the study. Therefore, the research used direct survey questionnaire distribution and interview. A standard question was formed as required in the research objectives. The methodology aspects and sources of data are the important parts of research methodology. Thus, the

methodologies that were used in the study were population frame of commercial vehicle drivers, mail questionnaires, and in-depth interview with key informants, descriptive and inferential analyses (factor analysis).

2) Choosing a Sample Size

There are several ways to choose a sample size either calculate it from a formula, or use a rough "rule of thumb." The formula for calculating the sampling error to a survey question:

$$n = p \times q / SE^2$$

where:

n is the sample size: the number of people interviewed.
p is the percentage answering Yes to the question.
q is the percentage not answering Yes to the question.
SE is the standard error.

The survey has estimated about quarter (25%) of about 320 drivers of commercial vehicles from 15 companies. So **p** is 25%, and **q** is 75%. The figure will be accurate within 6 % if we do find a figure of 25%. Thus, there is need to ensure that the true figure is between 30% and 36%. So, the required sample size will be calculated as below:

$$n = 25 \times 75 / (6 \times 6) \\ = 52 \text{ samples}$$

The present proposed survey had 80 respondents and met with the capacity of the research process. This formula (which was simplified slightly) is useful in working out how big a sample size is needed for a given survey. However, the calculation for the sample size is to roughly show how many commercial industries would answer "Yes" to the question, and also decide the larger of standard error. In this case, it has about 10% standard error which was obtained from the total of respondents. Another problem is that samples calculated in this way can be extremely large. Yet another problem is that every question in a survey may require a different sample size. In an ideal world, the calculation of the sample size for a survey is shown above. On the other hand, as most surveys are done with a budget, the starting point in practice may not be how much error can be tolerated, but rather how little error can be achieved for a given cost. To do this, there is a need to divide the cost of the survey into two parts; a fixed part, the cost is not proportional to sample size, and a variable part, that varies with the membership. The surveyor was allocated a proportion of the total time frame of getting back each completed questionnaire which can be calculated on the affordable sample size. This is where the rule-of-thumb is useful. For the majority of surveys, the sample size is between 80 and 200. A sample below 8 (10%) is useful only for the pilot survey. A sample size in this exercise was only 80 respondents and should not have problem closing it to the figure. With the experience gained on the first survey, the second one would be of higher quality. The sample size also depends on how much we know about the subject in question. If there is no information on a subject, a sample of only 10-12 respondents could be quite useful, though its standard error is large. The sample comprised of all Trans border vehicles operators at Bukit Kayu Hitam and Padang

Besar. Since the main purpose of the research is to identify the service quality, the necessary person to be interviewed is from the group of commercial drivers, person in charge, and border authority. The breakdowns are shown in Table 3.

Table 3: The Survey Groups in the Final Survey

<i>The Survey Groups</i>	<i>Group</i>	<i>n</i>	<i>%</i>
The commercial drivers BKH	A	40	50
The commercial drivers Padang Besar	B	40	50
Total (n)		80	100

3) The Pilot Survey

Prior to the final survey, a pilot survey was conducted on 20 respondents in all groups which consisted of transport operators, customer, public, and regulatory bodies. The pilot survey is used to fine-tune the appropriateness, relevance, and validity of the set of questions. It is also used to quantify the time taken to measure the actual survey. Pilot survey is an instrument in social science research to item analyze to fine tune the actual survey questionnaire (Angela & Hausman, 2004). The questions that were indirectly addressing the research objective were removed. The second problem identified during the pilot survey was the understanding of the important questionnaire towards the research objectives and the explanation was carried during the final survey. Those who had experience the commercial industry did not have problem answering the questions. Table 4 indicates the total respondents of pilot survey.

Table 4: The Pilot Survey

<i>No</i>	<i>The respondents in pilot survey</i>	<i>Total</i>
i.	The commercial drivers BKH	10
ii.	The commercial drivers Padang Besar	10
	Total	20

4) Research Instruments

In this study, a questionnaire was comprised of three determinants and designed to measure the perceived response towards each determinant. The first section, inquiries the respondents on demographic, characteristics, companies, education, and experiences in transborder businesses. The data was collected using an ordinal, nominal scales (yes or no), and Likert scale 1 to 5 which the lower number represents disagree and the larger number representing strongly agree. The Statistical Package for Social Sciences (SPSS) to analyze the data for both descriptive analysis and inferences analysis was used. This scale was used in most of questions in the final survey. The Likert scales were the most common form of summative scale. Respondents are normally responding to an item with (5) Strongly Agree, (4) Agree, (3) Moderate, (2) Disagree, and (1) Not sure. During the pilot study, most of respondents had proposed that the scale is suggested to be used in the final survey.

5. Findings

a. The Indicator towards Better Quality Service at Cross Border Industry

The indicators of service quality as proposed had been analyzed according to the research's requirements. Other

than that, the additional sub indicators also establishing towards a better services in cross border industry. The indicators and sub indicators acted as a checklist in formulating better and effective service quality in cross border industry. Table 5 indicates the effectiveness of cross border businesses as suggested in the final study.

Table 5: The Indicators on Service Quality at Cross Border for Commercial Vehicles Industry

<i>No</i>	<i>Indicators</i>	<i>Sub Indicators</i>
a.	Quality service (service delivery)	Managing perceptions Personal perception and customers expectation Service quality strategy Service design and specification The quality services Service delivery improvements Service quality evaluation
b.	Communication (internal and external)	Internal communication External communication Integration and coordination
c.	Expert work force (training and development)	Selection, training, power, improvement, rewards to personnel
d.	Information (customers)	Consumer or customers' retention and perceptions

Meanwhile, Table 6 indicates that the overall results of service quality indicators established at the final survey. The overall of the respondents agreed and answered strongly and agreed columns. These showed that the overall results are accepted by the target groups. The higher means and standard deviation were recorded which indicated to the better results of the overall survey.

Table 6: The Mean and Standard Deviation Established During the Final Survey

	<i>N</i>	<i>5</i>	<i>4</i>	<i>3</i>	<i>2</i>	<i>1</i>	<i>Mean</i>	<i>α</i>
Managing perceptions	87	34.5	43.7	10.3	10.3	1.1	4.00	.988
Service quality strategy	87	35.6	39.1	9.2	2.6	2.3	3.97	1.104
Service design and specification	87	39.1	40.2	12.6	5.7	2.3	4.08	.979
The Quality and expert workforce	87	33.3	42.5	11.5	11.5	1.1	3.95	1.011
Integration and coordination	87	27.6	51.7	13.8	4.6	2.3	3.98	.902
Effective services	87	41.4	40.2	10.3	6.9	1.1	4.14	.942
Internal communication	87	29.9	39.1	16.1	9.2	5.7	3.78	1.146
Selection, training, power, rewards to personnel	87	36.8	39.1	16.1	8.0	0	4.05	.926
Service delivery	87	33.3	48.3	12.6	4.6	1.1	4.08	.866
External & internal communication	87	24.1	56.3	13.8	4.6	1.1	3.98	.821
Personal perception and customers expectation	87	18.4	66.7	11.5	2.3	1.1	3.99	.707
Consumer perceptions	87	47.1	43.7	6.9	1.1	1.1	4.34	.760
Service quality evaluation	87							

Scale: 5 = Strongly Agree, 4 = Agree, 3 = Reasonable, 2 = Disagree, 1 = Strongly Disagree, N = Total of Respondent, α = Standard Deviation.

b. Profile of the Respondents

The overall of respondents are drivers in commercial vehicles industry. Their daily duties involved in transporting goods in crossing border lines. Several drivers were chosen from the transport operators in cross border businesses. The method of survey was convenience sampling, systematic selection, and collection procedures. The overall respondents of 87 were divided into two groups; group A consists of 43 group B of 44. In favor of the data analyses, the two smaller groups were divided into two main areas i.e. Bukit KayuHitam and Padang Besar. Group A acted as drivers used Padang Besar as a transborder checkpoint and Group B that drivers preferred to Bukit KayuHitam. All of them deal with day-to-day business in the industry of transportation and use commercial vehicles in their daily activities. Table 7 indicates the groups of respondent for the study.

Table 7: The Respondents

The survey groups	Group	n	%
The driver that transport freight using Padang Besar checkpoint	A	43	49
The driver that transport freight using Bukit KayuHitam checkpoint	B	44	51
Total (n)		87	100

Table 8 shows the demographic profiles of the respondents involved in the final survey. All the 87 feedback of questionnaires have been analyzed quantitatively. Through the Table 8, the majority of the drivers' are between 21 to 30 years old (81.7%) which carried the highest numbers of respondents. Married personnel indicate the majority of the overall drivers with 71 staffs or 81.6%. A total of 66 drivers (53.8%) from the overall respondent involved in these cross border businesses were Malay. On the qualification, only 10% of respondents had STPM/ Diploma, SPM recorded 75.9% is the majority of the respondents and SRP indicates only 13.8%.

Table 8: Individual Demography in Trans-border Businesses

Subject	Frequency	Percent
Marital status		
Bachelor	16	18.4
Married	71	81.6
Age		
21-30	71	81.7
31-40	7	8.0
41-50	7	8.0
51-60	2	2.3
Race		
Malay	46	53.8
Chinese	27	31.0
Others	14	15.2
Academic Qualification		
Sijil Rendah Pelajaran	66	75.9
Sijil Pelajaran Malaysia	12	13.8
STPM/Diploma	9	10.3

c. The Commercial Vehicles Activities at Transborder Businesses

Table 9 shows the commercial freight for export and import using road to and from Thailand via border checkpoints. The main purposes of transborder functions are to explore

bilateral trade through export and import activities. The land commercial business plays an important role in bilateral trades between Malaysia and Thailand. Through the final survey, the commercial haulage indicates 27.6% and commercial vehicles carried 43.7% of the overall respondents which carried the highest groups at the transborder businesses. The goods or freight transported in the transborder businesses are divided into four major items. The four major goods transported are between an average of 20% to 26% each from the total export goods include oil palm, vehicles parts, petroleum and rubber products. The average transport trips or movements crossing the borderlines are between 2-3 trips per-day.

d. The ANOVA Analysis on Service Periods and Perception of Service Quality

Table 9: The Commercial Vehicles Activities at Trans-border Checkpoint Bukit KayuHitam and Padang Besar

Subject	Frequency	Percent
Types of transport		
Container Haulage	24	27.6
Commercial vehicle	38	43.7
Depot services vehicle	2	2.3
Other vehicles	23	26.4
Goods transported		
Oil palm	20	23.0
Vehicular parts	23	26.4
Rubber product	18	20.7
Petroleum	20	23.0
Others	6	6.9
Total trips		
1 Trip	9	10.3
2 Trips	26	29.9
3 Trips	32	36.8
4 Trips	20	23.0

Table 10 indicates the relationship between respondent service periods and perception of service quality shown by commercial vehicle operators at transborder checkpoints. The purpose of ANOVA is to measure the significance of variables differences mean among multiple groups. The study indicated that there is no significant difference between period of services and perception of service quality given by freight companies with $F=0.207$, $p>0.05$. It means that the experience as a driver does not influenced their perception on service quality as practiced by the commercial vehicles operators. The result of ANOVA analysis between respondent service periods and perception of service quality are rejected.

Table 10: Relationship between Respondent Service Periods and Perception of Service Quality Given By Freight Companies

Items	Mean (Standard Deviation)			F	Significant (2 tailed)
Driving experience	Less than 3 years	3-5 years	More than 6 years		
Service level quality	4.38 (0.458)	4.27 (0.612)	4.31 (0.779)	0.207	0.813

e. Correlation Analysis on Quality Service and Its Perception

Table 11 shows the relationship between quality service as established by commercial companies and the perception on service quality. Customer perception on service quality as expected, significantly and positively correlated with quality service, communication, expert workforce, and information. In other words, if quality service, communication, expert workforce, and information are delivered effectively, customer perception on service quality would result in better outcomes. The strength in the relationship was varied from low (0.237) to moderate (0.574). Thus, all correlations are expected direction for better results. The results are correlated and accepted.

Table11: Relationship between Quality Service of Commercial Vehicles' Companies and the Perception on Service Quality

		Quality service	Communication	Expert workforce	Information
Customer perception on service quality	Pearson Correlation	0.367	0.349	0.574	0.237
	Sig.(2-tailed)	0.000	0.001	0.000	0.027
**Correlation is significant at the 0.01 level (2-tailed).					
*Correlation is significant at the 0.05 level (2-tailed).					

f. Regression Analysis on the Perception on Service Quality

Table 12 indicates that the model relationship of perception on the given service quality and the constructs of quality service. The purpose of regression is to identify the relationship between a dependent variable and independent variables. There was about 42% of perception on service quality given by freight companies explained by the independent variables (quality service, expert workforce, information, and communication). The relationship strength is moderated. Further result of ANOVA analysis found that the significant relationship between dependent variables and independent variables where, $F = 14.863$, $p = 0.001 < 0.05$ showed and accepted result.

Table 12: Relationship between Quality Service Rendered By Commercial Vehicle Companies and the Perception on Service Quality

Model summary	Value
R square	0.420
F value	14.863
Sig	.000

g. Regression of the Level of Expertise of Drivers toward Customers' Satisfaction

Table 13 shows the individual items in regression analysis. Only two items have significant relationship with the perception of service quality given by commercial vehicles' companies. Expert workforce and quality service indicated 53.5% and 41.5% respectively of the total perception of service quality given by freight companies were significant at 0.00 and 0.001 respectively, where $p = 0.001 < 0.05$. This implies that expert workforce and quality services rendered to the customer, the better perceptions of service quality are

bound to be increased. Nevertheless, the communication and information do not have significant relationship with perception of service quality given by freight companies. The result of relationship on the perception of service quality is accepted.

Table 13: Individual Items: Constructs For Quality Service Being Given By Freight Companies

	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta		
(Constant)	1.176	0.517		2.276	0.025
Communication	-0.240	0.143	-0.216	-1.677	0.097
Expert workforce	0.535	0.090	0.620	5.970	0.000
Quality service	0.415	0.120	0.354	3.470	0.001
Information	0.044	0.100	0.043	0.437	0.663

h. The Drivers' Perception on the Effective Services Inspection of Regulatory Bodies at Transport Border Areas

The analysis of individual item indicates on the effectiveness on inspection and commercial vehicles commitment by the regulatory bodies. The inspection as performed by the regulatory bodies caused the delays at the transborder businesses. The drivers' perception towards the regulatory bodies has also being measured while the significant levels were at 0.004 and 0.001 at $p < 0.05$. The report indicates that there is a delay in processing documents at the border areas. A proper procedure and thorough inspections at transborder area are still practiced. The Table 14 shows 0.04 at $P < 0.05$. The result is therefore significant and accepted.

i. The Cooperation between Commercial Industry and Regulatory Bodies

The analysis of individual item indicates on the effectiveness on inspection and commercial vehicles commitment by the regulatory bodies. The inspection as performed by the regulatory bodies caused the delays at the transborder businesses. The drivers' perception towards the regulatory bodies has also being measured at the significant level 0.004 and 0.001 at $p < 0.05$. The report indicates that there was cooperation showed by the commercial drivers at the border areas during final inspections at checkpoints. The Table 14 shows at 0.01 which $P < 0.05$. The result is significant and accepted.

Table 14: The Regression Analyses on Items of Commercial Drivers towards Government or Regulatory Bodies on Service Quality

	Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.181	0.326		3.62	0.001
	Customer	0.102	0.091	0.133	1.12	0.266
	Customer concept	0.049	0.085	0.062	0.582	0.562
	Know How, knowledge & skills	0.118	0.095	0.159	1.244	0.217
	Inspection	-0.096	0.086	-0.127	-1.118	0.267
	Effective inspection	0.241	0.081	0.304	2.963	0.004
	Cooperation companies & government	0.263	0.074	0.344	3.565	0.001

6. Discussion

The final survey indicated that the transport operators had discharged better their duties with Thailand counterparts. The impact of the services especially towards the quality of services during the inspections, capacity of checking points, time taken, involvement by transport operators, and regulatory bodies are the important factors to be developed. The result of final study survey indicated several processes and the proposals for future improvements. The matters had been surveyed and contributed to the positive results. The research had also developed the gaps and area of improvements in trans-border industry for future guidelines. The gaps' measurements are between the optimized and integration of the inputs and the current level of the processes. Differences between managing the services of a cross-national border versus purely domestic intersections are the factors to be developed. This helps provide the transport operators with insight into areas that have room for improvement and spurs the development in land transport as well as trans-border businesses in future. The gaps analyses in the study involves through determining, documenting, and approving the variance between business requirements. The current capabilities of regulatory requirements and flows from benchmarking as well as other assessments are to be considered. Once the general expectation of performance in the industry is understood, it is possible to compare that expectation with the level of performance at which the companies or regulatory bodies are performed. The researcher believed that it will be a significant for future improvement towards quality services of the system in cross-border businesses. The two main players in this study are the transport operators and regulatory bodies. The majority of transport operators satisfied with the drivers jobs with minimum supervision in the operational processes. The government performance is required to be improved in term of border trades in future. Since land transport is the most appropriate mode in exporting and importing goods vice versa, it could be important that the bilateral trades have to be improved with serious participation by the both governments especially in cross border industry. The country will benefit towards achieving the target goals through maximizing exports goods for the countries. If the concepts and the systems are achieved by both countries through the better approaches, all groups (importer and

exporters) would profit with the desired plans in the long run. Moreover, other three groups that are expected to profit from the study are the transport operators, regulatory bodies, and countries. This study shows that apart from achieving the above findings, the empirical work has also considered possible ways to overcome the service quality. Therefore, it is realized that various roles of target group brings changes to policy initiatives, which needs a closer and more flexible relations among the transport operators. The proposal in evaluating the frameworks in present gaps between commercial vehicle operations perception at the border checkpoint is not an easy task and requires commitment by the stakeholders in the trans-border businesses. According to the results on the objectives of the study as tested in the analysis part, the elements of the new frameworks of service quality requires major changes that have to be transformed and practiced by the stakeholders. In such cases, discussion with the stakeholders affects the implementation that will be phased over a transitional period in a proper manner. As suggested by Hausman (2004), regulatory and actors' capacity in managing the implementation on related policy is based on their commitment in the whole concepts, players, and objectives. In the case of managing the perception of service quality which is not one side initiative, requires further involvement not only by the drivers but all stakeholders. There are, however, scopes for further investigation on the implications of various constraints in managing perception of the respective services. In terms of theoretical methodology, other methodological approaches used in evaluation of present practices could be done for further improvement by both regulatory agencies, such as in Malaysia and Thailand. The concepts and frameworks development processes could be utilized as comparative studies to compliment by both governments on the approaches in competitive market demand for road transport. This could involve future organizing and educating proper knowledge among the stakeholders. As a continuation, similar empirical studies could be extended to the appropriate ministers, local authority, government department, corporate bodies, and public for better outcomes. In the longer term, specific goals, strategies, and action plans to proactively lead Malaysia's transport system towards the desired vision. The bilateral trades' objectives for the country have to be developed and the Ministry of International Trade and Industry (MITI), Ministry of Transport (MOT), Ministry of Finance (MOF), Economic Planning Units (EPU), and State Planning Units have to work together in mitigating present problems and improving the bureaucratically practices. As suggestions for future study, it is proposed that the following matters should be continuously studied for better and sustainable trans-border businesses:

- Further investigation of the implications of various constraints in trans-border activities at entry points.
- To perform a comparative study in evaluation frameworks involving the target group and government organization.
- Investigating on various approaches and ensuring a competitive market in commercial industry through better infrastructure.
- To expand the knowledge in service quality among the stakeholders.

- v. Establishment on the appropriate cross border policy with specific guidelines is suggested.
- vi. Encourage more export goods using road transport.
- vii. Study time opening and closing at border line.
- viii. Maximizing the usage of imports goods through local ports (Sea and Air) from Thailand.

References

- [1] Angela, R. & Hausman, M. (2004). *Logistics issues on what Opportunities or problems exist and how do they affect the quality Of Services and Trans-Border Relationships*. Journal, 66, 1034-1048.
- [2] Gronroos, R. (1990). *Influential Models in the Service Management& the Concept of Service Quality Gap (SQG)*. Journal Paper.
- [3] Hausman, (2004) *A successful Cross-Border Supply Chain Relationships Emphasize on Appropriate Strategies*: Journal Paper.
- [4] Lakshmanan, T., & William, M. (2001). *Transport Governance Systems and Trade Expansion in the Border of US Emphasize on Economic Development*, United State: Business Intelligence Publication.
- [5] Parasuraman, P. (1985). *Define a Pioneering Model with Five SQGs*, Journal; European Community (EU).
- [6] Sukla, P. (2004a). *Benefits and Problems Associated with Cross-National Supply Chain Management for Better Services*. European Community (EU): International Publication.
- [7] Sukla, P. (2004b). *Cross-Border Transaction & Small Business Opportunity*. United State: Business Intelligence Publication.
- [8] Teegan & Doh., (2002). *The Borders Changed and Future Challenges*. 1st Edition: Maxican NA.