

## **THE FACTORS EFFECTING CHINESE TOURIST REVISIT THAILAND DESTINATION**

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## Abstract

Tourism plays an important role in the Thailand's economy, in the recent years. China becomes a big potential market in the all tourism country. The purpose of the study is to find the factors perception of a destination, destination image and satisfaction effect Chinese tourists revisit to Thailand. The data was collected from 400 Chinese tourists who had traveled to Thailand. The analysis of quantitative data was applied using the t-test, one-way ANOVA and multiple linear regression. The findings showed the perception of destination and destination image has the positive effect on destination satisfaction, and the destination satisfaction have positive effect on satisfaction. The result of this study would help to tour agency and the Thailand tourism organization to develop the tourism market and tourism product.

**Keywords:** Perception of destination, Destination image, Destination satisfaction, Destination revisit intention

## 1. Introduction

Tourism is one of the most important industry for the economies of many countries (OPEC, 2002; WTO 1999; WTTC 1995). With a population of 1.4 billion, China is the world's most potential country in tourism. According to the World Tourism Organization forecasts, in 2020 Chinese people travel abroad on holiday will reach 1 billion people. In the recent years, every year there is about 1 million Chinese tourists travelling to Thailand, and Chinese tourists are the top three tourist source countries in Thailand. In 2011 Chinese people travel to Thailand over 1.5 million people. It is expected in 2012 that the Chinese will be the first big tourism source countries in Thailand (TAT, 2012). Because of the fast rapid growth, Chinese economy, Chinese people have greater purchasing power to travelling abroad and shopping. In addition, The Chinese government has increased the number of approval destination countries for Chinese to travel and to easing monetary exchange controls and to provide a convenient outbound tourism for Chinese tourists (K-Econ analysis, 2006).

China overtook Malaysia to become Thailand's largest tourist source country for the first time. Thailand inbound tourists cause a faster rate of growth momentum. It is one of the most important factors from the support from of the Chinese tourists (2012). The Chinese tourists are a large potential market for international tourism, It needs studies to gain an insight how the Chinese tourist satisfy and revisit intention with Thailand.

Thailand is a popular destination for the international tourist, especially for the Chinese tourists. The Chinese tourists are a large potential market for international tourism. In recent years, the rapid development of China economy the strong purchasing power to Chinese tourists. So there are the growing number of Chinese interested in outbound tourism and outbound shopping. China has become the largest tourist source country in Thailand, Thailand as the host country, how can Thailand attract more Chinese tourists to travel into Thailand? How to keep the big potential market of China and how to make the Chinese tourists be loyalty customer?

In order to maintain the big tourism potential market of China, Thailand should improve the destination image and keep the positive Chinese tourists' perception of the destination, in order to meet the higher satisfaction and the revisit intention or willingness to recommend Thailand to others.

The objective of this study are to study the differences between demographic with destination satisfaction and destination revisit intention, and to study the relationship between perception of destination and destination image with destination satisfaction, and to study the relationship between destination satisfaction with destination revisit intention. The research question of this study is: 1.how the difference between demographic with destination satisfaction and destination revisit intention; 2.how the relationship between perceptions of destination with destination satisfaction. 3.how the relationship between destinations image with destination satisfaction. 4.how the relationship between destination satisfaction with destination revisit intention.

The tour operators or guide will benefit from this study, because have a better understanding for travel motivation of tourist and accordingly to develop destination product. And this study maybe will benefit for tour agency or tourism organization to the understanding of satisfaction of destination contributes to the management and develop destination image. And the tour operators to can use it to segment marketing and formulate travel promotion suitable for Chinese tourists travel in Thailand.

## 2. Literature Review

### 2.1 Demographic

Sociodemographic variables such as age, occupation, income are important factors that affect the formation of the perception of tourists(Goodall and Ashworth ,1988). According to Oom do Valle(2007), demographic attributes like age, gender, education, experience and social class play a very important role on the destination satisfaction and return behavior. McCleary, Lepisto and Damonte (1994) found that age was an important variable influencing choices of tourism destination. Age has decisive influence on consumer behavior, which affects consumer interests, tastes, purchasing ability, political preferences and investment behavior (Neal et al., 2002). Kinnaird and Hall (1994, p.5) has reported that

tourism is a process constructed of gendered societies; all aspects of tourism-related development and activity were based on the gender relations. They also suggested that women and men have difference experience on various recreational activities, and the socialization of girls and boys has different motivation and behavior to enjoy the gender specific activities. Zimmer, Brayley and Searle (1995) has reported that income and education influenced destination choices of tourists, when they choosing nearby and farther-away destinations.

## **2.2 Perception of a destination**

In tourism research, a perception is reflection of a tourist destination, and makes effect on behavior intention (Gnoth, 1997). Tourist perception of destination will influence them whether they should visit that destination or not (badaruddin Mohamed, 2003). Perception of destination affects the tourist willingness to select the destination size (Tascai & Gartner, 2007). According to Morrison (1989), perceptions can measure tourism destination value. In other word, this value is the opportunity cost of the product, and it depends on the perception of the cost benefits assessment of the product. Baloglu & McCleary (1999) state that perceptions about the destination come from the push motives (internal motivations) and pull motives (external motivations) function. Each tourist has his/her own internal and external motivation to travel. These motives lead to different perception about the tourism destination.

## **2.3 Destination image**

Destination image is about all emotional qualities include experiences, beliefs, ideas, recollection, and impressions (Crompton, 1979; Reilly, 1990). For induced image, the individual has intention to travel that destination and seek for information about that destination (Gunn, 1972). Cheng & Tsai (2007) reported tourism destination image through quality, perceived value further indirect impact on satisfaction. The destination image influences individual intention to re-visit in future and positive word of mouth (Emma D.M, 2006). A number of researchers have found that the Tourism destination image impact on tourism-related behavior, such as destination choice and future travel intention. (Alcaniz et al., 2009; Baloglu & McCleary, 1999; Beerli & Martin, 2004; Fakeye & Crompton, 1991; Lee et al., 2005) Empirical studies show that destination image can cause the emotions of the tourists and attract their attention and encourage their travel decisions (Chen & Tsai, 2007; Ryan & Gu, 2007).

## **2.4 Destination satisfaction**

Satisfaction of consumer is an important component for the success of service business. Satisfying customers can encourage customer's loyalty and foster word of-mouth advertising (Lacobucci et al., 1994). According to O'Leary & Deegan (2005), IT IS reported that satisfaction with the experience is a significant for encouraging positive word-of-mouth and revisit to destination. Tourists' satisfaction level is related to customer needs and travel intention. Everyone has different satisfaction level from the same travel destination. The important is in the different level satisfaction must gain the clear picture motivation (Qu, Ping & Yee, 1999). Tourists satisfaction depends on the results of the goodness of fit with their expectations about their perception of the destination experience, which is result of comparison between their previous images of the destination and what they actually sees, feels, and achieved at the destination (Yoon & Uysal, 2005). According to the interest in

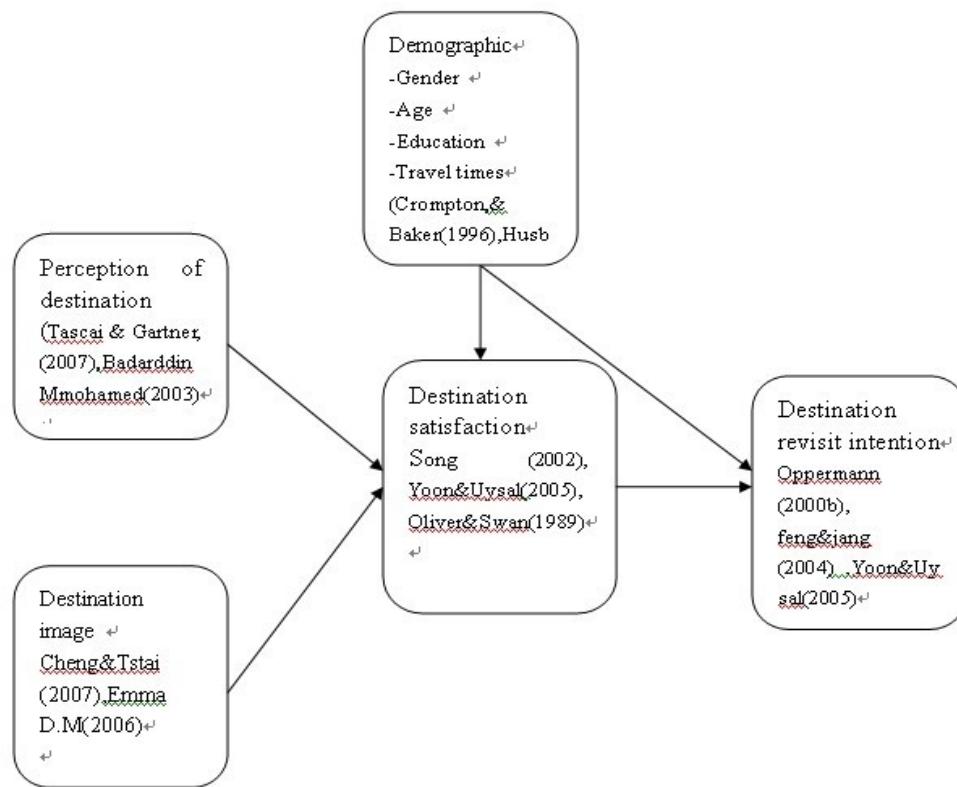
equity theory, price, benefits, time and effort are most major factors to determining the satisfaction. Thus, it can be said if tourists benefit based on their time, experience and money to travel, then that the destination is worthwhile. There can be seen the consumer satisfaction as a relationship between the cost of a consumer spend and their expected benefits (Oliver & Swan, 1989; Yoon & Uysal, 2005; Heskett, Sasser & Schlesinger, 1997).

## 2.5 Destination revisit intention

Feng & Jang (2004) using five-year frame to subdivide the tourists re-visiting intention of tourism destination. It can be divided into (1) continued re-visit tourists (always keep a high revisit intention); (2) Moratorium re-visit tourists (In the short term has a very low intention to revisit, but for the long term has strong intention to re-visit.) (3) Continued conversion purchaser (always held the low revisiting intention).

In customer research, customer loyalty can be measured from three different indicators, its include customer intention to continue buy the same products, intention to buy more of the same product and willingness to recommend the product others (Hepworth & Mateus, 1994; Dogan Gursoy, 2001). Yoon & Uysal (2005) state tourist destination as a product, tourists can return to that destination or recommend to friends and relatives or some potential tourists. Some research has reflected that good quality services and satisfaction are able to make tourists re-visit more likely (Appiah-Adu, Fyall & Singh 2000; Baker & Crompton 2000; Bigne et. al., 2001) and influence the expectations of tourists regarding future to re-visit the same or similar destination (Mazursky 1989; Tian-Cole & Crompton 2003).

**Figure 1** Conceptual Framework



### **3. Methodology**

#### **3.1 Data collection**

In this research, data is collected through questionnaire. The questionnaire are collected from 400 sampling from Chinese tourist who traveling in Thailand or Chinese tourist who have traveled in Thailand. The data that collected was mostly from king power duty free tower at Soi Rangnum Bangkok, during 18<sup>th</sup> -26<sup>th</sup> January 2013. The researcher has issued about 300 set questionnaire to Chinese tourists and take 256 set questionnaire from Chinese tourists; and sent questionnaire to tourists who have been traveled to Thailand by email about 150 set and take back 80 set, during January 2013; the researcher also issued questionnaire to Chinese tourists through tourists guides 120 set and take back 64 set, during January 2013.

#### **3.2 Variable of the research**

##### **3.2.1 Independent variables**

Based on the literature review chapter, the independent variables are demographic perception of destination and destination image as shown in framework. Chruchil & Surprenant (1982) reflected that perception is a direct factor in determining the level of customer satisfaction; destination image. A perception is important for destination image, since the potential tourists choose a destination depends largely on the perception of the destination image (Fakeye & Crompton, 1991; Boulding, 1956; Gartner, 1991; Chon, 1990; Moutinho, 1984; Woodside, 1989).

##### **3.2.2 Dependent variable**

In this research the dependent variable are destination satisfaction and tourists revisit intention. Chruchil & Surprenant (1982) reflected that perception is a direct factor in determining the level of customer satisfaction. Tourists revisit intention; Bigne et al. (2001) found that destination image had a direct impact on intention return visit and willingness to recommend to others. And Kozak (2001) also stated that in the stage of post-consumer, satisfaction will lead to repeat purchase and positive word of mouth.

### **3.3 Data analysis**

This study used the independent sample t-test and one way ANOVA to analyze the demographic data and using linear regression to analyze the relationship between destination of perception, destination image and destination satisfaction, and the relationship between destination satisfaction and destination revisit intention.

In this research, all the questionnaires were measured using 5-point Likert scale divided into five equally likely ranges, according the formula [with of the range = (max-min)/level] to calculate the scale between the ranges equal  $(5-1)/5 = 0.8$  each.

#### 4. Result

The result of destination satisfaction with gender indicated that the male respondent averaged 4.60 (SD = 0.65) and the female respondent averaged 4.07 (SD = 0.58) and  $t(398) = 0.113$ ,  $p = 0.0910$ . It means that the destination satisfaction has no difference on gender. The t-test result of destination revisit intention with gender shows that the male respondent averaged 4.00 (SD = 0.762) and the female respondent averaged 4.03 (SD = 0.709) and  $t(398) = 0.348$ ,  $p = 0.728$ . It means that the destination revisit intention has no difference on gender. The t-test result of destination satisfaction with travel time indicated that the "first time" averaged 3.99 (SD = 0.625) and "more than one times" averaged 4.22 (SD = 0.572), and  $t(398) = 3.614$ ,  $p = 0.000$ . It means that the destination satisfaction was different on travel times. The t-test result of destination revisit intention with travel time indicated that the "first time" averaged 3.898 (SD = 0.762) and "more than one times" averaged 4.268 (SD = 0.601),  $t(398) = 4.754$ ,  $p = 0.000$ . The result of the findings explained that destination revisit intention has difference on travel times.

The result of one-way ANOVA test shown that destination satisfaction has no difference on age (Brown Forsythe  $F = 1.225$ , and the sig. value is 0.297) and education (Brown Forsythe  $F = 1.731$ , the sig. value is 0.163). The result of one-way ANOVA test shown that destination revisit intention has difference on age (Brown Forsythe  $F = 3.317$ , and the sig. value is 0.006). The result of one-way ANOVA test indicated that destination revisit intention has no difference on education (Brown Forsythe  $F = 1.069$ , and the sig. value is 0.364).

**Table 1** Result of hypothesis between perception of destination, destination image and destination satisfaction by using multiple regressions.

Model	Unstandardized coefficients		standardized beta	t	Sig.
	B	Std.error			
1 (constant)	0.524	0.162		3.231	0.001
Perception of destination	0.264	0.042	0.273	6.320	0.000
Destination image	0.610	0.049	0.539	12.444	0.000
$R = 0.741$ , $R^2 = 0.550$ , Adjusted $R^2 = 0.548$ , $F = 242.462$					
Note: *Significant level at 0.05					

It is clear that the results in Table 8 show the relationship between perception of destination, destination image and destination satisfaction, ( $R^2 = 51.0\%$ ,  $F = 413.578$ ,  $p < 0.05$ ). The table 1 shown that the t of perception of destination is 6.320 and the significant value is 0.000 which is below level of significant or the alpha level ( $\alpha = 0.05$ ) for the hypothesis test. And the  $\beta = 0.273$  means that the perception of destination has relationship with destination satisfaction about 27.3%. The  $B = 0.264$  means that the variable perception destination has positive effect on destination satisfaction.

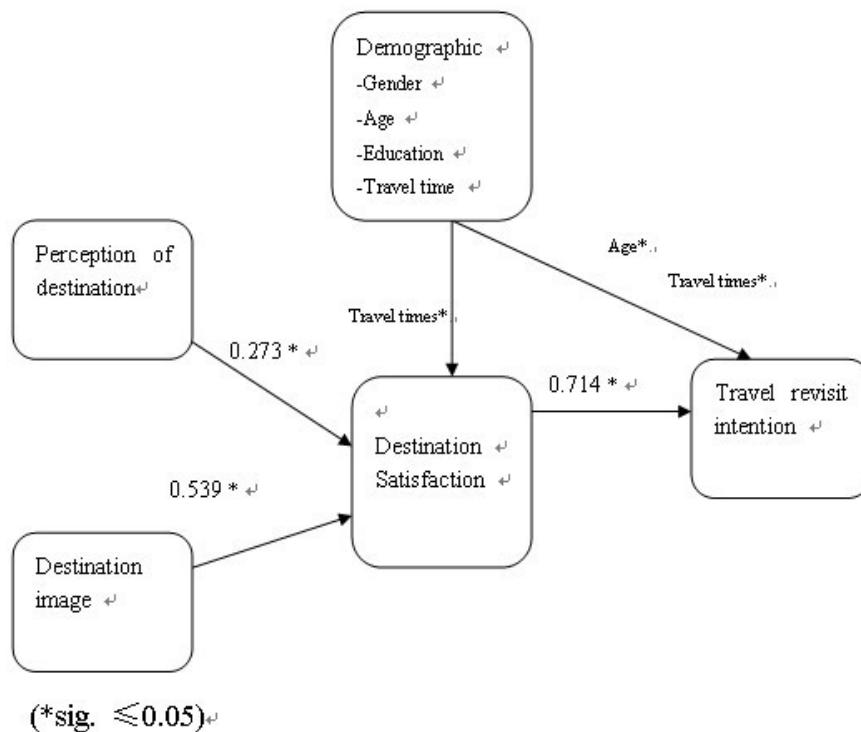
The last t of destination image is 12.444 and the significant value is 0.000 which is below the level of significant or the alpha level ( $\alpha = 0.05$ ) for hypothesis test. And the relationship between destination image and destination satisfaction was  $\beta = 0.539$ . The  $B = 0.610$  mean the destination image has positive effect on destination satisfaction.

**Table 2** Result of hypothesis between destination satisfaction and destination revisit intention by using multiple regressions.

Model	Unstandardized coefficients		standardized beta	t	Sig.
	B	Std.error			
1 (constant)	0.560	0.172		3.264	0.001
Destination satisfaction	0.849	0.042	0.714	20.337	0.000
R = 0.714, R <sup>2</sup> = 0.510, Adjusted R <sup>2</sup> = 0.508, F = 413.578					
Note: *Significant level at 0.05					

From Table 2 above, it is shown that the destination satisfaction has positive effect on destination travel revisit intention. It showed that the  $R^2 = 55.0\%$ ,  $F = 413.578$ ,  $p < 0.05$ . The  $\beta$  of destination satisfaction equal 0.714. It mean this variable has relationship with destination satisfaction about 71.4%. The B of destination satisfaction is 0.849. That mean destination satisfaction have positive effect on travel revisit intention. The destination satisfaction has positive effect on the destination revisit intention about 84.9%.

The result are shown in **figure 2**:



## 5. Conclusion & Discussion

This study investigated the factor affect the Chinese tourists revisit Thailand. The purpose of this study is to study the difference between demographic with destination satisfaction and destination revisit intention, the relationship between the perception of destination and destination image with destination satisfaction, this study the relationship between destination satisfactions with destination revisit intention. And used the regression method to define the different between each variables.

The result of this study can be summarized that the gender was females 48.8%, where as male was 51.3%. For the age of 18-24 years old was 29%, within the age of 25-30 years old was 25.5%, within the age of 31-35 years old was 10.5%, and within the age of 36-40 years old was 9.5% and the age above 45 years old was 14.3%. For the educational levels of the respondents, with the elementary was 8.5%, with the high school was 23%, with the bachelor degree was 58.8% and with the master degree or higher was 9.8%. The last, the times travel to Thailand of respondents, with the first time was 69.3%, and more than one time was 30.8%.

From the literature review, Oom do Valle (2007) has reported that demographic attributes like age, gender, education, experience and social class play a very important role on the destination satisfaction and return behavior. The finding of demographic factor includes gender, age, travel times and education. The finding showed that gender and education has no difference on destination satisfaction and destination revisit intention, only travel times and age has difference on destination satisfaction and destination revisit intention. This result showed that gender and education have a different result from the literature review, only travel times and age as support the literature review.

Churchil & Surprenant (1982) reflected that the customer perception of the product and service performance will have a significant impact on their satisfaction evaluation. This finding shown that perception destination has positive effect on destination satisfaction, which  $B = 0.264$ ,  $\text{sig.} < 0.05$  and the  $\beta = 0.273$ . Therefore, this result as the literature review shown.

Cheng & Tstai (2007) report that tourism destination image through quality, perceived value further indirect impact on satisfaction. The result of this research supported that destination image has positively effect on the destination satisfaction, which  $B = 0.610$ ,  $\text{sig.} < 0.05$  and the  $\beta = 0.539$ . This result as the literature review shown.

O'Leary & Deegan (2005) reported that satisfaction with the experience is a significant for encouraging positive word-of-mouth and revisit to destination. The result shows that destination satisfaction has positive effect on travel revisit intention, which  $B = 0.849$ ,  $\beta = 0.714$ ,  $\text{sig.} < 0.05$ . This result also supported the literature review.

## 6. Recommendations

Thailand tourism organization should strengthen all aspects of the construction, especially to strengthen the management of social security; some negative public security problems will damage a good tourism image. Thailand tourism organization should improve the safely image of the tourism destination and should also improve the infrastructure and improve service quality. For example, there should be convenient services to Chinese tourists.

Thailand tourism organization should create a city image of the tourism destination and create a civilization, health tourism city and avoid tourist detonation dirty, chaotic and poor.

Tourism agency should be to segment the private tour and package tour to set up different travel directions or travel program because private tour and package tour have different view and motivation for the traveling.

For tour agency, there should be a regular training to direct and indirect tourism employees. The training can be provided by the various tourism enterprises regularly held various training courses, relevant training activities, to form a formal and long-term training plan.

## 7. Limitation of research

The results may have limited generalizability. Due to the relatively small sample size, and geographic limitations, the results might also not be truly representative of all Chinese tourists; majority of respondents travel in Bangkok or pattaya city, so the finding from this study may not be generalizable to all Chinese tourists.

## 8. Suggestions for the further research

This research only focused on the destination image, perception of destination, information source, destination satisfaction effect the tourists revisit Thailand, does not focus on the travel motivation of tourist. So, future research may also need to discuss the travel motivation. Because of understanding the travel motivation can benefit the market segment. The marketing manage can base on those different travel motivation to develop the different market or more travel activities.

In the future, the research can be studied more on the satisfaction level on the destination. Satisfaction can make a destination to be successful and can find the shortcomings and deficiencies of a destination.

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## Questionnaire

My name is Xiaoli Zhang; I am a MBA student of International Business Program at University of the Thai Chamber of Commerce, Bangkok, Thailand. I am doing the research on “The factors affect Chinese tourists to revisit Thailand”. This questionnaire is part of a thesis conducted for the requirement of a Master’s degree in Business Administration of University of the Thai Chamber of Commerce, the information acquired from this questionnaire will be confidentially kept and used for academic purpose only. And thank you very much for taking the time to fill in this questionnaire.

Note: pleases tick ✓ in ( ) that related with your answer.

Part 1 Personal information, information resources, destination image and destination perception.

**1. Please indicate your gender**

( ) 1. Male ( ) 2. Female

**2. Please indicate your age**

( ) 1. 18-24 years old ( ) 2. 25-30 years old  
( ) 3. 31-35 years old ( ) 4. 36-40 years old  
( ) 5. 41-45 years old ( ) 6. More than 46 years old

**3. Please indicate your education level**

( ) 1. Elementary ( ) 2. High school  
( ) 3. Bachelor degree ( ) 4. Master degree or high

**4. Please indicate your frequency travel to Thailand**

( ) 1. Fisrt time ( ) 2. More than one times

Part 2 Perception of a destination and destination image.

Please check (✓) to the extent that you agree with the following item:

(1 = Strongly disagree, 2 = Disagree, 3 = Neutral, 4 = Agree 5 = Strongly agree)

**5. What do you feel and what are your perceptions of destination before traveling?**

No.	Perception of a destination	Agreement level				
		5	4	3	2	1
1	I think Thailand is a suitable for mental and physical relaxation place.					
2	I think Thailand has many tourist attractions and activities, for example, beautiful natural scenery, interesting history and rich nightlife.					
3	I think Thai local culture is very attractive to me. For example, the local diet, festivals and religion.					
4	I think Thailand is a economical tourist destination.					

## 6. What is your image about Thailand?

No.	Destination image (DI)	Agreement level				
		5	4	3	2	1
1	Traveling to Thailand travel is very convenient.					
2	Thailand has many beautiful natural sceneries.					
3	Thailand has high quality service and reasonable price.					
4	Thailand has a pleasant climate and unique culture.					
5	Thailand has abundant nightlife and many places of entertainment.					
6	Thailand is a safe destination.					
7	Thailand has a lot of shopping place.					

Part 3 Destination satisfaction.

Please check (✓) to the extent that you agree with the following item:

(1 = Strongly disagree, 2 = Disagree, 3 = Neutral, 4 = Agree 5 = Strongly agree)

## 7. What is your image about Thailand?

No.	Destination satisfaction (DF)	Agreement level				
		5	4	3	2	1
1	I felt satisfied with service of Thailand.					
2	I satisfied with relaxation in Thailand Such as beautiful beach, hotel.					
3	I felt satisfied with the price of goods, the good value for money.					
4	I felt satisfied with friendly attitude of Thai people.					

Part 4 Revisit intention.

Please check (✓) to the extent that you agree with the following item:

(1 = Strongly disagree, 2 = Disagree, 3 = Neutral, 4 = Agree 5 = Strongly agree)

## 8. Will you revisit Thailand next time?

No.	Tourists revisit intention (TRI)	Agreement level				
		5	4	3	2	1
1	Wish to visit Thailand again next time traveling.					
2	Suggest friends and relatives travel to Thailand.					
3	Thailand is the priority choice in future traveling.					

\*\*\*\*\* Thank you very much \*\*\*\*\*

## **THE EFFECTS OF ECONOMIC CRISES, EPIDEMICS AND TERRORISM ON TOURISM**

by

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## **Abstract**

The current study examines the effects of three types of modern crises - economic crises, terrorism and epidemics - on the movement of tourists. The five countries chosen as countries of origin each have populations exceeding 10 million and are among the top tourism spenders per capita. Singapore, Spain and Vietnam were chosen as the destination countries, as these countries have experienced terrorism or epidemics or both.

The findings for our sample countries show that the positive effect of economic crises in the destination country and the negative effect of exchange rates on incoming tourism exceed the effects of either terrorism or epidemics. In addition, the findings suggest that terrorism in the origin country had a negative effect on tourism to Spain from the US and Japan, while terrorism in the destination country (Spain) had a negative effect on tourism to Spain from the UK. Terrorism in the destination country seems to affect mainly countries that are geographically close, while terrorism in the origin country affects tourism to countries that are far away. We conclude that terrorism, epidemics and economic crises have differential impacts on the movement of tourists from various countries of origin to various destination countries.

**Key words:** Tourism, Terrorism, Epidemic, Economic Crisis.

## 1. Introduction

Tourism is one of the world's fastest growing industries and is an important source of income for many countries. At the same time, the global tourism industry is very vulnerable to external events, among them recession, terrorism, disease or natural disasters. For example, the World Travel and Tourism Council (WTTC, 2003) estimated that approximately 3 million people in the tourism industry lost their jobs following the outbreak of SARS in China, Hong Kong, Vietnam and Singapore, resulting in losses of over 20 billion dollars in terms of GDP. The WTTC (WTTC, 2002) also estimated that after the events of September 11, 2001, the USA lost 92 billion dollars in travel and tourism, followed by Germany with a loss of 25 billion dollars and the UK with a loss of 20 billion.

The effects of different crises on tourism have been extensively researched in the past, though usually what has been examined is the effect of a single crisis on a single destination. These studies found that while the tourism economy is highly influenced by crises, tourism itself recovers rapidly (Keller, et al., 2010). The effects of a pandemic on the economy in general and on tourism in particular have been analyzed and discussed in the literature after every pandemic. For example, Burns et al. (2008) estimated that the direct economic costs of the avian flu in 2004 were small, totaling only 0.1 percent of GDP, but at the same time the indirect costs were about 0.7 percent of the GDP. In developing countries where the poultry sector is more important and relatively labor intensive, up to 5 million jobs can be lost (Burns, et al., 2008). In addition, the avian flu may have a negative impact on how the affected countries are perceived by adversely harming their image as a safe tourism destination, leading to a decline in international tourism to that destination (Page, et al., 2006). Kuo et al. (2009) found that after the outbreak of avian flu, the demand for international tourism decreased. The reduction in international tourism to Asia was more severe than the harm caused to international tourism in general, possibly because most human cases of avian flu were detected in Asia.

Several studies found that international tourism to Asia was badly affected by SARS, but not by the avian flu (Kuo, et al., 2008; McAleer, 2010), possibly because at least for the time being avian flu cannot be spread from human to human. In addition, Kuo et al. (2008) found that the impact on the destination countries can differ. In the case of Indonesia, Kuo et al. (2008) included terrorism in Bali as one of the explanatory variables and found its effect to be significant. At the same time the effect of avian flu was not found to be significant. Some reports assess the potential macroeconomic effects of pandemics using economic models (US Congressional Budget Office, 2005; James, et al., 2006; McKibbin, et al., 2006; Jonung, et al., 2006).

Furthermore, since the 1980s the effects of terrorism on tourism have been extensively investigated by means of empirical research. Arana and Leon (2008) found that the prevalence of tourist visits to several destinations in the Mediterranean and the Canary Islands was lower after September 11 and that the willingness to pay for a vacation decreased. Enders and Sandler (1992) found that terrorism (measured as the number of incidents in a country) has a negative effect on tourism and that the effect is externalized, so that an incident in one country acts to deter tourism in neighboring countries. Studying the Middle East, Mansfeld (1996) concluded that in general terrorist incidents had a different impact on the countries in the inner circle (i.e., countries that are part of the Israel-Arab conflict) than on those in the outer ring. These latter countries usually enjoyed positive spillover effects, whereby tourists chose to go to those countries instead of going to the inner

ring countries. The impact of terrorism on the inner ring countries depended on the level of involvement of any particular country in the incident. Several empirical studies have considered the effect of terrorism on tourism (Tremblay, 1989; Pizam, et al., 2001; Pizam, et al., 2000; Mansfeld, 1999; Sonmez, et al., 1999). Fielding and Shortland (2005) found that the number of tourists visiting Israel decreased in response to increased fatalities there.

The potential and actual effects of economic crises on tourism have been researched extensively, especially after the economic crises of 2008-2009. Smeral (2011) studied the macroeconomic impact on the demand for tourism in five main origin markets: Australia, Japan, US, Canada and EU. Smeral estimated that after the 2008-2009 crises worldwide, outbound tourism expenditures fell by almost 10% in 2009 and showed a slight recovery of 1% in 2010.

While most previous studies examined the effect of a single crisis on the movement of tourists to a single destination, the current study examined the impact of several crises, occurring both in the origin and in the destination countries, on tourism to popular tourist destinations. In particular, the study examines and compares the impact of economic crises, terrorism and epidemics on tourism from five origin countries (USA, UK, France, Germany and Japan) to three popular tourist destinations (Spain, Singapore and Vietnam).

The objectives of the study are (a) to identify how economic crises, terrorism and epidemics influence the number of incoming tourists to Spain, Singapore and Vietnam from several origin countries, and (b) to identify, for each of these three countries, the type of crises having the most significant impact on the number of the incoming tourists. To the best of our knowledge, such a comparison has not been made before. The results of the study may help policymakers focus their tourism marketing efforts and plan steps to diminish the implications of crises on incoming tourism to these countries.

The main hypothesis of the current research is that economic crises, terrorism and epidemics have differential effects on the number of incoming tourists to a particular country. This hypothesis is based on previous findings indicating that epidemics and terrorism decrease the number of tourists (Kuo, et al., 2009; Kuo, et al., 2008; (Enders, et al., 1992), and that these effects depend on the proximity of the destination country to the origin countries (Mansfeld, 1996).

The rest of the paper is organized as follows. Section 2 describes the methods and the data, Section 3 discusses the results and their implications and Section 4 summarizes the paper.

## 2. Methodology

The study was based on aggregate yearly data on the number of tourists for the period 1995-2009<sup>1</sup> taken from World Tourism Organization publications (1997-2010).

The data on the number of tourists were collected from statistics published annually in the Yearbook of Tourism, while the data for cases of influenza are based on World Health

<sup>1</sup> It was not possible to find aggregate data for all the countries in question on a monthly or quarterly basis, let alone individual data. Furthermore, analyzing data on an annual basis enables us to ignore the effect of seasonality.

Organization data (1995-2010). For each destination country, the data on the number of terrorist incidents during the research period were collected based on the Global Terrorism Dataset (1995-2012). The data regarding economic crises are based on the Economic Research Services of the US Department of Agriculture (1995-2010).

The study focused on the USA, Germany, UK, Japan and France as origin countries, since these countries have the highest per capita expenditures on tourism among countries with populations greater than 10 million.

For the destination countries, we chose three popular tourist destinations: Spain, Singapore, and Vietnam. (a) During the research period, Spain experienced terrorist incidents, many carried out by the Basque Fatherland and Freedom (ETA). These incidents mainly targeted police and military targets, but also business and transportation. During those years in Spain, the number of terrorist incidents per year ranged from 2 to 26, with an average of 11.5 terrorist incidents annually (START, 2012). See Graph 1 in Appendix 1 for further details. (b) Potential tourists highly associate Singapore with influenza epidemics (241 cases in the SARS epidemic in 2003 (GAR). See Graph 2 in Appendix 1 for further details. (c) Potential tourists highly associate Vietnam with influenza epidemics and terrorist incidents. Vietnam had 63 reported cases of SARS in 2003 (GAR) and 106 and 685 reported cases of swine flu in 2008 and 2009, respectively. Vietnam did not experience as many terrorist incidents as Spain, but these incidents made a big impression since they were directed at civilian targets including the water and food supply, and they occurred in the capital Ho Chi Minh City (START, 2012). See Graph 3 in Appendix 1 for details.

### **3. Analysis**

The model included multiple regression analyses built by stepwise routines using SPSS17 software. Ten different regressions were constructed for each of the destination countries for the years 1995-2009. The dependent variable of the model was the number of tourists coming from a specific origin to a specific destination. The independent variables (for 1995-2009) were: number of terrorist incidents in the origin and the destination countries; number of epidemic cases in the origin and the destination countries; the monetary exchange rate between the origin and the destination; a dummy variable for the years in which there were economic crises.

### **4. Results**

Tables 1, 2 and 3 summarize the results of the regression analyses for the destination countries (Spain, Singapore and Vietnam, respectively), with annual number of incoming tourists from the origin countries as the dependent variable<sup>2</sup>.

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<sup>2</sup> The countries that were not significant are not shown in the table.

**Table 1** Results of regression analysis for Spain as a destination country<sup>3</sup>.

Variables	Origin countries	U.S. Coefficient (S.E.)	U.K. Coefficient (S.E.)	Japan Coefficient (S.E.)
<b>Terrorism origin</b>		-29007.70* (10295.20)		-15331.37* (6457.790)
<b>Terrorism Destination</b>			-84318.38* (37674.12)	
<b>Exchange Rate</b>		-826037.40* (296511.80)	-9538831.80* (3391537.99)	
<b>Economic Crisis Destination</b>		415482.69* (111542.70)	1479740.20* (655092.88)	-98615.50* (43647.12)
<b>R<sup>2</sup></b>		0.66**	0.60*	0.43*

\* p < .05, \*\* p < .01, \*\*\* p < .001

Table 1 shows the impact of the significant explanatory variables on tourism to Spain from the following origin countries:

- (a) USA: Tourism to Spain from the USA was significantly negatively affected by the exchange rate and by the number of terrorist incidents in the USA. In addition, it was significantly positively affected by the economic crisis in Spain. The effect of the exchange rate was the highest, while the effect of terrorist incidents was the lowest.
- (b) UK: Tourism to Spain from the UK was significantly negatively affected by terrorist incidents in Spain and by the exchange rate. It was also significantly positively affected by the economic crisis in Spain. The effect of the exchange rate was highest, while the effect of terrorist incidents in Spain was lowest.
- (c) Japan: Tourism to Spain from Japan was negatively affected by terrorist incidents in Japan and by the economic crisis in Spain. The economic crises showed a stronger effect. In most of the other cases, economic crises in the destination country had a positive effect on tourism. Yet in the case of Japan, the economic crisis had a negative effect. Cultural differences between Japanese tourists and tourists from other countries may explain this result. In the case of Japan, potential tourists may be worried about traveling to a country that has high rates of unemployment, demonstrations and strikes.
- (d) France: Only the economic crisis in Spain positively affected the number of tourists from France to Spain<sup>4</sup>.
- (e) Germany: Germany as an origin country did not exhibit any significant effects of the independent variables on tourism to Spain<sup>5</sup>.

<sup>3</sup> A stepwise regression was used. Only significant results are shown in the table.

<sup>4</sup> Data not shown in the table.

<sup>5</sup> Data not shown in the table.

**Table 2** Results of regression analysis for Singapore as a destination country<sup>6</sup>.

Origin countries Variables	US Coefficient (S.E.)	Germany Coefficient (S.E.)	U.K. Coefficient (S.E.)	France Coefficient (S.E.)
<b>Epidemic origin</b>		-5444.99** (1419.63)		-4870.31** (1479.05)
<b>Terrorism origin</b>	-4561.00** (1109.66)			
<b>Epidemic destination</b>			-402.68* (182.84)	
<b>Exchange Rate</b>			-982803.40** (164385.06)	-139303.40** (35605.04)
<b>Economic Crisis Destination</b>				15137.99* (5793.65)
<b>R<sup>2</sup></b>	0.59**	0.55**	0.77**	0.76**

\* p < .05, \*\* p < .01, \*\*\* p < .001

Table 2 shows the impact of the significant explanatory variables on tourism to Singapore from the following origin counties:

- USA: Tourism to Singapore from the USA was negatively affected by the number of epidemics in the USA.
- UK: Tourism to Singapore from the UK was negatively affected by the exchange rate and the number of epidemics in Singapore. The effect of the exchange rate was much stronger.
- Germany: Tourism to Singapore from Germany was negatively affected by the number of epidemics in Germany.
- France: Tourism to Singapore from France was negatively affected by the number of epidemics in France and by the exchange rate, while it was positively affected by the economic crisis in Singapore. The exchange rate had the strongest effect on incoming tourism, while the epidemics had the smallest effect.
- Japan: For Japan as an origin country we did not find any significant effect of the independent variables on tourism to Singapore.

<sup>6</sup> A stepwise regression was used. Only significant results are shown in the table.

**Table 3** Results of regression analysis for Vietnam as a destination country<sup>7</sup>.

Variables	Origin countries	US Coefficient (S.E.)	Germany Coefficient (S.E.)	U.K. Coefficient (S.E.)
<b>Terrorism Origin</b>		-199344.485** (52779.245)		
<b>Terrorism Destination</b>			-55480.000* (19508.959)	
<b>Economic crisis</b>			41775.950* (12045.894)	40797.300* (16342.697)
<b>Exchange Rate</b>			-2209155000** (706779187.5)	
<b>R<sup>2</sup></b>		0.543**	0.749*	0.324*

\* p < .05, \*\* p < .01, \*\*\* p < .001

For Vietnam as a destination country the impact of the explanatory variables on tourism from the following origin countries is:

- USA: Tourism to Vietnam from the USA was negatively affected by the number of terrorist incidents in the US.
- U.K.: Tourism to Vietnam from the UK was positively affected by economic crises in Vietnam.
- Germany: Tourism to Vietnam from Germany was negatively affected by the number of terrorist incidents in Vietnam and by the exchange rate, and positively affected by economic crises in Vietnam. The exchange rate had the strongest effect, while the economic crises had the smallest effect.
- France and Japan: For France and Japan as origin countries we did not find any significant effect of the independent variables on tourism to Vietnam.

## 5. Discussion

The current study examined the impact of various crises in both the origin and the destination countries on tourism to popular tourist destinations. In particular, we examined the impact of economic crises, terrorism and epidemics on tourism from five origin countries (USA, UK, France, Germany and Japan) to two popular tourist destinations (Spain and Singapore).

Our results suggest that incidents of terrorism, epidemics and economic crises have a differential impact on the movement of tourists from various countries of origin to various destination countries, compatible with our hypothesis. The findings for our sample countries show that the positive effect of economic crises in the destination country and the negative effect of exchange rates on incoming tourism are larger than the effects either of terrorism or of epidemics.

<sup>7</sup> A stepwise regression was used. Only significant results are shown in the table.

The findings also suggest that terrorism in the origin country had a negative effect on tourism to Spain from the US and Japan, while terrorism in the destination country (Spain) had a negative effect on tourism to Spain from the UK. Fielding and Shortland (2005) found that tourists from countries with lower levels of economic development are less sensitive to violence.

Terrorism in the origin country affects tourism to countries that are geographically far away (US, Japan and Spain). An earlier study by Mansfeld (1996) found a different effect of terrorism, leading the author to conclude that in general terrorist incidents had a different impact on the countries in the inner circle (i.e., countries that are part of the Israel-Arab conflict) than on those in the outer ring. The outer ring countries usually enjoyed positive spillover effects, whereby tourists chose to go to those countries rather than to the inner ring countries.

It is interesting to note that neighboring countries (e.g., in the same region) were not affected by terrorism or by epidemics. For example, when Singapore was the destination country, tourism from Japan as an origin country was not affected. In addition, when Spain was the destination country, tourism from Germany and from France was not affected. In the case of Vietnam, the neighboring country Japan was not affected, and France was also not affected<sup>8</sup>.

The findings of the current study also suggest that epidemics have a negative effect on the number of tourists. This is in line with previous research (Kou, 2008, 2009). Yet our findings showed that epidemics affected only tourists from the UK, while previous research did not distinguish between different origin countries.

The main contribution of the current study is in the combination of different types of crises, while previous research usually focused on one type of threat. In addition, this research combined several destination countries and several origin countries. In the current study we also examined the effects of terrorism and epidemics in the origin country. We found no references to these effects in previous research.

In the origin countries, the impact of crises on tourism may also be related to the volume of media coverage of events occurring in the destination country. Therefore, our findings about the impact of various crises may also be related to the social amplification model (Kasperson et al., 1988; Renn et al., 1992; Burns et al., 1993). Amplification occurs in the transfer of information about risk (e.g., by the media). The amplified risk leads to behavioral responses that, according to Renn et al. (1992), in turn cause "secondary social or economic consequences that extend far beyond direct harm to humans or the environment" (p.140). Further research should examine the impact of media and other communications channels on the demand for tourism in the presence of adverse events.

The main limitation of the current research is that we used annual data instead of monthly data. Annual data are not ideal since crises that occur at the end of the year may have an impact on tourism movement at the beginning of the following year. Nevertheless,

<sup>8</sup> One of the languages spoken in Vietnam is French, perhaps making it easier for French tourists to travel to Vietnam.

over a long period of time the major impact of crises on tourism movements can be reflected by annual data.

Future research should examine the separate effects of major events occurring in the origin and the destination countries on incoming tourism. Moreover, more destination countries and more origin countries should be used in the research. In addition, future research can examine the impact of additional types of crises (e.g., natural disasters) on tourism movement and compare this to the impact of the types of crises mentioned in the current study.

## 6. Conclusions

The main conclusion is that the effect of different crises on tourism movement depends both on the destination country and on the origin country. In general, the effects of economic crises and of exchange rate fluctuation are much higher than the effect of terror events or epidemics on tourism movements. More specifically, terrorism in the origin country affects tourism movement to countries that are geographically far away, while tourism to neighboring countries (e.g., in the same region) was not affected by terrorism or by epidemics.

Finally, the results of the current study may help policymakers in incoming tourism countries identify the main factors that affect tourism movements to their country and focus their tourism marketing efforts accordingly (e.g., different marketing efforts for long-distance tourists versus short - distance tourists). In turn, these steps can reduce the negative impacts of various crises on tourism movements. These implications are especially important for recovery in countries which tourism is one of the main sources of incomes.

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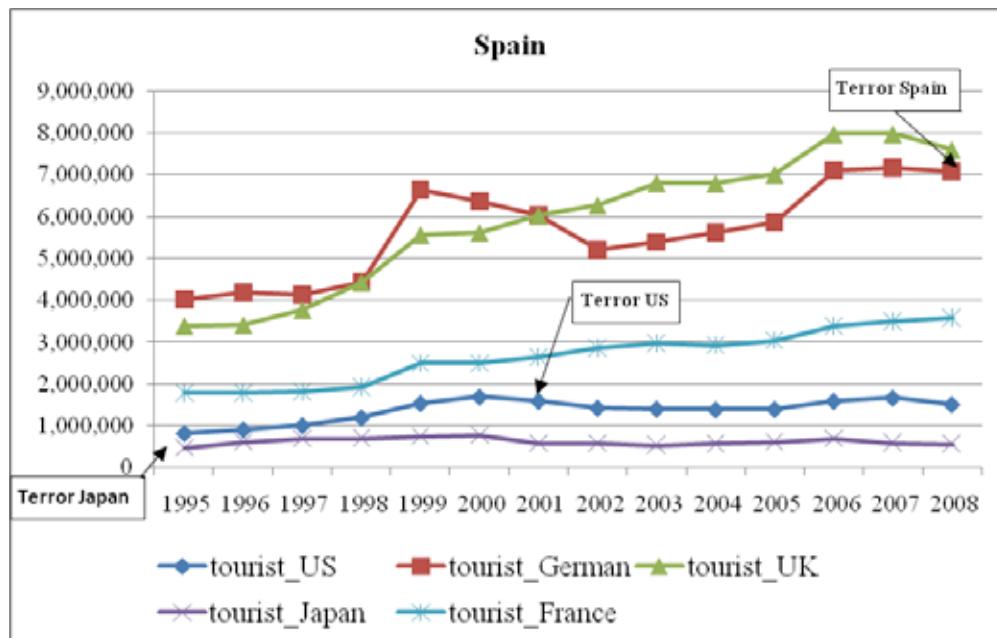
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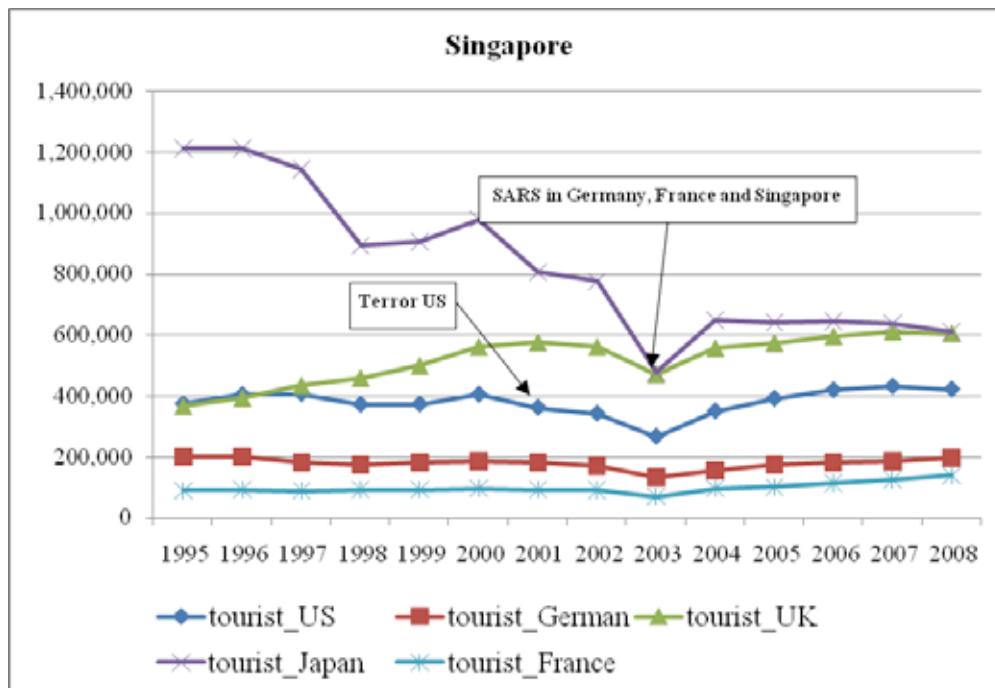
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## Appendices

**Figure 1** Number of tourists to Spain.

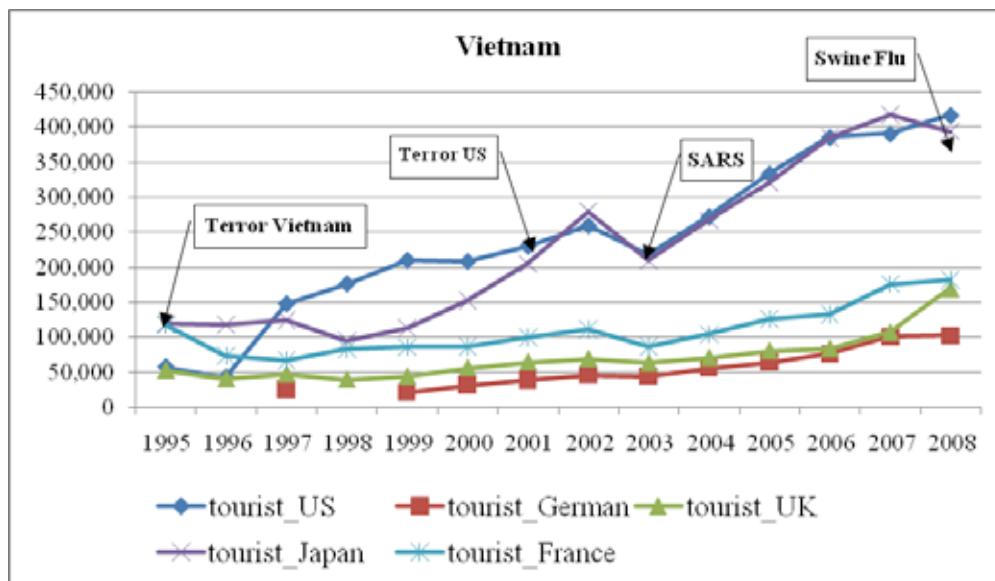


**Figure 2** Number of tourists to Singapore.



2003 = SARS

**Figure 3** Number of tourists to Vietnam.



## **ROLE OF STRATEGIC PLANNING IN TRANSPORTATION MANAGEMENT TO IMPROVE THE PERFORMANCE OF TRANSPORTATION COMPANY**

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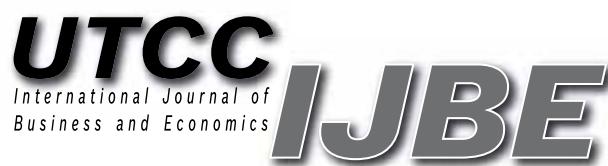
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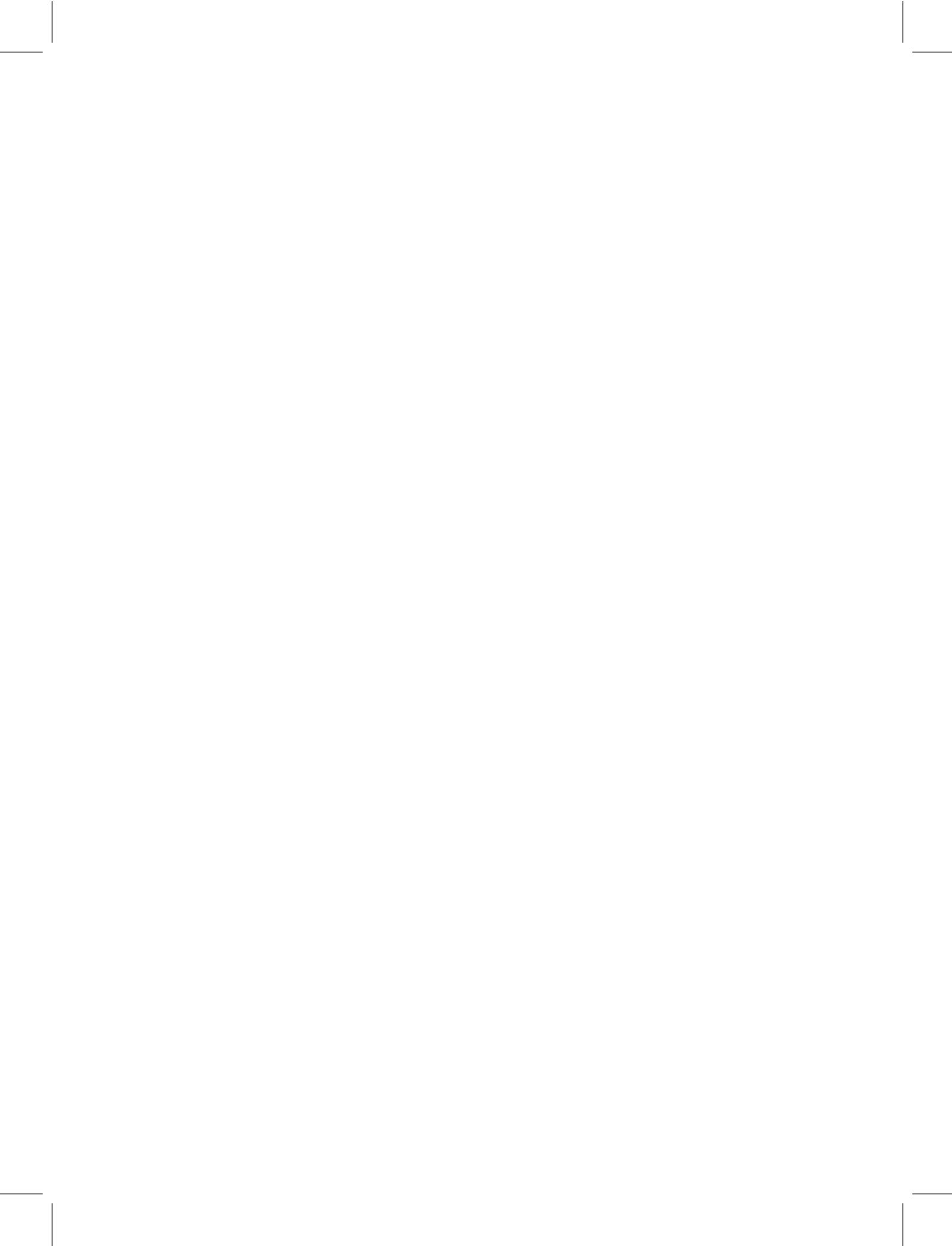
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# **ROLE OF STRATEGIC PLANNING IN TRANSPORTATION MANAGEMENT TO IMPROVE THE PERFORMANCE OF TRANSPORTATION COMPANY**

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## **Abstract**

The objective of this paper is to offer a strategic solution to administrative bottlenecks in internal structure of transportation companies. Analysis of data from a transportation Company revealed that strategic planning enhances a transit agency's ability to respond effectively to passengers' requirements and demands of host communities. This is particularly so when it is designed to consolidate the various unit action-plans into a system-wide strategic plan. The environment under which Raja Passenger Trains Company (which is our case study) is operating is dynamic. The over-regulation of Raja Passenger Trains Company should be reduced such that the initiative of the board members can have a place in the day to day running of the corporation. Furthermore, effective strategic planning requires involvement of employees, particularly those who will be responsible for the implementation of the resulting plan, and it must fit the management and decision making styles of the top and unit or division level managers. After the system implementation, a qualitative evaluation was carried out by a document analysis and questionnaire application. These roles are intended to provide guidelines to transportation companies intending to use strategic planning as a tool of effective strategic management. In this study directions for future research will be provided.

**Keywords:** Strategic Planning, Transportation Management, Transportation Planning

## **1. Introduction**

The performance of any corporation is measured in terms of contribution to standard of living of the people, profit return, cost effectiveness, market penetration and corporate image. The normative view of strategic planning is that organizations that do formal planning have a

higher probability of success than those that do not. If planning is so fundamental to organizational success, this article looks at how strategic management of a public enterprise can ensure its continuity. The paper is also aimed at offering strategic solutions so as to improve the performance of Raja Passenger Trains Company.

The success of strategic planning in some private sector firms as well as interests of governments looking to tie their budgets to performance measures have spurred its use in public sector organizations as a tool of strategic management. The quality of life of any nation is partly determined by the quality and efficiency of that nation's transport system.

A turbulent environment strategic planning is a constraint on the flexibility of an organization to adapt to its rapidly changing and uncertain environment (Mintzberg 1991). An efficient transport system is an axle wheel on which the economic activities of any nation revolve. Transport is needed to provide access to sources of existing and potential raw materials. It facilitates the collection and distribution of agricultural and industrial products and it encourages efficient allocation and utilization of some economic resources. It equally promotes the smooth administration of any country. It can therefore be regarded as the life wire of a nation's economic development. Transportation departments (including public transportation) have experiences with planning, data gathering and analysis, and "using this information to allocate resources and manage programs", thus making them good candidates for strategic planning (Poister T. H.; Van Slyke D. M. 2002).

Attributions to public transport are important; they form the perception of a public transport mode and, thus, the image of different public transport modes. Perception of public transport service quality and attributions of public transport have been prominent issues in transportation research, especially research that targets shifting automobile drivers towards public transport (Scherer M; Megel Dziekan K. 2012). In Iran, road transport dominates other modes of transportation in the movement of passengers and goods. This is because; road transportation has numerous advantages over and above other modes of transport. The Roles of strategic planning in transportation are the organizational environment in which strategic planning is applied (contextual), and how strategic planning is designed and implemented (Ramanujam; et al. 2002). Over the years, 70% Iranian depended on public transport for their mobility; this has led to an acute shortage of public transport. The ever increasing demand for public passenger transport approached a crisis level in 2002 and the government had to intervene in order to reduce this serious mobility problem which is manifested in intra-city movement. The private sector dominated the business of mass transit in the past. Some State governments have attempted the mass transit system before, but they failed because of lack of strategic management.

Top management leadership involvement in and commitment to strategic planning, and the strategic planning process itself to the characteristics of effective strategic planning (Ugboro, I. 1991).

Strategic issues in public transport include:

- Vehicle, selection and purchase.
- Type of buses in a fleet.

- Operation of the buses.
- Maintenance and servicing.
- Examination of other issues.

Even when all these factors are taken into consideration for efficient mass transit system, the organizational structure, relationship between supervisory ministry and the government and Transport Corporation could hamper the achievement of the objectives of the corporation.

These Roles are measured by the organizational contextual, design, process, top management leadership involvement and commitment dimensions of strategic planning systems of public transit agencies and are treated as variables. Then, using structural and measurement equations, the paper develops relationships between the measures, strategic planning characteristics, and internal organizational success of strategic planning, federal legislative requirements and community impacts. Those measures with positive coefficients are used as the Roles of effective strategic planning.

Raja Passenger Train company started their activity on Oct. 22, 1996 in the form of an independent governmental company, whose 100% shares belong to the Railway of Iran, aiming at qualitative and quantitative growth in the field of passenger transportation (Raja Co 2012). This article discusses how strategic management could be used to sustain the operation of a public transport corporation. Public transportation companies encounter problems when carrying out their activities which creates difficulties in their work and their results, these problems are in raja passenger trains company too, therefore I use this strategic planning method in the raja passenger trains company that caused enhance productivity and improved of company performance in level of their organizational and their business.

In this study, we found that using strategic planning in transportation to improve the performance of raja passenger trains company need for money and the benefits that accrue from that expenditure compete in theory for resources against all other potential uses. While it is important for organizations to efficiently carry out their missions, they also need to be concerned about effectiveness. An organization is said to be effective if it accomplishes its stated objectives. Ideally, an organization should be both effective and cost efficient. If financial resources are limited to using strategic planning for improve the performance the company, resources should be reallocated. It does good to have improvement in our performance.

Research papers make the transition from the general field or context of the study to the specific experiment by describing the inadequacy in previous research that motivates the present experiment (Hill et al., 1982). Gap identification and formulating a research problem are vital for a research project. This paper directs towards achieving transport system. The gap between actual and desired outcomes presents a challenge and creates the need for action. A key feature of this paper is that it considers the full range of potential solution or options to the challenges at hand. This is a pre-requisite for effective decision making. Identification and analysis of options, or alternative possible solutions to a challenge, is a fundamental aspect of this paper.

As described in the literature review on strategic planning, numerous studies have been conducted so far but so far its impact on transportation planning and practical manner by

someone who has not been investigated. In this study, using of the strategic planning process on transportation companies caused to increase productivity and profitability of the company to double up.

## 2. Literature Review

The Government Performance requires agencies to prepare three strategic planning documents. The first is a strategic plan covering a period of five years and reviewed every three years. The second document is an annual performance plan for each program activity. The third document is a program performance report that compares the performance indicators established by each agency with its actual performance to assess strategic planning's failures and successes.

Following the Government, many states passed legislations or issued Executive Orders (e.g. Arizona; New Jersey; Texas, Wyoming, Delaware, Hawaii, Florida) to require similar results oriented measures on their agencies (Berry & Wechsler 1995; Broom 1995; Melkers & Wiloughby 1998; Aristigueta 1999). Companies that engage in strategic planning out-perform those that do not use strategic planning, meaning that strategic planning has some dividends (Welch, J.B., 1984). The advantages of strategic planning as follows:

- It improves company's chances of doing the right thing at the right time for the most part because, it has a better understanding of its business and it's environment.
- It has more time and accurate information for forecast.

State agencies to determine the extent of their use of strategic planning, 60 percent of the agencies responding, i.e., 255, used some form of strategic planning and attributed the large percentage of use to possible overrepresentation of adopters of strategic planning in their sample and less experience with strategic planning (Berry F. S. & Wechsler B. 1995). Plan in means an active conscious and rational role played by managers in formulating the organizational strategy (Stoner R.; Freeman. 1989). Strategic management therefore entails planned management activities engaged in, so as to realize pre-determined objectives outlines for a particular organization or business.

Some apprehension about the use of strategic planning, these authors conclude that strategic planning has produced "very little disillusionment among those who have used it" (Berry, F. S. & Wechsler, B. 1995). The interest of managers in strategic planning was its apparent prospect that they could now control the destinies of their organization and achieve corporate stability no matter what happen in the external environment (Paul, R.N.; et al. 1978). Strategic planning gives tunneled vision and does not allow management to take note of other possible approaches to problems (Mintzberg H. 1993). Despite these arguments recent increases in the adoption of strategic planning in the public sector at a time when the private sector seems to reduce its use makes its study in public transit agencies ever more important. Performance analysis can help transit agencies to more objectively evaluate the performance of their systems, thus allowing them to better identify and prioritize problem areas for management actions (Gan et al. 2004).

According to previous literatures, Public transportation companies encounter problems when carrying out their activities which creates difficulties in their work and their results, these problems are in raja passenger trains company too, therefore I use this strategic planning method in the raja passenger trains company that caused enhance productivity and improved of company performance in level of their organizational and their business.

## **2.1 Strategic Planning**

A systematic, formally documented process for deciding what is the handful of key decisions that an organization, viewed as a corporate whole must get right in order to thrive over the next few years. The process results in the production of a corporate strategic plan (simply strategic planning 2013).

Many researchers seem to agree that strategic planning is an effective tool of strategic management. Found positive 2 relationships between strategic planning and organizational effectiveness and performance and argued that methodological problems could explain the inconsistencies in past research results (Miller, C. C.; Cardinal, L. B. 1994). Strategic planning is not just planning like long-term financial planning or capital planning, but involves a thorough assessment of the environment and organization to develop broad strategies for resolving important issues facing the government (Rebecca Hendrick 2010).

Pointed to design and process flaws as possible explanations of failure of strategic planning in many cases (Hussey.D.E 1974). He argued that, the fact that an organization practices strategic planning does not mean that it is done well. The question therefore, is what characteristics of strategic planning are related to its effectiveness.

Strategic planning is an organization's process of defining its strategy, or direction, and making decisions on allocating its resources to pursue this strategy. In order to determine the direction of the organization, it is necessary to understand its current position and the possible avenues through which it can pursue a particular course of action. Generally, strategic planning deals with at least one of three key questions (J. Scott Armstrong 1986):

- "What do we do?"
- "For whom do we do it?"
- "How do we excel?"

In many organizations, this is viewed as a process for determining where an organization is going over the next year or more typically 3 to 5 years (long term), although some extend their vision to 20 years. Strategic planning is the process of envisioning a future and translating this vision into defined goals, objectives, and steps to achieve them (Achieve it 2013).

## **2.2 Transportation Planning**

Transportation planning is a continual process of examining the transportation challenges facing and identifying a plan of action to improve transportation system performance (Atlanta region 2011). Transportation planning is a process that develops information to help make

decisions on the future development and management of transportation systems, especially in urban areas. It involves the determination of the need for new or expanded highways, transit systems, freight facilities, and transportation terminals, their location, their capacity and the management of their demand. Typically transportation planning involves a forecast of travel patterns 15 to 25 years into the future with an aim to develop a future transportation system that will work effectively at that time. Transportation can have significant effects on mobility, economic development, environmental quality, government finance and the quality of life. Wise planning is needed to help create high quality transportation facilities and services at a reasonable cost with minimal environmental impact and to enhance economic activity (Edward A.; Beimborn 2006).

Transport planning is usually focused on specific problems or on broad transport concerns at a local level. It has been traditionally a preoccupation of lower tier governments, such as the state or municipality. Because of this fact, transport planning is most developed in the urban sphere, and it is there where most experience has been gathered. The planning process, however, has a number of similarities with the policy process. Identifying a problem, seeking options and implementing the chosen strategy are essential steps in planning too. Because it tends to deal with localized problems, the solutions adopted in transport planning tend to be much more exact and specific than policy directives (Brian Slack 2013).

The transportation planning process involves an interconnected group of transportation officials and transportation agencies, relying on plans made by the federal government, the state, counties, cities and other transportation partners. It is driven by national, state, district, metropolitan and local plans and priorities (Metropolitan Council 2012).

## **2.3 Transportation Management**

A Transportation Management is a system designed to manage transportation operations. In more recent times, we have seen that the Transport Management is being offered in many different types of licensing arrangements. These different arrangements have given shippers who otherwise would not be able to afford sophisticated software the opportunity to utilize Transportation Management to better manage this vital function. Transportation Management is really meant to increase efficiency of your logistics company and has become a mandatory element for an effective logistics management. The transportation management helps you make your logistics management more organized and accurate (Jithin Dev 2010).

The goal of a Transportation Management Program (TMP) is to reduce trips and/or parking impacts of a development project through the implementation of physical improvements and operational measures (Diane M. Sugimura 2013). The management of transportation operations of all types, including tracking and managing every aspect of vehicle maintenance, fuel costing, routing and mapping, warehousing, communications, EDI implementations, traveler and cargo handling, carrier selection and management, accounting (Bitpipe 2012).

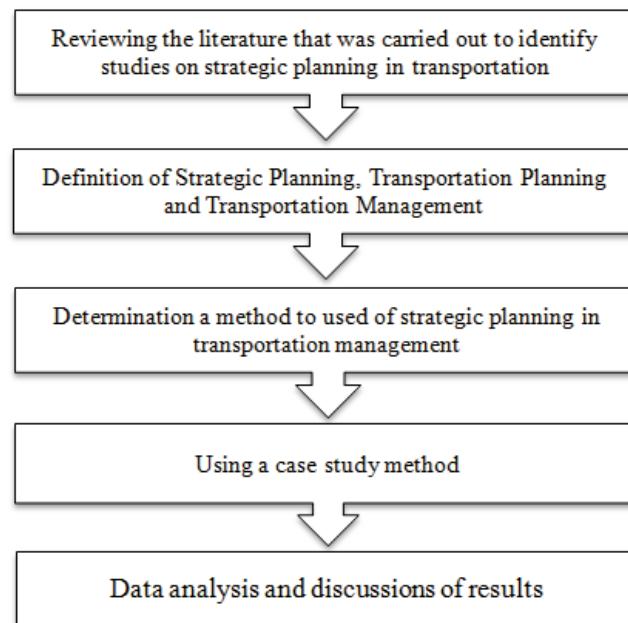
Transportation Management means the integrated process of satisfying transportation requirements using the Defense Transportation System to meet national security objectives. The process begins with planning, programming, and budgeting for transportation assets, services,

and associated systems and continues through delivery of the users (global transportation management 2013).

### 3. Research Method

Qualitative approach was chosen for the given research project, as it allows collecting more wide and rich data, and ensures more flexibility rather than quantitative approach. The case study has been conducted in an transportation Company. According to Fig. 1, I began this paper first reviews the literature that was carried out to identify studies on strategic planning in transportation, then I began to define Strategic Planning, Transportation Planning and Transportation Management, next I determined a method to used of strategic planning in transportation management, and finally using a case study method.

**Figure 1** Diagram of research method



#### 3.1 Measurement

In developing scales for internal organizational success and dimensions of strategic planning, we used item statements from Steiner (1979), Wood and Laforge (1981), Ugboro (1991) and Ramanujam, Venkatraman and Camillus (1986). Strategic planning effectiveness is measured by some characteristics; these characteristics are principles of effective strategic planning and are considered important in establishing strategic planning in public transit agencies. These principles are discussed below:

- **Understanding established procedures for strategic planning:** From our results, a characteristic of effective strategic planning systems in public transit agencies is that employees must understand and know the established procedures in place for strategic planning.
- **Strategic planning must fit management style:** Yet, another characteristic of effective Strategic planning found in this study is that it must fit the management style of the top executive team and the reality of a transit agency's decision-making process.
- **Consolidate unit action plans into a system-wide plan:** Another characteristic of an effective strategic planning we identified in transit agencies is that each unit within an agency must develop its own action plan.
- **Top management constraints on unit managers:** Quite surprisingly, we found that a characteristic of effective strategic planning in transit agencies is that top management imposes some constraints on unit managers.
- **Responsive to customer demands:** Another characteristic of effective strategic planning systems in transit agencies that we found is that they use their abilities to meet customer demand as an internal measure of strategic planning success.
- **Ability to foresee areas of major future transportation opportunities:** The final characteristic of effective strategic planning in transit agencies is its ability to foresee opportunities for future growth.

Respondents were to show their agreements and disagreements to the item statements in all the scales using the five scales: 1- indifferent, 2- totally Disagree, 3- Disagree, 4- Agree and 5- totally Agree.

### 3.2 Data

As an advantage of case study method, dealing with contemporary events allows the scholar to use full variety of evidence: documents, archival records, observations, interviews with the people involved, and artifacts. Using of multiple data sources mitigates the potential problem of construct validity (Yin, R. K. 2009). Thus, 3 types of data sources were used in the research project:

1. Documentation. Relevant document sources such as organizational charts, organizational culture survey results.
2. Direct observation. Internal news published in the intranet and press-releases were reviewed in order to overview strategic goals, organizational changes and new directives.
3. Interviews and Survey.

Data collection started with identifying Transportation Company involved in strategic planning to participate in the study. Data were collected from both primary and secondary sources. The primary data were those collected from the raja passenger trains company through personal interviews while the secondary data were obtained from published materials that proved to be relevant among which are the company journals, Magazines, Newspapers different seminars on Urban passengers Transportation in Iran. Observations were made at the corporation premises and at some of the loading points. The method of analysis is both descriptive and

quantitative. The scope of the study is the performance of the corporation from 2002-2012. Data collection was carried out through interviews and document analysis. In questionnaires were used a research question: Did the system improve the performance of the transportation company strategic planning in transportation management?

#### **4. Strategic planning in Raja Passenger Trains Company**

The principal sub-activities of strategic formulation as a logical activity includes identifying opportunities and threats in the company's environment and attaching some estimate or risk to discernible alternatives. Before a choice is made, strategic planning will ensure that the company's strength and weaknesses are appraised with the resources available. The strategic alternative, which results from matching opportunity and capability at an acceptable level of risk, is what is regarded as economic strategy.

In raja passenger trains company, Strategic Planning covers route planning, pricing, subsidy, maintenance, training and purchasing and supply of spare parts and petroleum products. Each level Manager directly connected with any of the strategies above is usually an input into the strategic planning process. But the adoption of such strategic Planning depends to a large extent on the approval of the Supervising Ministry as well as the State Government.

#### **5. Research procedure**

There are two main scientific perspectives for conducting a scientific research, the positivistic perspective and the hermeneutic perspective (Patel & Davidson. 2003). There are mainly two procedures for conducting research, the qualitative- which has a strong connections to the hermeneutic perspective and the quantitative procedure - with a strong connections to the Positivistic perspective (Oates. 2006). The research strategy chosen for this research is the case study. As the inductive approach for research is used to form a theory based on collected information - the same will be done in this research.

When choosing what criteria to be used it is important to match this to the research (Yin , R. K. 2008)? The reason for choosing these strategies is as a result of the overall research perspective of the Research, the hermeneutic perspective. The individual steps of the procedure are as follows:

- The first stage of the procedure is to initialize the Check by checking the copied interviews.
- The second stage of the procedure is to present the material and have it structure in such a way so that it is simple to understand and simple to interpreted by the reader.
- The third stage is identifying from the different data sources and cross references them among each other.
- The fourth and final stage of the procedure is to analyze these discovered patterns and themes in conjunction with existing theories with the purpose of answering the main question with the purpose of presenting instructions on.

## 6. Data analysis and discussions of results

There is no standardized procedure to analyze qualitative data due to their diverse nature (Saunders,M.,Lewis,P.,andThornhill,A.2009). But, usually 3 processes are applied: summarizing, categorization, and structuring of meanings. For the survey data analysis, quantitative methods were applied depending on the type of variables. Mostly the quantitative data served for producing descriptive statistics. Only few statistical dependencies were found. For identification areas for improvement in project management (based on the survey data), Importance Performance Analysis was applied. The combined data from the company documentation, interview transcripts and descriptive survey data were summarized, partly coded and divided into categories following the conceptual framework of the research.

The raja passenger trains company recorded a 53% increase in fleet size in 2003 which resulted in about 43% increment in revenue generated in 2002. This period coincided with the introduction of Federal Urban Mass Transit plan of the Federal Government. By 2005 the number of vehicles in the fleet, reduced from 82 to 50. Despite this reduction by 26% in the fleet the revenue generated in 2005 increase by 14%. Between 2008 and 2010, there was no reduction in the fleet size but revenue generated was in the decline. The researchers found that there were other extraneous factors responsible for the decline in the revenue generated over the years for which the vehicles in the fleet were constant. With a fleet size of 33 in 2002, N32.7m was generated as opposed to N20m generated when the number of vehicle in the fleet was 100.

**Table 1** Fleet size and revenue generated (2002-2012)

Year	Revenue Generated(ME)	fleet size
2002	865	60
2003	1245	92
2004	1367	32
2005	1564	50
2006	1470	72
2007	1626	100
2008	1668	93
2009	1885	93
2010	1910	93
2011	1989	70
2012	2080	33

Source: Corporations audited accounts (2002-2012)

Correlation analysis between revenue generated and fleet size of raja passenger trains company between 2002 and 2012 Correlation is the measurement of the degree to which changes in one intervallic-scaled variable (Revenue generation) are associated with changes in another intervallic-scaled variable.

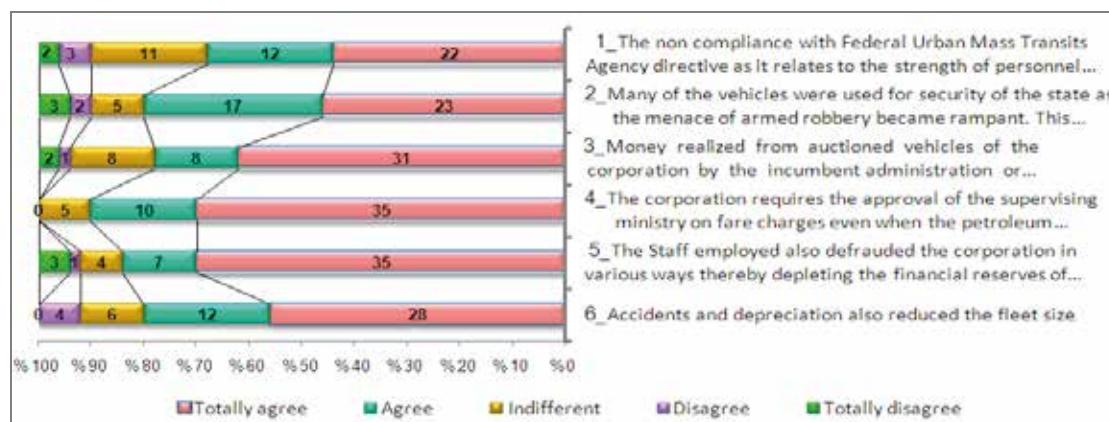
The correlation coefficient is a measure of linear relationship between the two interval variables. Hence, given the figure on Table 1, we can compute the correlation coefficient of the data as shown below with the aid of the Eq. (1).

$$(r = n \sum xy - \sum x \sum y) / (\sqrt{n \sum x^2 (\sum x)^2} * \sqrt{n \sum y^2 - (\sum y)^2}) \quad (1)$$

This gave a negative correlation of -0.0335 between fleet size and Revenue generated. This is because many of the vehicles were used by the state government at will. In some other instance, fiat government orders were issued by the state government to the corporation on route scheduling to fulfill political pledges which are usually contrary to revenue generation drive. From the statistical evidence above there is a low negative correlation between fleet size and revenue generation. The following are the findings from the corporation's survey research.

- The non compliance with Federal Urban Mass Transits Agency directive as it relates to the strength of personnel required increased the number of personnel and consequently the wage bill.
- Many of the vehicles were used for security of the state as the menace of armed robbery became rampant. This reduces the number of vehicles for commercial purposes and hence led to the reduction in revenue generated.
- Money realized from auctioned vehicles of the corporation by the incumbent administration or government were not ploughed back in to the coffer of the corporation, hence the inability to meet its request. There was a time in 1992 when the corporation requested for twenty J-5 buses (22 seaters), the response from the State Government was the supply of (seven seaters) Peugeot 504 station wagons.
- The corporation requires the approval of the supervising ministry on fare charges even when the petroleum products were scarce in the era of the military.
- The Staff employed also defrauded the corporation in various ways thereby depleting the financial reserves of the corporation.
- Accidents and depreciation also reduced the fleet size.

**Figure 2** Results of the answers from the data interview reports



We used 50 people that had applied the method for presenting a questionnaire. Fig. 2 shows the percentile frequency of the answers regarding to the criteria. Has the system number 1? 34 people of the respondents agreed that “the non compliance with Federal Urban Mass Transits Agency directive as it relates to the strength of personnel required increased the number of personnel and consequently the wage bill” there is in the system. But 16 people were indifferent or disagreed. 40 people agreed that the system has number 2, and 39 people agreed with number 3 that “Money realized from auctioned vehicles of the corporation by the incumbent administration or government were not ploughed back in to the coffer of the corporation, hence the inability to meet its request”.

Number 4 (The Corporation requires the approval of the supervising ministry on fare charges even when the petroleum products were scarce in the era of the military), the graph shows that 45 people of the respondents agreed with that. Number 5 (The Staff employed also defrauded the corporation in various ways thereby depleting the financial reserves of the corporation) 42 people agreed that there is in the system and 40 people agreed with number 6 that is “Accidents and depreciation also reduced the fleet size”.

## 7. Research Implication

Based on this analysis integrating of research, the answer to the hypothesis on the relationship between strategic planning and corporate performance is affirmative. The results of this analysis show that there is a positive relationship; therefore, strategic planning does improve corporate performance. In that sense, this analysis supports the findings of other analyses (e.g., Boyd 1991; Miller & Cardinal 1994).

It is more difficult to specify what the implications of these results are for managers, since the academic community is apparently still having trouble pinpointing the precise value of strategic planning. For the majority of performance measures, strategic planning does not have a negative influence on corporate performance. The perception that a strategic plan is followed so uncritically as to endanger the survival of a company appears to be greatly exaggerated.

Furthermore, as regards future research, managers should be careful in the selection of which performance measure they intend to use when they seek to measure the effects of strategic planning. The purpose of the strategic planning process should be reflected in the choice of performance measure. Future researchers should be more specific regarding the precise content of the concept of strategic planning they are using, what dimensions they want to emphasize, and so on. This would make it easier for future researchers to evaluate and compare studies.

## 8. Conclusion and Recommendations

Studying strategic planning in public transportation companies and identifies its characteristics that make the companies that use it effective in responding to some legislative requirements is very important, and have positive community impacts. We conclude that strategic planning is an important strategic management tool that allows public transportation

companies to meet people demands primarily in terms of mobility and accessibility, and legislative requirements.

Some characteristics of effective strategic planning in public transportation companies are:

- Strategic planning must be more than a lip service.
- Employees must understand established procedures for strategic planning.
- Strategic planning must fit the management style of top management.
- Top management must be involved and committed to strategic planning.

The environment under which the raja passenger Trains Company operates could hardly be said to be stable as it is constantly being affected by the development in the immediate and remote environment. Such a dynamic situation requires a more adequate and responsive management of the corporation for values to be effectively appreciated. However because of the nature of organization and ownership, the management approach is reactive rather than proactive. Even where the board has come out with a good strategy the supervising ministry the Ministry of Works may make the strategy little or no effect.

After a consideration of strategic planning activity in raja passenger trains company, the following problems were identified:

- Limited financial resources, as a problem should be tackled through expansion of financial base. The genesis of any success in strategy planning would begin with determining the strengths and weaknesses vis a vis the environment and competition.
- An appropriate and clear mission is necessary in order to provide unity of efforts towards a common goal in the organization. Mission statement should be reviewed periodically between ten or twenty years and the objectives must be finite, feasible, suitable, acceptable and achievable.

The function of management is to plan, organize, staff, lead, and control. Every one of these functions is influenced to a great degree by how much money there is. Managers and program staff simply cannot carry out their assigned responsibilities effectively without understanding their financial constraints. Resources to be committed to any activity are always finite. Using strategic planning in transportation to improve the performance of raja passenger trains company need for money and the benefits that accrue from that expenditure compete in theory for resources against all other potential uses. While it is important for organizations to efficiently carry out their missions, they also need to be concerned about effectiveness. An organization is said to be effective if it accomplishes its stated objectives. Ideally, an organization should be both effective and cost efficient. If financial resources are limited to using strategic planning for improve the performance the company, resources should be reallocated. It does good to have improvement in our performance.

For operation efficiency, a definite stand should be taken on the maker of buses to be purchased for operation. The practice whereby transport corporations have a mixture of various types of buses in their fleet is for all intent and purpose counterproductive. It also poses an additional burden in the corporation in terms of spare parts.

Based on this analysis integrating of research, the answer to the hypothesis on the relationship between strategic planning and corporate performance is affirmative. The issue of federal character or quota system in the appointment of level managers should be avoided. This is because a level manager appointed by politics is not likely to fall in line strategically in thoughts with those who were employed on merits. Essential and genuine spare parts and components should be stocked so that the rate at which the buses are grounded will be reduced. The life span of any bus depends on the handling of the bus by drivers. Hence, sound training should be given to them. Reckless and unmarried person rarely makes good driver.

It is more difficult to specify what the implications of these results are for managers, since the academic community is apparently still having trouble pinpointing the precise value of strategic planning. For the majority of performance measures, strategic planning does not have a negative influence on corporate performance. The conductors and conductresses serve as public relation officers. Therefore, periodic refresher courses should be organized for them to boost their efficiency in attending to passengers. The success of the private sector group in transport industry can be attributed to the measure of powers and authority given to the General Manager and Chief executive. This freedom does not exist in government run transport agencies like raja passenger trains company. This is why government interference in State transport companies should be reduced to barest minimum to enable the company operating in the same footing with their private sector counter parts. I use this strategic planning method in the raja passenger trains company, we could specified above results and if we can follow all them in the company, caused enhance productivity and improved of company performance in level of their organizational and their business.

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He's Proficiency is transportation planning and He has been teaching in Azad University south Tehran branch, Iran and payame noor university of Tehran, Iran.

## **MULTIMODAL TRANSPORTATION - EFFORTS TO MAKE IT HAPPEN IN BRAZIL**

by

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## 1. Introduction and objectives

A trading opportunity arises when the right product can be found, at the right place and time at competitive prices. For this, four basic activities should be performed: production, storage, transportation and marketing.

In all these activities, there is a strong involvement of the transport associated costs. These costs can be direct, including the price paid for the transport services provided by any facility of transfer and storage, and indirect, such as the financial impact of inventory maintenance and insurance. Additionally, there are the costs associated with management of the handling of goods (such as order processing and cargo tracking).

An efficient transport is essential for the logistics. **Logistics** is the management of the flow of goods and services between the point of origin and the point of consumption in order to meet the requirements of customers. Trade and transport are closely related to international trade corridors. A trade corridor consists of: customs, financial and commercial practices; government requirements; equipments, infrastructure and the process actors, interacting to produce a country exports and imports.

The government requirements reflect the government policies in the form of laws, regulations and ratified international conventions applicable to international transactions. The actors include commercial parties that provide services for: organizing the physical movement of goods from production to consumption, using the existing infrastructure, implement financial and commercial practices and customs to meet the government requirements.

The objective of this paper is to correlate the government requirements to other elements of the chain, in order to understand the need of implementing the Multimodal Transport. To reach the objective we made a literature review, using all the references available in Brazil literature. We collected acts, papers and so many documents that can provide us with a state-of-the-art. As result we can say that Multimodal Transport depends on the efficient use their capacity and on combinations more economic energetically. To allow gains of scale in international negotiations, make better use of infrastructure to support activities and reduce costs for small and medium businesses, Multimodal Transport should be promoted in Brazil as soon as possible, removing legal barriers and permitting the necessary investments in transportation infrastructure.

## 2. Definitions and concepts

Initially, Segmented Transport and Multimodal Transport must be carefully defined. Although both use a streamlined logistical structure, there is a huge difference when it comes to the carrier's liability.

According to KEEDI, Segmented Transportation, sometimes called Intermodal Transport, includes the issue of individual documents for each modal and for each logistics support activity, such as warehousing, unitizing, spawning, among others. The emission of more than one transport document characterizes not only the increase in bureaucratic activity, but mainly defines the responsibilities of each actor. In other words, each transport mode, as well as each support activity, takes responsibility for a specific part of the chain. Therefore, in case of cargo damage, the shipper may use the right of return against those who caused the damage.

In the Multimodal Transport, according to the United Nations Convention for the Multimodal Transportation of Goods (2), the Multimodal Transport is the one that uses at least two modes of transport, based on a Multimodal Transport Contract, from the place where the goods are taken under the responsibility of a Multimodal Transport Operator - MTO, to the place designated for delivery.

The MTO is defined as the person who, by its own mean or through another person acting under his custody, holds the contract of Multimodal Transport, acting as principal, accepting full responsibility for the task stated in the carriage contract.

## 3. Methodology

The method of this work will be qualitative, based on the observation of the environmental aspects and the literature review related with multimodal regulation, with aid of interviews with the technicians in Multimodal transport. Like this, we may consider the paper as descriptive according with Vergara (2004) definition: "*is research that exposes certain features population or certain phenomenon*" and as to the means, and bibliographic documentary as it is a study systematized and developed based on material published books, magazines, newspapers and electronic networks. As a reference methodological case study, based on the support of dynamic conception of reality, emphasizing practical experience and contextual analysis. In this research, therefore, aims to explain how it will impact the implementation of multimodal transport in Brazil comparing with the international expertise.

## 4. Multimodal Transport Advantages

In general, logistics represents a differential for competition among companies and countries, aiming costs reduction and productivity gains. In this context, multimodal transport acquires much more significance. The definition and rationalization of logistic alternatives, points to the full review of the transport system practice: door-to-door, jointly and not fragmented.

Companies which are not able to reach the multimodal competitive advantages, usually choose business terms such as CIF (Cost, Insurance and Freight) and FOB (Free on

board), which include the responsibility for hiring only part of the operation logistics activities. The use of more appropriate terms such as DDU (Delivered Duty Unpaid) and DAP (Delivered at Place), would allow these companies to negotiate discounts achieved only by the international transport.

In the arrangement and organization of transport within the logistics activity, several options become viable. According to UNCTAD - United Nations Conference on Trade and Development (UNCTAD, 1996), and the evolution of the subject has led to an increase standardization of definitions, forms of relation from transportation are:

- a. Unimodal transport: The transport of goods or people for a mode of transport by one or more carriers, or
- b. Intermodal Transport: the transport of goods or persons by various modes of transport. Depending on how the responsibility for the entire transport chain is broken, we have:
  - Segmented Transportation: If, in the organization of the entire transport chain, even with only an actor organizing the whole logistic chain, each carrier assumes responsibility only for the portion that he performs, or
  - Multimodal Transport: if, in the organization of the entire transport chain, a single carrier (whether or not the owner of the transport vehicle) assumes responsibility for any drive door to door, including other logistics activities.

Importantly, the integration between transport modes can occur in one or more subsystems that compose them (via vehicle, be - terminals and controls), or can occur in an operational, physical or documentary.

When a shipper selects a transport option, it should be borne in mind that the supply shuttle assume various forms of liability, the two main ones are:

- a. As Principal: one that accepts the responsibility for a specific transport task, this can be the main conveyor ownership of the vehicle or be a carrier without vehicle (Non Vessel Operator Common Carrier - NOVOCC).
- b. As Agent: one agent acting on behalf of another person. It is often called the agent loads, especially one that consolidates loads for a single shipment as cargo consolidators (Freight-forwarders).

When the goods are marketed physically moved from the premises of the seller until the buyer responsibility for this movement must be attributed to one party or trade should be divided by two. In general, neither the seller nor the buyer, made the transport operation.

They generally will engage a third (third party) to perform the operation. This third-jailed on felony charge must be watered by the operation (or part thereof) as principal and will respond by assets under custody (with li-mites from liability established by any applicable law).

Alternatively, the third can be in charge of - as agent and will only be responsible for mediating the hiring of transport. The agent does not agree to carry the load on their cost - day, it only organizes the transport operation and, moreover, can not take responsibility for any loss or damage to goods during transportation.

According to Komarova, the advantages of hiring a MTO become clearer when compared to other alternatives for performing the transport. For the company which operates with owned fleet and equipment, it will bear full responsibility for the purchase of fleet, maintenance, financing, staff training and necessary infrastructure to perform the logistics.

However, if a logistic operator is hired, either for segmented or Multimodal Transport, it eliminates the need of investment and the logistics administrative activities can be summarized to the specification and purchase of service. In other words, if a company chooses to have its own logistics sector, the related operation costs are fully assumed by the company. On the other hand, by hiring a multimodal logistics operator the costs are shared with other MTO customers. The larger are cargo volume, the larger is the base for apportionment of direct and indirect costs.

The differentiation of the multimodalism implemented by an MTO is precisely the benefits that he promotes. In summary, some of these benefits are:

- more appropriate purchase and sale contracts;
- Better use of the capacity of our transportation matrix and
- utilization of more energy efficient mode combinations;
- Better use of information technologies;
- Negotiation gains of scale;
- Better use of the infrastructure for support activities such as storage and handling;
- Taking advantage of international experience either for transport and trade bureaucratic procedures;
- Reduced overhead costs, among others.

## 5. Characteristics of modes of transportation

Railway transport is able to carry a large tonnage over long distances. Despite having high fixed costs (due to the high cost of equipment and physical conditions required for operation, such as exclusive lanes and courtyards of maneuvers), has low variable operating costs. It is used when it is necessary to transport larger volumes of loads with low unit cost and does not require rapid delivery. It is a transport capable of transporting large volumes of cargo long distances at low cost, and it does not require urgent delivery. Need appropriate facilities for loading and unloading wagons, can not be applied where it requires collection and delivery point to point (lack of flexibility).

Road transport is flexibility flexible (capable of operating on any kind of road, as well as being suitable for the handling of small loads over short distances). As Figure 2 road transport: have low fixed costs and high variable costs. This is the more independent transport (move enables wide variety of materials to any destination due to its flexibility, and efficient for small orders); Used to shifts in short, medium or long distances, through collection and delivery point to point.

Waterways modes is one of the oldest means of transport that exist. Its cost (operating costs are low since the ships have a relatively high capacity, and fixed costs can be absorbed by the large volumes of cargo transported). Divided into sea (uses vessels designed for use in the oceans) and fluvial (river uses domestic shipping and navigation channels), it benefits from the ability of waterways and river have to carry large volumes or tonnages, at a cost

variable low is quite required when it is necessary to obtain low freight costs and when speed is a secondary aspect.

Pipeline has a higher fixed costs and lower variable cost, and an efficient method for moving liquid and gaseous products over long distances. Performs work virtually uninterrupted since you only need to stop the transportation in case of maintenance or change of the load. The main products that use the pipeline transportation: oil, natural gas, manufactured chemicals (gasoline, kerosene, etc.), Dried and pulverized materials in bulk, as well as sewer and water.

Finally, air transport is fast (speed of delivery when it comes to travel great distances). In the case of shorter distances, this advantage is eliminated because much time is still spent on the aircraft departures and arrivals terminals. For the other hand, is the most cost modal (restricts the use of this mode to products that can effectively compensate their high costs, according to the best level of service). Its main limitations are related to the size and weight of the loads it carries.

When making a joint transportation with different modes of transport has multimodal transport. This comes of cargo, by only one agent (company), through the combination of different modes of transport such as road, air freight, rail, pipeline and waterways modes. The name given to this is intermodal transport: includes the use of multiple modes of transportation, but with the participation of several different agents for the handling of loads. According to the UN Convention, the Multimodal Transport (MT Convention) the responsibility of Operator Multimodal Transport - OTM for loss or damage to goods as well as the delay between is based on the principle of "presumed lack or negligible people." This means that the OTM is responsible for events that cause loss, damage or delay in delivery during the period in which the goods see in their custody, unless he proves that the OTM, its employees, agents or anyone who has made use of the service to perform the contract, has taken all reasonable steps to avoid the occurrence and its consequences.

## 6. World regulation ratified in brazil

Traditionally, competition between modalities in transport systems has produced disintegrated. Each mode has sought to explore their own advantages in terms of cost, service, safety and reliability. The lack of integration between the modalities is still marked by public policies that prevent companies are owners of different modalities or even taking on the co-public power, their management and monopoly control.

It happens that the current demand is influenced by integrated transportation systems that require maximum flexibility. As a result, the competition exists on several levels and takes several dimensions. Arrangements can compete against each other, or be complementary in terms of cost, accessibility, frequency, security, among others (RODRIGUES, 2003).

According to Law No. 9,611, of February 19, 1998: The Multimodal Transport Cargo is one who, governed by a single contract, using two or more modes of transport from origin to destination, and runs under the sole a Multimodal Transport Operator - OTM.

The United Nations Conference on Trade and Development - UNCTAD, the United Nations agency (ANTT in UNCTAD, 2006), researched the legal framework of the Multimodal Transport in the World, as the following summary:

- Multimodal transport was officially defined in 1980 by the United Nations International Convention for the Multimodal Transportation of goods held in Geneva, being thus the first set of legal norms of international coverage that regulates the trans multimodal size.
- The Geneva Convention of 1980 (United Nations, 1980) established criteria similar to the Hamburg Rules with respect to the responsibility of the shipping carrier. As a result, it was not well accepted and has not been, to date, ratified by a enough number of countries to allow their validity. To understand the low acceptance of the Geneva Convention of 1980 is necessary to understand the differences between liability regimes proposed and adopted in the preparation of the Convention.

According to the UN Convention on the Carriage Multimodal Convention (MT) the responsibility of Operator Multimodal Transport - OTM for loss or damage to goods as well as the delay between is based on the principle of "alleged defect or negligible people" This means that the OTM is responsible for events that cause loss, damage or delay in delivery during the period in which the goods are in their custody, unless he proves that the OTM, its employees, agents or anyone who has made use of the service to perform the contract, has taken all reasonable steps to avoid the occurrence and its consequences.

A key element to establish the responsibility OTM for loss or damage to the goods has been the choice between systems "uniform" and "network" of responsibility (CLARKE, 2001):

- a) in accordance with the Uniform System "uniform" the same liability regime applies to all multimodal transport independently stage in which the loss or damage occurred.
- b) Network according to the system in "network" the responsibility of the OTM by localized damage (damage occurred is known for a particular stage of transport) is determined with reference to the International Convention or National Law applicable to unimodal stage during which the damage occurred.
- c) Modified Network Convention adopts the MT system "uniform" for localized damage and not found. Except in cases of localized damage, the liability limit is determined by reference to the Convention International or national legislation or national law mandated that provides a higher limit of the responsibility than that proposed by the convention MT. This approach, which is not entirely "uniform" system is known as "network changed" and is the same used in the making of the Brazilian legislation for the Multimodal Transport.

The adoption of a system of responsibilities in transport should provide or not to locate the damage to the goods. Thus, one may classify it as the possibility of the damage location:

- a) Located-say that the damage to the goods can be located is the same as saying that it is possible to determine the mode of transport in which the damage was produced.
- b) Not Found him not located or hidden damage is the same as saying that it is impossible to determine when the damage occurred. The preparatory work of the Convention TM examines the two were fundamentally different proposals regarding

the relationship between the multi-modal transportation and basic unimodal transport.

In 1998 the International Maritime Committee - WCC began work on a proposal for a solution to the problem of international multimodal transport. Completed in 2001, the paper discussed, Synthetic-mind the following points:

- a) providing uniform rules in areas currently not covered for an international regime;
- b) establish a new regime of liability of the carrier;
- c) cover all segments of the transportation;
- d) cover not only contracts evidenced by traditional documents, but also those executed electronically.

Even with all the efforts of the UN, through the UNCTAD and UNCITRAL, there is still a lack of an effective international agreement on multimodal transport. For this reason some countries and / or groups of countries (blocs) have developed their own Pippen laws. Table 1 presents the various international conventions on multimodal transport.

Several countries in South America joined the differing regional conventions, which contains clauses that differ and, in addition, some established their own laws. All these legal instruments have certain differences, which will probably cause large differences if all enter into force at the same time.

According to the UN report, 27 June 2001 (United Nations, 2001):

The lack of an international legal framework acceptable to everyone, that has resulted in intra-governmental bodies and individual governments have taken initiatives and enacted laws intending to overtake the questions and problems that persist to date. Have been expressed concern about the proliferation of individual legislation, with possible different legal approaches that add more confusion and legal problems that already exist in the system Multimodal Transport.

In Mercosur, the main document is in effect the "Agreement of Ouro Preto, 1994, or Partial Scope Agreement for the Facilitation of Multimodal Transport of Goods", concluded between member countries (Brazil, Argentina, Paraguay and Uruguay), in April 30, 1994 (also known as Trans-Protocol International - Mercosur).

This agreement regulates the transport of goods by two or more modes under a multimodal transport contract from a place located in a State Party, in which the operator Transport Multimodal takes the goods in his custody, to another designated place for delivery, relies in another State Party, comprising, in addition to transport, collection services, unitization or cargo destined for storage, handling and delivery of cargo to the consignee, covering the services that were hired between origin and destination, including the consolidation and deconsolidation of loads. In general this agreement follows the Geneva Convention of 1980 on multimodal transport and not set a limit uniform of responsibility OTM.

Historically, carriers reduced their exposure to claims for damages, including, in their Bills of Lading, all sorts of exemptions and limitations of liability. To avoid carriers' abuses, countries have celebrated conventions which established bases and limits of liability.

Currently, the great diversity of laws and conventions which fix carriers liability for each mode of transport is probably the biggest obstacle to the development of the Multimodal Transport. According to the UN, a multimodal operation consists of several transport modalities, such as, sea, road, rail or air. Each mode is subject of a convention or mandatory national law. Table 1 below presents a summary of relevant international conventions by modal:

**Table 1** International Conventions Applicable to Unimodal Transport

Mode	International Convention Applicable
<b>Maritime</b>	<ul style="list-style-type: none"> <li>- International Convention for the Unification of Certain Legal Rules Related to the Maritime Bill of Lading, 1924 (Hague Rules).</li> <li>- Protocol for Modification of the Hague Rules, 1968 (Hague/Visby Rules).</li> <li>- Protocol for Modification of the Rules Hague / Visby, 1979.</li> <li>- UN Convention for the Carriage of Goods by Sea, 1978 (Hamburg Rules)</li> <li>- Rotterdam-Convention, 2010.</li> </ul>
<b>Road</b>	Convention for the Contract for International Carriage of Goods by Road (CMR)
<b>Rail</b>	<ul style="list-style-type: none"> <li>- Unification of the Rules related to the International Carriage of Goods by Rail Contract (CIM), Appendix B of the Convention related to the International Carriage by Rail (COTIF), 1980.</li> <li>- Protocol for Modification of the CIM-COTIF 1999.</li> </ul>
<b>Airway</b>	<ul style="list-style-type: none"> <li>- Convention for the Rules Unification related to International Carriage by Air (Warsaw Convention), 1929.</li> <li>- Hague Protocol, 1995.</li> <li>- Montreal Protocol 4, 1975.</li> <li>- Montreal Convention 1999.</li> </ul>

In any event, in the lack of a uniform liability system for multimodal transport, the liability for each stage of transport is determined by the unimodal convention or national law existing. Thus, the MTO liability for loss or damage of goods, may be different, depending on the stage of transport where the loss occurred. The issue becomes even more complicated if the place of loss or damage cannot be defined or occur gradually throughout the shipping process.

According ZUIDWIJK, the diversity of bases and limits of liability and different documents with different legal values, ultimately discourage any logistics operator to provide a door to door service, passing through various different legal systems. This is not a big problem for unimodal transport, but obviously becomes important when attempts are made to combine the different modes of transport and inevitably, their different legal regimes in a single transport operation ruled by a single contract. This statement can be seen in the following example:

The example shows the transport of a container filled with leather from Goiás, Brazil to Frankfurt, Germany. The container comes from a farm in Goias, it is sent by road to a Dry Port, where it is shipped on the express train to the terminal of Vila Velha, in the city of Vitória, Brazil. From there, it is shipped to the port of Rotterdam in Holland. Once there, it is sent by rail to an intermodal terminal in Cologne, Germany, and finally by road to Frankfurt. Applying different rules to this container we have (Table 2):

**Table 2** Legal Diversity in the Door-to-Door Transport

Transport Door-to-Door	Applicable Law
Transport by truck in from Goiás to dry port	deregulated
Railway from dryport to the port of Vitória	Transport by Rail Regulation (TRR)
Transport by sea from Vitoria to Rotterdam	Hague / Visby Rules
Transport by rail from Rotterdam to Cologne	CIM/COTIF
Transport by road in Germany	CMR

According to ZUIDWIJK the development of an integrated transport chain, which resulted in the transport Intermodal / Multimodal, began with the perception of the shipper owners that they could offer freight reductions by negotiating large volumes of cargo, offering also a road leg before loading and after unloading for the maritime transport. Thus, the shipper owner assumed the status of a cargo agent in the contract of transport by road; he does not take any responsibility in case of claims for the non maritime legs though.

This service offered by the ship owners was promptly answered by the Freight-Forwarders who, in addition to operating as a simple agent, also operated as a contracting carrier. Under the U.S. law, the freight-forwarder ceases to belong to this category and becomes a NVOCC (Non Vessel Operating Common Carrier).

To avoid losing market, ship owners have also adopted the same procedure. Thus the Intermodal Transport service began to be offered. At first, these integrated transport occurred under the most different conditions, producing a confusing legal situation. The lack of uniformity caused difficulties for traders, insurance companies and banks.

For this reason, non-governmental entities have established more standardized rules. The first attempt happened in 30s by the National Institute for the Unification of Private Law (UNIDROIT). Finally, in 1975, the International Chamber of Commerce (ICC) published the rules for combined transport documents (ICC Publication 298), which have voluntary application and the parties began to universally use it in contracts covering the origin/destination, including transport by sea and road.

Despite the ICC 298 have introduced more uniformity, these rules have not changed the complicated scenario of multiple liabilities. Meanwhile, in 1973, the UN began to discuss the subject. After years of deliberation, it was adopted the "United Nations Convention on Multimodal Transport in 1980".

In theory, the introduction of a uniform legal system would simplify the Multimodal Transport. In practice, it didn't work, since very few countries have ratified it. The main explanations why it was not fully applicable, relates primarily to insurance problems (UN, 1992). In theory, the MTO is legally responsible throughout the transportation chain, having the right to claim against the subcontracted carriers. It is not always possible to claim against a carrier based on the unimodal agreement thought. For example, the maritime carrier, according to Hague/Visby Rules, is not liable for damages caused by navigation errors (collision, grounding, etc.) and fire, which usually have huge proportions. In turn, the ship owner may have a same vessel operated under two different liability regimes.

The UNCTAD (UN), along with the ICC, established new rules, based on the Hague/Visby rules, which began to be used in January 1992. These rules are also voluntary between parties.

For a better understanding of the liability system and the divergent rules for Multimodal Transport, will be described below, the two main regimes of responsibility that can be applied to transport involving more than one transport modality:

- Uniform: according to the uniform system, the same regime, boundaries and periods of responsibility are applied to every stage of the Multimodal Transport, regardless of the stage in which the loss or damage occurred.

- Network: according to the Network system the responsibility of the OTM for localized damage (damage which is known to have occurred during a particular stage of the transport) is determined with reference to the International Convention or national law applicable to the stage during which the damage occurred.

In summary, some of the main barriers are related to insurance questions. These are some of the reasons why in the world, it is not common to find a carrier which accepts a contract of carriage under the conditions of the UN Convention of 1980, continuing to use the combined transport / intermodal system.

## 7. Comparison between multimodal transport rules

Several countries in South America have joined to various regional conventions, which contain different clauses, moreover, some have established their own laws. All these legal instruments have certain differences, which will probably cause confusion if they all become effective at the same time.

According to the UN report: "The lack of an acceptable international legal framework, has resulted in initiatives and laws intended to override the doubts and problems that persist to date. There are concerns about the proliferation of individual laws, with possible different legal approaches, which add more confusion and legal challenges to existing arrangements in the Multimodal Transport. "Tables 3 and 4 present the laws and agreements for some countries and economic regions.

**Table 3** Multimodal Transport Agreements and International Conventions

Region	Agreement	Scope of Application
<b>Andean Community</b>	Decision 331 of March 4, 1993. Modified by Decision 393 of July 9, 1996: International Multimodal Transport.	Applies to all international multimodal transport contracts, if the location of collection or delivery of goods by MTO is inside of a member state territory.
<b>Mercosul</b>	Partial Scope Agreement for Facilitation of Multimodal Transportation, April 27, 1995.	The agreement applies to contracts of Multimodal Transport in which the place of collection or delivery of the goods by the MTO is located inside a member state territory.
<b>ALADI</b>	International Agreement on Multimodal Transport	The agreement applies to contracts of multimodal transport in which the place of collection or delivery of cargo by the MTO, is located inside of the territory of a signatory country.

Source: United Nations (2006)

According to ZUIDWIJK, none of these Conventions are effective. The same author believes that, instead of enacting laws on Multimodal Transport, countries should evaluate the usefulness of a review of the unimodal transport legislation.

Good examples of Multimodal Transport regulation can be found in Germany and USA. The Act of Reform of the Transport Law or the All Activities Transport Law, held in Germany, applies to all sectors belonging to the multimodal chain. Germany did not invent anything new to the Multimodal Transport, but has adapted all the rules of the chain into a single law, which applies to both and International Multimodal Transport, simplified when compared to the brazilian legal frame work.

The USA does not have a Multimodal Transport Act, having instead an effective application of unimodal transport laws, adequate infrastructure, transfer terminals and a good national security

**Table 4** Countries Multimodal Transport Laws by country

Country	Law	Scope of Application
Argentina	Law 24921: Multimodal Transport of Goods, Official Gazette of January 12, 1998	The law applies to the National Multimodal Transport. It also applies to international multimodal transport if the place of delivery of the goods is located in Argentina (imports) and does not apply to exports.
Brazil	Law 9611 of February 19, 1998 on Multimodal Transport of Goods.	The law applies to both national and international multimodal transport if the location of collection or delivery of goods is located in Brazil.
Germany	Transport Law Reform Act, 1998	The act applies to the unimodal contract for the carriage of goods by land, waterway and air and all contracts of multimodal transport including the maritime stage, except in cases of localized damage, when are applied relevant international conventions.
México	Regulation on International Multimodal Transport, July 6, 1989	Mexico is part of the Multimodal Transport Convention and enacted the text of the Convention in the official gazette of April 27, 1982 and subsequently ratified the international regulation on Multimodal Transport, published in the Official Gazette of July 7, 1989. The regulation applies to the International Multimodal Transport and regulates the multimodal transport operator and some of their activities.
Paraguay	As a state member of Mercosur Paraguay implemented the Partial Scope Agreement for Facilitation of Multimodal Transport by the Decree 16927 of April 16, 1997.	

Source: United Nations (2006)

## 8. Restrictions for the evolution of multimodal transport in brazil

Since the "Multimodal Transport Convention" UN 1980, the Brazilian government has discussed the rules of Multimodal Transport and its regulation. The first substantial action, in order to allow the establishment of clear rules on the door to door transport in Brazil (with a single agent responsible for the whole supply chain), emerged in 1994 with the Agreement for the Facilitation of Multimodal Transport for MERCOSUR.

From this agreement, which applies only if the Document or Bill of Lading expressly refer to the Agreement have been established the main legislative provisions for this activity:

- Decree No. 1563 of 1995 ruling the signed Agreement.
- Law No. 9.611 of 1998, known as the Brazilian Law of Multimodal Transport and, finally.
- Decree No. 3411, 2000, which regulates the Law.
- Decree No. 5276 of 2004 amending Decree No. 3411.

According to the legislation mentioned above we can say that Multimodal Transport is regulated in Brazil. Why it doesn't work then? This is a question that must be answered from two aspects: legal and infrastructure.

### **8.1 Legal Aspect**

Besides the difficulties in achieving uniformity in international regulation, there is another legal barrier to make the Multimodal Transport more effective in Brazil.

i) Taxes: There are officially 426 MTO in Brazil. They are registered and authorized by the Brazilian government (Inland Transport National Agency) to operate. To support the multimodal operation has been set a standard Multimodal Bill of Lading approved by the State Secretaries of Finance in 2003.

A major difficulty in using the document is due to tax issues. The Tax on Goods and Services Movements - GSMT applies to all interstate transport operation and is regulated separately and differently by each state (Brazil has 27 states plus the Federal District). According to Mr. Thiers Costa, a member of the Transport National Confederation, regarding transport taxes in Brazil: "Brazil is a different country in each state".

As in the Multimodal Transport, cargo can be transported through many states, before reaching its final destination, there are huge rule differences between each state when it comes to taxes collecting, making it difficult to collect taxes properly.

This situation encourages logistical inefficiency, such as making unnecessary transport or the use of longer routes, damaging the national economic system. Now a days, the transport is performed with the issuance of many documents (and many people responsible), which features an Intermodal transport.

Additionally, some of these states believe that taxes on transport also focus on export operations, increasing the costs of Brazilian exported products and making our price less competitive in the international market. An ideal solution would be a complete political reform in the tax system, standardizing tax rates and collecting procedures in all the 27 states and the federal district.

Another legal barrier which impacted negatively on the implementation of multimodal transport in Brazil was the cargo insurance. Law 9.611/98 and Decree 3411/00 established a new legal barrier for the implementation of Multimodal Transport in Brazil: requires the MTO, for the release of the registry, an insurance policy covering their liability on the goods under his custody. To get this policy from an insurance company was practically impossible, since no insurance company offered to guarantee a still undefined transport. This problem was solved with the publication of Decree No. 5276/2004 which removed the requirement for

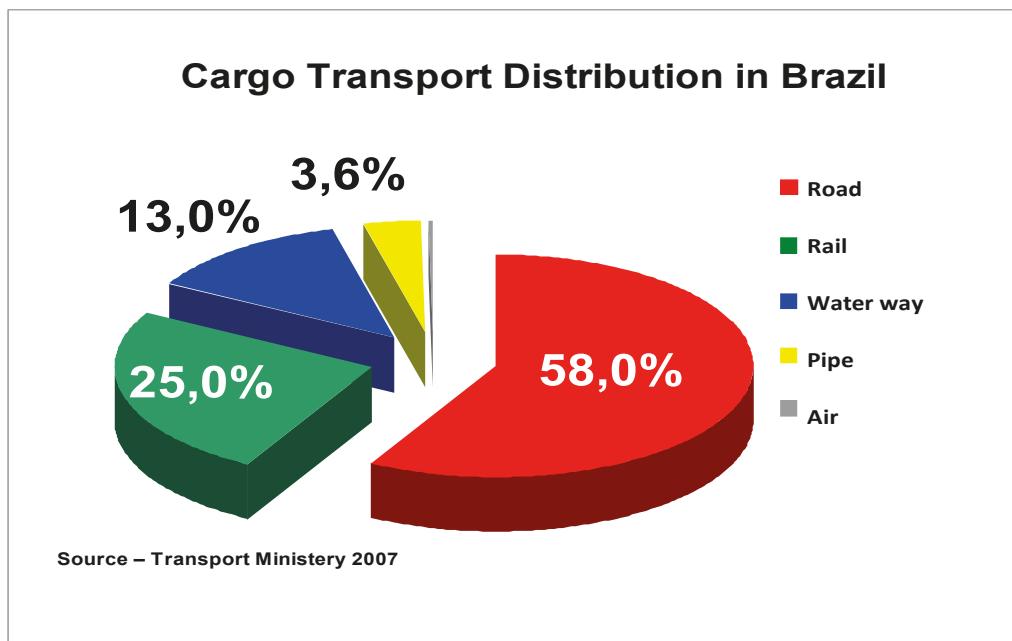
the insurance policy in the act of registration of the MTO at National inland Transport Agency - ANTT. This decree had a significant impact in the market, since after issuing the decree the number of OTM registered rose from 30 in 2004 to 164 in 2005.

In Brazil, it is responsibility of the National inland Transport Agency - ANTT, to propose enabling Multimodal Transport Operators, monitoring the Multimodal Transportation and coordinating with professional associations, shippers, cargo owners, regulatory agencies in other modes, government agencies and others involved with the movement of goods to promote multimodal transport. ANTT is a federal regulatory agency bounded, but not hierarchically subordinated, to the Transport Ministry.

## 8.2 Infrastructure

The existing infrastructure of transport in Brazil represents a barrier to the integration of different transport modes. It is important to emphasize the great contribution of the transport by road. This is alarming information, taking into consideration the territorial continental dimensions of Brazil. Figure 1, below, shows transport matrix in Brazil.

**Figure 1** Participation of the Transport Sector in the Brazilian Economy



Source: CNT, Ministry of Environment, IBGE and GEIPOT.

**Figure 2** Participation of Modal Transport World - Tons x km

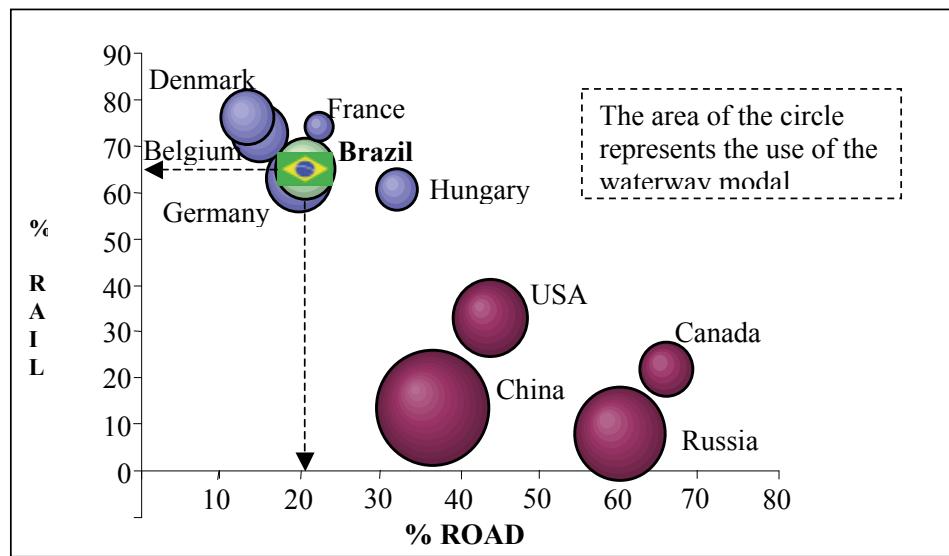


Figure 2 shows the share of transport mentioned above, including the data related to other countries. Note that in this chart, Brazil should be located close to countries with the same geographical size, however, is close to countries with dimensions up to ten times smaller.

Following are listed five parameters which, among others, best explain the distortion presented above:

i) Transport by road: Currently, freight by road is considerably cheap. The almost total deregulation and high unemployment in the market led to the emergence of a large number of independent carriers, charging freight rates below their own costs. These aspects reflect a high rate of accidents, caused mainly by lack of maintenance on the vehicles, the high average age of the fleet, loadings heavier than allowed and the long hours that independent drivers are submitted. These unrealistic freight values become a competition disadvantage compared to other modes of transportation that are more efficient in long distance.

ii) Rail Transport: Before the process of privatization of railroads began, the Brazilian government has continually reduced investment in the railway sector. Currently, private companies that took control of the granted railroads have a serious problem related to infrastructure and maintenance of rolling stock.

iii) Maritime Transport: The average productivity of Brazilian ports is around 20 TEU/h. This figure is 50% below the global benchmark. The excessive man power used in Brazilian ports is the main cause for the inefficient performance. Additionally, the number of ships built by the Brazilian shipyards had a huge drop in recent decades.

iv) Waterway Transport: Brazil has a huge network of inland waterways, but their use for transportation is small. The interior navigation has the lowest rate of investment in the sector over the last decade. Also the lack of integrated actions, based on rivers multiple use, has hampered the effective potential of this mode of transport.

v) Multimodal Terminal: A small number of Multimodal terminals and excessive bureaucracy, especially in the international trade area are other factors that inhibit the development of Multimodality in Brazil. The inefficiency in cargo transportation generates an excess of inventory, designed to avoid delays in deliveries and resolve problems caused by accidents and theft.

## 9. Conclusions

The scene, contrary to popular belief, is not pessimistic: basically represents great potential for the Multimodal Transport. Currently, one of the main policies of the governments of developing countries like Brazil is to increase the volume of exports, ensuring a larger reservation of resources, free of external investors. To achieve this goal, must be privileged the national transport and more efficient contracts.

This goal is difficult to achieve, primarily because no organization can improve this complex network by itself. The Multimodal Transport involves not only transport systems and vehicles, but also a combination of business decisions, regulations and responsibility practices. It is needed an intensive coordination between the public and private, between the various transport modalities and between different nations that compose this vast network.

International organizations such as the ICC, UNCTAD, UNCITRAL, in addition to the committees of the European Union, United Nations and the United States, maintain efforts to advance in the search for a new legislation to promote a global standardization of rules applicable to the Multimodal Transport.

To improve the multimodal transport, it is suggested to Brazil to take the following actions, concerning the transport policy:

- Standardize procedures and legal guidelines for the application of transport related taxes;
- Clearly establish the role and the conditions for the competition of different modes and promote sustainable development to meet demand;
- Indicate public and private resources available, and create a safe environment for investment;
- Enable private sector participation in government decisions and,
- Allow a more efficient legal, institutional and economic management for the cargo flows, by constant updating the procedures, reducing the execution time and bureaucracy at borders, based on international best practices.

Multimodality depends on the efficient use of the Multimodal Transport capacity and on combinations more economic energetically. To allow gains of scale in international negotiations, make better use of infrastructure to support activities and reduce costs for small and medium businesses, Multimodal Transport should be promoted in Brazil as soon as possible, removing legal barriers and permitting the necessary investments in transportation infrastructure. It is important to note that the integration of the entire door to door chain converges to reduce costs and to optimize the cargo flow, in a unique and incomparable logistic chain.

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# THE EFFECT OF STORE IMAGE AND BRAND PERCEPTION ON CUSTOMER SATISFACTION: THE CASE OF THE HYPERMARKET IN THAILAND

by

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## Abstract

The objectives of this study are to identify consumers' store behavior and brand perceptions after acquisition and to explore the effects of store image, self-congruity, and brand perception on customer satisfaction after the acquisition regarding the case of hypermarket content in Thailand. Questionnaires were distributed to 400 samples in the high competitive area of Bangkok and vicinity. The Structural Equation Model (SEM) was used to analyze the gathered data, and the proposed model showed that customer satisfaction positively resulted from store image, brand perception, and self-congruity. The most influential factor affecting customer satisfaction was self-congruity, followed by store image and brand perception respectively. Discussions of the results and implications are also provided.

**Keywords:** Acquisition, Store, Brand perception, Self-congruity, Customer satisfaction

## 1. Introduction

The supercenter or hypermarket is one of the fast-growing areas in retailing in Thailand and in many other countries. The Thai consumer goods market has recorded steady growth in the past few years, as the economy recovered strongly in 2012, expanding by 6.4% per year. In regional terms, Thailand's consumer goods market will remain one of the most important markets in Southeast Asia; retail sales have shown the value of US\$122.20 billion in 2012 and retail sales will rise to an estimated US\$214.20 billion in 2017 (Economist Intelligence Unit limited, 2013).

In Thailand, there are two major hypermarkets: Big C and Tesco Lotus in Bangkok, that have high competitive locations. The hypermarkets in Bangkok are the main study setting because Big C acquired Carrefour and most Carrefour branches are located in Bangkok and vicinity (Shannon, 2009). Merger & Acquisition (M&A) has been implemented for a decade because this strengthens the competitive advantage of business (Wattanasupachok, 2004).

Referring to previous studies, the findings show are relationship between variables, such as brand perception significantly being related to customer satisfaction or dissatisfaction (Koubaa, 2008). Also, store image has been found to be positively associated with brand perception and self-congruity (Collins - Dodd & Lindley, 2003). The case of Big C acquiring Carrefour in Thailand is an unusual situation; therefore, the four variables (store image, brand perception, self-congruity, and customer satisfaction) are of interest in terms of exploring the relationship as to whether or not the results will be similar to the normal condition. That is to say, whether there is a positive or negative relationship between (1) store image and brand perception, (2) store image and customer satisfaction, (3) self-congruity and brand perception, (4) brand perception and customer satisfaction, and (5) self-congruity and customer satisfaction.

## 1.2 Research Questions

The research question of this study focus on the effect of store image, self-congruity, brand perception influence customer after Big C acquired Carrefour, the case of hypermarket content in Thailand are follows.

1. How does brand perception have an effect on customer satisfaction after the acquisition?
2. How does store image, self-congruity, brand perception and perception have an effect on customer satisfaction after the acquisition?

## 1.3 Research Objectives

The objectives of this study focus on the effect of store image, self-congruity, brand perception influence customer after Big C acquired Carrefour, the case of hypermarket content in Thailand are follows.

1. To identify the consumers' store behavior and brand perceptions after Big C acquired Carrefour.
2. To explore the effects of store image, self-congruity, brand perception on the customer

## 2. Literature Review

### 2.1 Store Image

Laurence Moore (1989) has suggested that store image is the change of a store (location and mobility) in order to serve customer preferences (taste and behaviour) and background (income). That is to say the customer-centric is significantly related to store image in the following items: (1) price, (2) range/ variety, (3) location/ distance, (4) quality, (5) car parking, (6) service, (7) all in one place/size, (8) on the way home, (9) petrol available, (10) environment/ cleanliness/ atmosphere/ coziness, and (11) opening hours. Collins-Dodd & Lindley (2003) have described store image as the consumers' attitudes toward the individual stores image and store brand perception, as well as the general attitudes toward store brands. Previously, Samli, Kelly, & Hunt (1998) found that 10 variables (sales people, service policies, assortment/selection, lay-out, attractiveness, price, convenience, quality of product, store most improve, community involvement) positively influenced the perception of a store. This study defines store image as customers' perception, emphasizing both tangible

and intangible elements such as products & services, customer service, facilities, location, promotion, environment and satisfaction.

## **2.2 Brand Perception**

Peter & Olson (1990) briefly described brand perception as the customers' recognition of the brand. Still, price perception and satisfaction have been found to be positively significant in building customer intention to repurchase, as Jiang & Rosenbloom (1967) have pointed out. Furthermore, the study of Rajagopal (2007) suggested that effective product positioning and brand perception are the keys to sustaining long-term customer attitudes toward the store. Therefore, this study defines brand perception as the overall assessment of personal experience to perceive and recognize certain brands or product characteristics.

## **2.3 Self-Congruity**

Park, Jaworski, and MacInnis (1986) simply defined self-congruity as consumer behavior in buying products for useful and self-expressive benefits. Malhotra (1988) also explained self-congruity as the selection of brands by the consumer associated with personal characteristics. Kassarjian (1971) defined self-congruity in a way similar to the notion of self-concept; that is, consumers select their most preferred brand (Sirgy, 1982) and this selection can be divided into four types: actual self-congruity defined as how the customer views himself/herself; social self-congruity defined as how the customer believes others view him/her; ideal self-congruity defined as how the customer would like to view himself/herself; and ideal social self-congruity defined as how the customer would like others to view him/her. There were two categories of ideal social self-congruity, actual self-congruity and social self-congruity, where were found to have a significant impact on Chinese shoppers' customer satisfaction, perceived-value, and store loyalty compared to western customers.

## **2.4 Customer Satisfaction**

Collins-Dodd and Lindley (2003) presented the idea that customers' attitudes, including self-congruity, influence the stores' image and brand perception. Also, their regression analysis shows a positive correlation between (1) brand perception and store image, (2) store image and the customers' attitudes, and (3) the customers' attitudes and brand perception. In addition, Koubaa (2008) confirmed that brand perception is significant related to customer perception, including satisfaction or dissatisfaction. That is the reason that brand alignment is used to manage the range of brands to educate, communicate, and create brand perception for customers. Additionally, self-congruity significantly influenced the customer's decision-making, in particular regarding the brand (Britt, 1960).

## **3. Research Methodology**

### **3.1 Instrument**

In the questionnaire employed in the present study, there were four main constructs (store image, brand perception, customer satisfaction, and self-congruity) measured using a 7-point Likert-type scale (1- strongly disagree to 7 strongly agree) from Speck & Peterson's (2010) measurement. The pretest and IOC were executed with 30 Big C customers in two competitive locations: Petchakasem2 and Nakhonpathom in Thailand in order to verify the reliability of each construct and to ensure that the questionnaires were clear.

In summary, there were 41 questions in total regarding the following; store image (12 questions), brand perception (9 questions), self-congruity (11 questions), and customer satisfaction (9 questions).

**Table 1** The measurement loadings on related factors

Factor	Measurement	Factor Loading	AVE	Cronbach's alpha
Store Image (A)	A1	0.616	0.744	0.893
	A2	0.621		
	A3	0.621		
	A4	0.624		
	A5	0.517		
	A6	0.766		
	A7	0.505		
	A8	0.665		
	A9	0.767		
	A10	0.724		
	A11	0.517		
	A12	0.825		
Brand Perception (B)	B1	0.773	0.735	0.897
	B2	0.777		
	B3	0.667		
	B4	0.656		
	B5	0.792		
	B6	0.731		
	B7	0.664		
	B8	0.754		
Self-Congruity (C)	C1	0.604	0.815	0.935
	C2	0.787		
	C3	0.732		
	C4	0.873		
	C5	0.840		
	C6	0.861		
	C7	0.867		
	C8	0.745		
	C9	0.776		
	C10	0.748		
	C11	0.549		
Customer Satisfaction (D)	D1	0.838	0.715	0.935
	D2	0.921		
	D3	0.936		
	D4	0.940		
	D5	0.722		
	D6	0.542		
	D7	0.615		
	D8	0.722		
	D9	0.699		

The factor loading presents weight of each measurement relates to each construct (in Table 1). The result shows all measurements of store image, brand perception, self-congruity, and customer satisfaction fall into the acceptable range, 0.5 regard to Fornel & Larcker (1981).

**Table 2** The Convergent Validity

Construct	AVE	Validity Result
Store Image	0.744	Accepted
Brand Perception	0.735	Accepted
Self-Congruity	0.815	Accepted
Customer Satisfaction	0.715	Accepted

The convergent validity is firstly examined in order to describe the relationship between the measurements and each construct. The validity of each measurement should be at least 0.5 as the study of Fornel & Larcker (1981) recommended that the convergent validity can be seen from the constructs' AVE above the 0.5 (in Table 2)

### 3.2 Data Collection

Following the work of Yamane (1967), there were 400 samples in this study. In addition, the survey was distributed from to 10 out of 34 branches after Big C acquired Carrefour, the so-called Big C Extra. Meanwhile, half of the total sample was from 10 branches in a Big C Super Center. The gathering of the data from the 400 samples took a month, from the two categories of the samples: former Carrefour customers that held an "I Wish Card" and the existing Big C customers that had a "Big Card." Currently, all "I Wish Card" memberships have been replaced by the "Big Card".

## 4. Research Results

### 4.1 Statistics

Brief demographic information (gender, age, educational level, occupation, and income level) resulting from the total of 400 responses without missing value was first explained. Basically, the majority of respondents were female (74%), aged between 20 - 40 years and constituting around 76.50%. Additionally, just over 80% of the respondents earned a bachelor's degree or above. Furthermore, the three occupational groups included employees of a private company (46.25%), government officials (23.5%), and state enterprise officials (13%).

The supercenter shoppers' explanations and behavior were explored as follows. Regarding the membership cards held by the respondents, the majority were the "Big Card" and "I Wish Card" (44.75%), followed by the respondents had "Big Card" cards (38.00%), and "I Wish Card" cards (5.00%). Some respondents explained that they did not have membership card (30.61%), did not know about a membership card (20.41%), and were not interested in a membership card (18.38%).

### 4.2 Purchase Behavior

First, the result explained that there was a significance in having a "Big Card" membership arising from gender, at the 0.05 significance level;  $p = 0.0031$ . That is, regarding the total of respondents that had a "Big Card," the majority was female (74%).

Secondly, the respondents that had an “I Wish Card” membership were related to income-level differences. In addition, the average time a month that the respondent went shopping at Big C resulted from their different levels of income. Further, the respondents’ occupation resulted in an average amount of spending at Big C each month. Furthermore, the average money spent and time spent at Big C was a result of income level.

Additionally, there was a difference in the news sources resulting from the respondents’ age. Similarly, educational levels and occupations were seen to be related to sources of Big C news, such as printed media (newspaper, brochure, etc.), radio, TV, Internet, SMS, and other sources.

Lastly, the age range and occupation influenced the product categories available at Big C, such as dry food, fresh food, and so on. Furthermore, the different groups of occupations resulted in the following different agreement levels.

#### 4.3 SEM

Structural Equation Modeling (SEM) is a statistical technique used to estimate the causal relationship of multivariate variables; that is, to completely compare the differences or relationships of several independent and/or dependent variables in a single of time. The SEM has been used by Sirichalermpong & Chansa-ngavej (2012) to investigate the positive relationship between quality perceived and franchise perceived in a non-retailing business franchise in Thailand.

#### 4.4 Model and Hypothesis Tests

##### 4.4.1 Measurement Model

The measurement fit indices were first determined before running the SEM full model. The results showed that the measurement model fit indices were accepted (see Table 3).

**Table 3** The Measurement Model Fit Indices

Fit Indices	Acceptable Threshold Levels	Value	Summary
NFI	The acceptable value could be a value of .90 for the NFI as a minimum for model acceptance (Bentler & Bonnett (1980) and Bentler (1992)). In addition, McDonald, (1989) suggested that the NNFI range of acceptance should be between 0 and 1.	0.928	Accepted
NNFI		0.944	Accepted
CFI		0.947	Accepted
RMSEA	The value of RMSEA smaller than 0.1 was accepted. That is, a value less than .05 of RMSEA indicates a good fit, a value of .05 indicates a close fit, and values up to .08 represent reasonable fit (Browne and Cudeck, 1993).	0.079	Accepted

The fit indices were used to examine Comparative Fit Index (CFI), Normed Fit Index (NFI), and the Root Mean Square of Error Approximation (RMSEA) as suggested by Hu & Bentler (1995). The correlation fit indices were NFI = 0.928, NNFI = 0.944, CFI = 0.947, and RMSEA = 0.079.

The correlation coefficient matrix between the pair of constructs needed to be run before proceeding to the implementation of the full model (in Table 4).

**Table 4** The Correlation Coefficient Matrix and Square Root of AVEs

	<b>Store Image</b>	<b>Brand Perception</b>	<b>Self-Congruity</b>	<b>Customer Satisfaction</b>
<b>Store Image</b>	<b>0.863</b>			
<b>Brand Perception</b>	0.842	<b>0.857</b>		
<b>Self-Congruity</b>	0.719	0.765	<b>0.903</b>	
<b>Customer Satisfaction</b>	0.692	0.675	0.672	<b>0.846</b>

Note: Bold characters represent the square root of AVE

The convergent validity was first examined in order to describe the relationship between the measurements and each construct. In addition, discriminant validity was then examined in order to ensure the difference between the construct. The validity can be accepted if there is no overlap when each shared variance (squared correlation) of constructs is compared, as noted by (Bove, Pervan, Beatty, & Shiu, 2009). The matrix table was proposed to compare each pair of squared correlation. Fornell and Larcker (1981) pointed out that the AVE that the construct compares needs to be greater than the shared variance.

The validity was then examined, and both convergent and discriminant validity showed acceptable results. That is, each measurement was accepted to represent the constructs, and each construct was found to be different. The full model was the next step.

#### 4.4.2 Full Model

The Full Model was developed. The fit indices represent the acceptable model between the conceptual framework and the collected data. The full model fit indices were as follows: NFI = 0.905, NNFI = 0.920, CFI = 0.924, and RMSEA = 0.095 (in Table 5). Even though this full model did not exhibit the best fit, the fit indices were in a reasonable range, and all elements were kept as in the literature review. Thus, the full model was considered as an acceptable format.

**Table 5** The Full Model Fit Indices

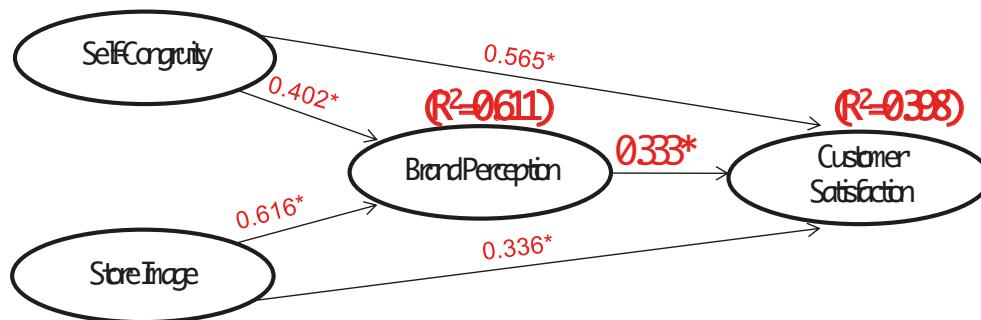
<b>Fit Indices</b>	<b>Acceptable Threshold Levels</b>	<b>Value</b>	<b>Summary</b>
NFI	The acceptable value can be the value of .90 for the NFI as a minimum for model acceptance regarding to the study of Bentler & Bonnett (1980) and Bentler (1992). In addition, Sharma et al. (2005) and McDonald and Marsh (1990) suggested the NNFI range of acceptance should be between 0 and 1.	0.905	Accepted
NNFI		0.920	Accepted
CFI		0.924	Accepted
RMSEA	The value of RMSEA smaller than 0.1 was accepted. That is, the values less than .05 of RMSEA indicate a good fit, a value of .05 indicates a close fit, and values up to .08 represent reasonable fit (Browne and Cudeck, 1993).	0.095	Accepted

#### 4.4.3 The Five Hypothesis Tests

The hypothesis testing (there were five main hypotheses related to four constructs; store image, brand perception, self-congruity and customer satisfaction) is shown as follows.

The hypothesis testing (in Figure 1) can be explained more in detail as follows: the result first showed that brand perception was significantly related to store image and self-congruity at a significance level of 0.05. That is, the finding presents the fact that the store image (0.616) was more influential than the element of self-congruity (0.402).

**Figure 1** The Conceptual Model



Note: \* represents test statistics significant at the 0.05 level of significance.

$$\text{Brand Perception} = 0.616 * \text{Store Image} + 0.402 * \text{Self-Congruity}$$

Additionally, the customer satisfaction resulted from store image, brand perception, and self-congruity at the alpha of 0.05. The self-congruity (0.565) was found to be most influenced among those three elements, followed by store image (0.336) and store image (0.333) correspondingly.

$$\begin{aligned} \text{Customer Satisfaction} = & 0.333 * \text{Brand Perception} + 0.336 * \text{Store Image} \\ & + 0.565 * \text{Self-Congruity} \end{aligned}$$

Regarding the hypothesis-testing above, the findings can be summarized; there were the positive relationship between store image, brand perception, and customer satisfaction. That is, the following hypotheses were supported (in Table 6).

**Table 6** The Summary of Hypothesis-testing

Hypothesis	Result
H1: The store image has a positive influence on brand perception.	Supported
H2: The store image has a positive influence on customer satisfaction.	Supported
H3: Self-congruity has a positive influence on brand perception.	Supported
H4: Brand perception has a positive influence on customer satisfaction.	Supported
H5: Self-congruity has a positive influence on customer satisfaction.	Supported

## 5. Discussion

The research findings were supported by past studies. Mazanec (1995) proved for example that there was a positive association between customer satisfaction and customer preference. That is to say, a desirable perception leads to customer satisfaction and loyalty, whereas an undesirable image causes a negative effect. Finn and Louviere (1996) found that there was a positive relationship between store image and brand perception. That is say, Big C customers still positively perceived the brand and were satisfied with the products and services provided after acquiring Carrefour.

In addition, the results from this study ensured the previous findings, including those of Sirgya, Lee, and Tidwelld (2008), which confirmed that there is a positive correlation between self-congruity and brand loyalty, taking the two conditions into account: when customers are conscious of a store event, and when customers participate in a store event. Further, Knight and Kim's (2007) idea that creative choices (self-congruity) are positively related to emotional value (brand perception) was confirmed. Collins-Dodd and Lindley (2003) presented the notion that customer attitudes, including self-congruity, influence the stores' images and brand perception. Also, their regression analysis showed a positive correlation between (1) brand perception and the store image, (2) stores' image and customer's attitudes, and (3) customers' attitudes and brand perception. In this case, the attitudes could be customers' self-congruity.

Lastly, Koubaa (2008) confirmed that brand perception was significantly related to customer perception, including satisfaction or dissatisfaction. That is the reason that brand alignment was used to manage the range of brands to educate customers and to communicate and create brand perception to them. Getty and Thompson (1994) confirmed that price or value results in the development of customer satisfaction. In addition, Marielza (1995) proved that a fair price charged affects the customer's perception. All of the above assured the same results as in the studies in the past. In short, brand perception affected Big C customers' satisfaction regarding the products and services provided after the acquisition of Carrefour. In addition, self-congruity was positively seen to affect the Big C customers' brand perception after the acquisition occurred.

## 6. Conclusion

### 6.1 Result Summary by Objectives

The two objectives of this study were accomplished as follows.

Regarding the demographics, the majority of respondents were female (74%), age between 20 - 40 years and constituting around 76.50%, and just over 80% of the respondents completed a bachelor's degree or above. Furthermore, three occupational groups included employees of private companies (46.25%), government officials (23.50%), and state enterprise officials (13.00%).

The effects of store image, self-congruity, and brand perception on the customers were then explained. The results showed that brand perception was significantly related to store image and self-congruity at the significance level of 0.05. Store image (0.616) was found to be more influential than another element, self-congruity (0.402). Additionally, customer satisfaction resulted from the store's image, brand perception, and self-congruity at

the alpha of 0.05. Self-congruity (0.565) was found to be most influenced among those three elements, followed by store image (0.336) and store image (0.333).

## 6.2 Implications

There are both theoretical and practical contributions that resulted from this study, as follows.

### 6.2.1 Theoretical contribution

This is the first study to explore the model testing relationships among store image, brand perception, self-congruity, and customer satisfaction. In particular, self-congruity results in brand perception and customer satisfaction. Furthermore, this study was the first research to provide an understanding of the four factors after the acquisition.

### 6.2.2 Practical contribution

The practical contribution resulting from this study is to develop strategic planning in order to maintain and/or increase customer satisfaction after Big C' acquired of Carrefour. In addition, the managerial levels are able to develop strategic planning about how to satisfy the customer after the post transition because the customer satisfaction directly impacts on sales performance. Yet, internal communication improvement should be executed. Finally, the findings can help the organization to improve the communication process between the organization and customers to ensure that customers possess the store image and brand perception that the organization intends.

### 6.3 Practical contribution

A further study is recommended to enhance the understanding of customer satisfaction in the retailing industry context. Firstly, the sample size should be increased in order to strengthen credibility and reliability. Secondly, a longitudinal study is suggested to clarify behavior change over time. Finally, the comparison between the different hypermarkets in Thailand is another recommendation.

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# BULLS, BEARS AND STRESS BETAS

by

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## Abstract

Diversified portfolios, those that invest beyond stock and bonds, may exhibit stress-betas. That is, they can experience periodic increases in beta, making them more sensitive to equity market moves. We find that stress-betas are not just a bear market phenomenon. Diversified portfolios have experienced increased betas during bull and bear markets. At a portfolio level, increases in correlation and the ratio of portfolio volatility to market volatility cause stress-betas.

**Keywords:** bull markets, bear markets, stress betas

**JEL Codes:** G11, G14, G23

## 1. Introduction

There is an old adage used by investors during periods of market turmoil that “*the only things that go up in a crisis are correlations.*” This was particularly the case during the Global Financial Crisis (GFC) where growth-oriented asset classes exhibited a strong degree of correlation, particularly with U.S. equity.<sup>1</sup> It is against this backdrop that this study examines the relationship between portfolio sensitivity, or beta, and market conditions. At the heart of this relationship is correlation.

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<sup>1</sup> For empirical evidence, see Leibowitz & Bova (2009).

This study examines the *stress-beta* hypothesis of Leibowitz & Bova (2009).<sup>2</sup> We compare the characteristics of different portfolio configurations - ranging from the *traditional*, 60/40 equity-bond portfolio, through various *diversified* portfolios comprised of multiple asset classes. Leibowitz & Bova (2009) find that, in *normal* market conditions, traditional and diversified portfolios are characterized by largely homogenous risk sensitivities - total portfolio volatility, the ratio of portfolio to U.S. equity volatility, portfolio correlation with US equities, and correlation-based betas are similar between diverse portfolios. During periods of stress, such as when equity markets fall, these portfolio sensitivities can change, and in some cases change dramatically. Leibowitz & Bova (2009) conjecture that diversified portfolios are more affected by stress-beta, that is, a sudden increase in equity market sensitivity, more so than their less diversified counterparts.

Building on the hypothesis of Leibowitz & Bova (2009), this paper examines the causes and behaviour of stress-beta in various market conditions, namely, extended periods of market rally (bull) and decline (bear) conditions.<sup>3</sup> It considers the beta of two policy portfolios - a traditional stock and bond portfolio, and a diversified multi-asset class portfolio. The stress-beta hypothesis proposes that while both traditional and diversified portfolios have largely homogenous risks during normal times, in severely declining markets the tightening of correlations has the potential to make diversified portfolios more vulnerable to stress-betas.

Using monthly real asset class returns for the period 1988 through 2011, we test the stress-beta hypothesis by comparing two representative policy portfolios in varying market conditions. We build on the work of Leibowitz & Bova (2009) by testing the stress-beta hypothesis in distinct market environments by formally identifying bull and bear markets.<sup>4</sup> We employ the Pagan & Sossounov (2003) ex-post dating algorithm, derived from the business cycle work of Bry & Boscham (1971), to identify distinct bull and bear markets.

## 2. Stress-Beta

Beta is the sensitivity of an investment's returns to the market's returns. For a given change in the market, an investment with a higher beta will change more than one with a lower beta. This paper examines portfolio beta during different market environments. We focus on identifying periods of stress-beta; episodes where portfolio beta increases dramatically, so that it is higher than the long-run beta.

---

<sup>2</sup> The topic of stress betas is part of a larger research theme on conditional betas, correlation convergence and dual betas. The non-stationarity of beta over varying market conditions is a well-known phenomenon (see Chen, 1982 among others) and we take one methodological approach (that of Leibowitz and Bova, 2009) to contribute to one specific area within the debate, namely, stress betas.

<sup>3</sup> This study builds on the work of Leibowitz and Bova (2009) by estimating stress betas by breaking up market history into bull and bear periods, such that the market is always either in one state or the other (bull or bear). A direction for future research may be to identify periods of unusual stress (for instance, a market can be declining but not under stress (say, the 2000-2002 bear market was orderly), and a market can be generally rising but under stress (the Asian contagion and LTCM episodes within the 1990s bull market are cases in point). We simply define 'stress' in this paper as a period of extended market decline. As discussed further in the paper, Leibowitz & Bova (2009) considered the issue of stress betas during a single market condition (specified in their paper as the GFC period of calendar 2008).

<sup>4</sup> The work of Leibowitz & Bova (2009) focusses on stress betas during the GFC period (specified as calendar year 2008).

Following Leibowitz & Bova (2009), portfolio beta is implicitly derived from the variance-covariance matrix of portfolio assets. This implicit beta can be calculated as the product of the portfolio correlation with the market, and the ratio of the portfolio and market volatility. Using the S&P 500 as a proxy for the market we calculate portfolio beta as;

$$\beta_p = \rho_{p,M} \left( \frac{\sigma_p}{\sigma_M} \right). \quad (1)$$

From this equation we can see that portfolio beta  $\beta_p$  is a function of the portfolio's correlation with the market  $\rho_{p,M}$ , and the ratio of portfolio volatility  $\sigma_p$  and market volatility  $\sigma_M$ . The latter term is classified as the volatility ratio. From this definition we can see that stress-beta can be caused either by an increase in the correlation between the portfolio and the market, an increase in the volatility ratio, or a combination of these events.

### 3. Portfolios

Leibowitz & Bova (2009) demonstrated that correlation tightening and the resulting stress-beta has the potential to hurt diversified portfolios more than their less diversified alternatives. To examine their hypothesis further we employ two portfolio configurations. Our benchmark (and theirs) is the traditional 60/40 US stock-bond portfolio. We also construct a diversified portfolio consisting of US stocks and bonds, global stocks and bonds, emerging market stocks, real estate and commodities. Both of these portfolios are representative of portfolios employed in practice and have also featured prominently in the finance literature. Table 1 summarises the proxies employed to calculate investment returns for each portfolio. We convert asset returns to real rates of return using US CPI data as a proxy for the rate of inflation.<sup>5</sup>

**Table 1** Asset Classes and Return Proxies

Investment	Proxy
US Stocks	S&P 500 (Total Return)
US Bonds	Barcap US Agg Bond (Total Return)
Global Stocks	MSCI EAFE (Gross)
EM Stocks	MSCI EM (Gross)
Global Bonds	Citigroup World Government Bond Index (Unhedged)
Real Estate	FTSI NAREIT (Equity REITS)
Commodities	S&P GSCI (Total Return)

Figure 1 illustrates the portfolios showing target portfolio weights for each investment.<sup>6</sup> Each portfolio is rebalanced to these weights at the end of each month.

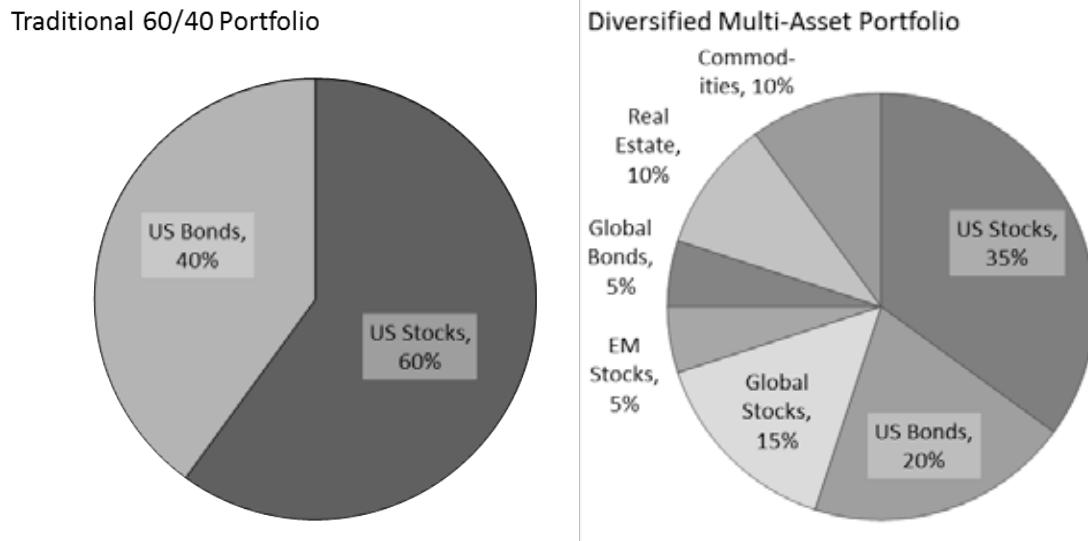
Table 2 shows portfolio performance for each of the portfolios - the return, volatility and beta for each of the portfolios are similar. Digging deeper into the figures, we see that although portfolio beta is similar between funds, the diversified fund has a lower correlation

<sup>5</sup> Data is sourced using DataStream.

<sup>6</sup> The asset weights used for the diversified portfolio are based on the Vanguard Managed Payout Distribution Focus Fund Investor Shares.

with the market than the traditional fund. In theory, this implies the diversified portfolio is more susceptible to a sudden increase in beta from an increase in correlation.

**Figure 1** Portfolio Asset Allocations



**Table 2** Full-Sample Portfolio Performance

Descriptive Statistics	Traditional	Diversified
Return (% p.a.)	6.22%	6.35%
Volatility (% p.a.)	9.47%	10.39%
$\rho(p, M)$	0.98	0.92
Volatility Ratio	0.63	0.69
Portfolio Beta	0.62	0.64

#### 4. Market Cycles

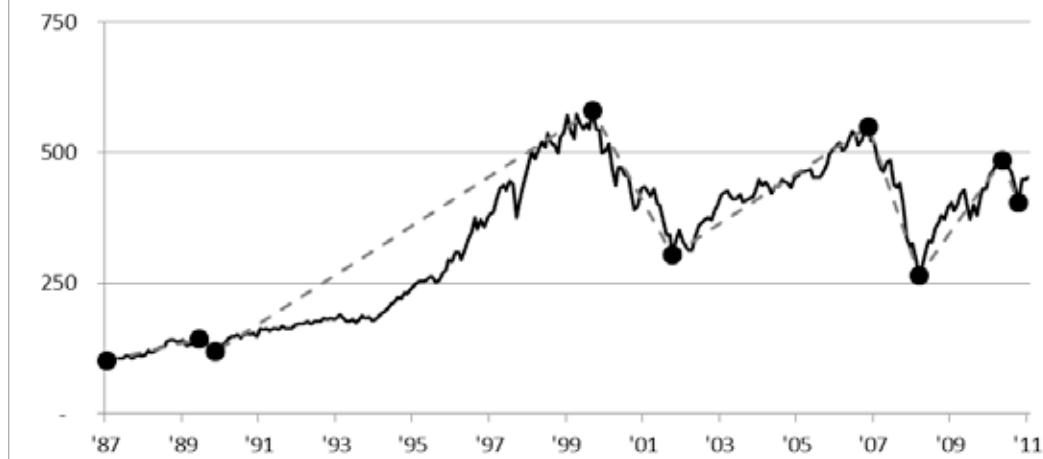
The work of Leibowitz & Bova (2009) considered the issue of stress betas during a single market condition (specified in their paper as the GFC period of calendar 2008). We seek to add to the debate through an analysis of the performance of portfolios over different market conditions. To do so, we use the ex-post dating algorithm of Pagan & Sossounov (2003).<sup>7,8</sup> The algorithm identifies bull and bear markets by finding the high and low points in a data series. These points are used to establish the start or end point of bull and bear market phases. Each phase must meet certain criteria to be identified as such. For example the total length of consecutive bull and bear market phases must be a minimum duration of sixteen months. Figure 2 illustrates the bull and bear markets identified by the

<sup>7</sup> We also employed the ex-post dating algorithm of Lunde & Timmermann (2004), but found it to produce almost identical results. The one difference was the short bear market in 1990 identified by the Pagan & Sossounov (2003) method which was not identified by the Lunde & Timmermann (2004) method.

<sup>8</sup> We note that there are a multitude of approaches to the identification of market cycles, of which we have used two (and reported one) of an ex-post nature in this study. For an alternative that considers a more dynamic estimation of bull and bear betas, see Woodward and Anderson (2009).

algorithm. Four bull and four bear markets are identified in the data. These eight phases will be employed to analyse the occurrence and characteristics of the portfolio stress-betas.

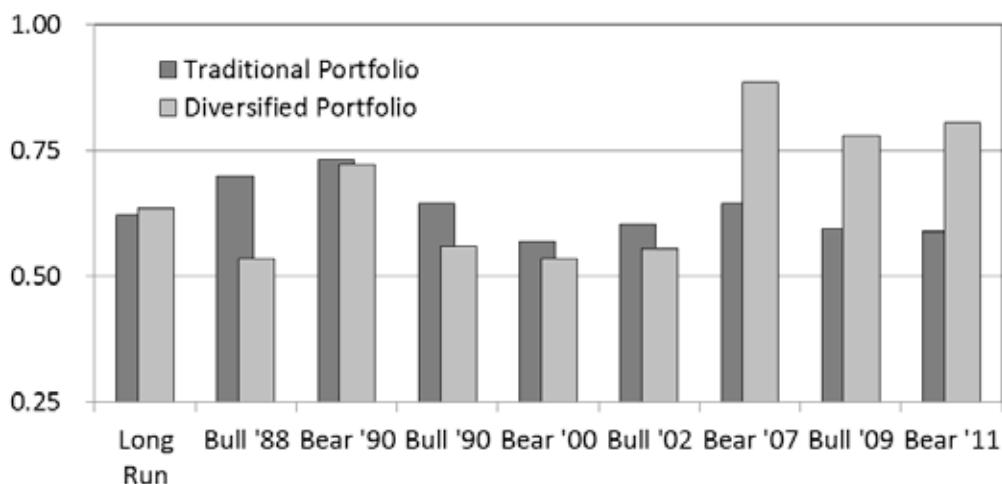
**Figure 2** Bull and Bear Markets in US Equities (S&P 500)



## 5. Beta and Diversification

Figure 1 compares the portfolio beta of the traditional and diversified portfolios. The results, consistent with those of Leibowitz & Bova (2009), show an increase in beta for the diversified portfolio during, and subsequent to the GFC. The benefits of the diversified portfolio, that is, lower beta, are clear up until the bear phase in 2007 (the GFC). The diversified portfolio experiences stress-betas for the last three market phases of the study. Interestingly, the incidence of stress-betas appears to be a recent phenomenon, as the previous market cycles did not display significant increases in beta. In fact, *up until the GFC the diversified portfolio had portfolio betas consistently lower than the traditional portfolio*. While the diversified portfolio is susceptible to stress-betas, it is not always the case that they occur. Stress-betas appear to be period specific, implying that diversification works, just not all the time.

**Figure 3** Betas for the Traditional Stock-Bond and Diversified Multi-Asset Portfolios

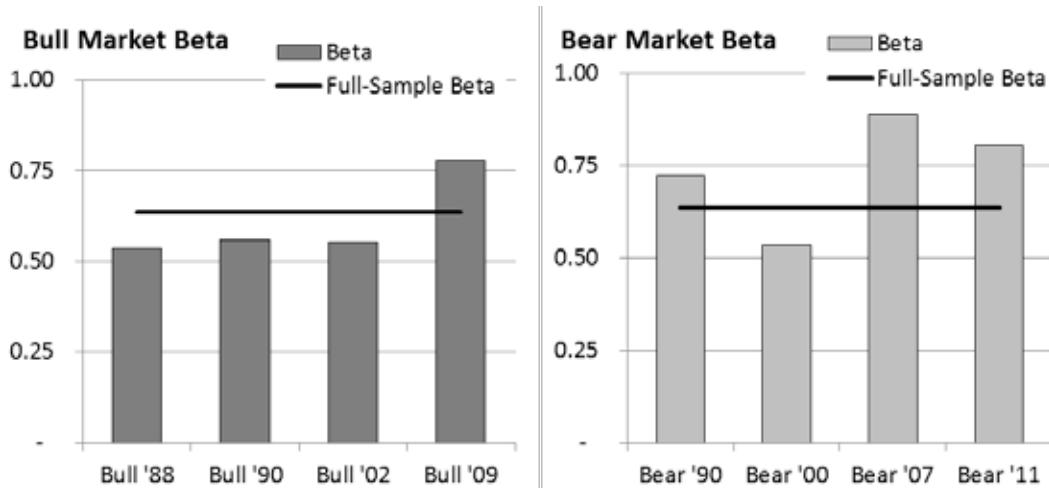


## 6. Bull and Bear Market Betas

Having explored the existence of stress-betas in the diversified portfolio, we now turn our attention to relationship between market phase and beta. Figure 4 examines the beta of the diversified portfolio during bull and bear market phases. Of the eight distinct market phases, four exhibit stress-betas. Interestingly, it appears that stress-betas can occur in both bull and bear markets. The most recent bull market, occurring after the GFC, saw portfolio beta increase markedly. The figure also shows that a bear market is not a sufficient condition for a stress-beta to occur. The 2000 bear market did not exhibit stress-beta. It appears that, at least according to our definitions, a bear market is not a necessary or sufficient condition for the occurrence of stress-beta.

The implication of this finding is important. While it is consistent with the findings of Leibowitz & Bova (2009), that is, diversified portfolios are at risk of stress-betas, we should not conclude that increases in beta will always occur. While the appearance of stress-betas during the most recent bear markets caused an increase in portfolio sensitivity, it was not just a bear market phenomenon. Stress-betas can work in favour of portfolio performance as well.

**Figure 4** Diversified Portfolio Beta in Bull and Bear Markets



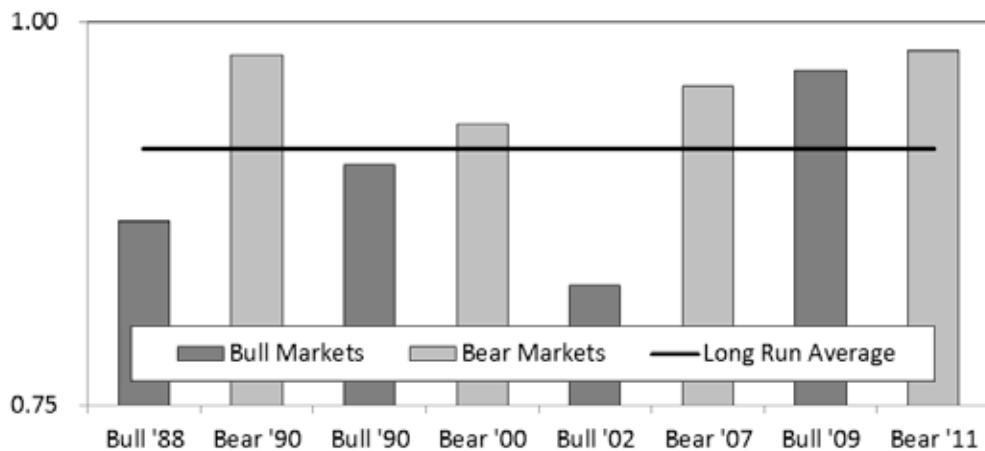
## 7. The Causes of Stress-Beta

Examining the data further we can attempt to identify what drives stress-beta. Recall from formula (1)

that portfolio beta is a function of the volatility ratio, and the correlation, between the portfolio and the market. Figure 5 below shows the correlation between the diversified portfolio and the market over the various market phases. Correlations vary widely between periods and it appears that they are generally higher during bear markets. All four stress-beta periods exhibit a high level of correlation. As suggested by Leibowitz & Bova (2009), the diversified portfolios are effected by correlation tightening. The bear market in 2000 also has an elevated correlation, however this period did not experience an increase in beta. While all

stress-betas can be characterized by elevated correlations this does not by itself result in a stress-beta.

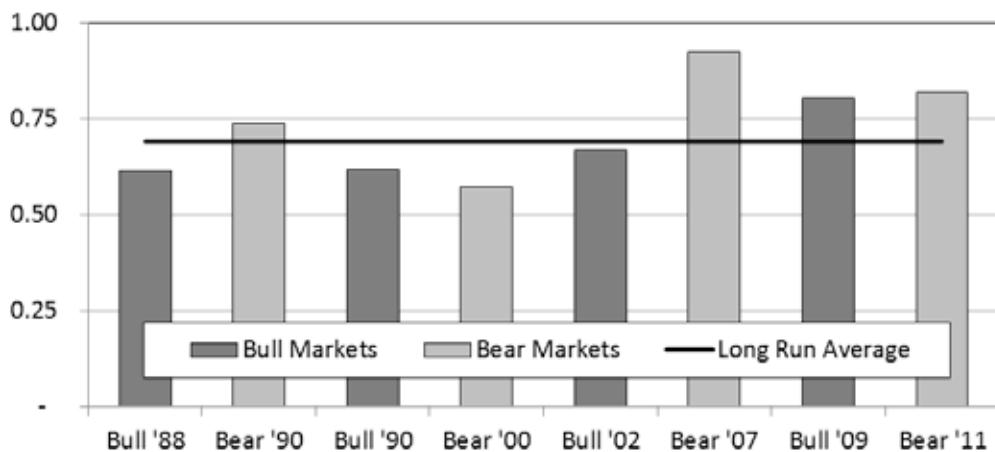
**Figure 5** Diversified Portfolio and Market Correlation during Bull and Bear Phases



The volatility ratio is the other component that completes the beta equation.

Figure 6 examines the volatility ratio of the diversified portfolio for the identified bull and bear markets. The four periods with the highest volatility ratio coincide with periods of stress-betas. The increase in volatility ratio *combined* with the increase in correlation during these periods caused the occurrence of stress-betas. The results indicate that for stress-betas to appear, both a tightening in correlation and an increase in volatility ratios are required.

**Figure 6** Diversified Portfolio Volatility Ratio in Bull and Bear Markets



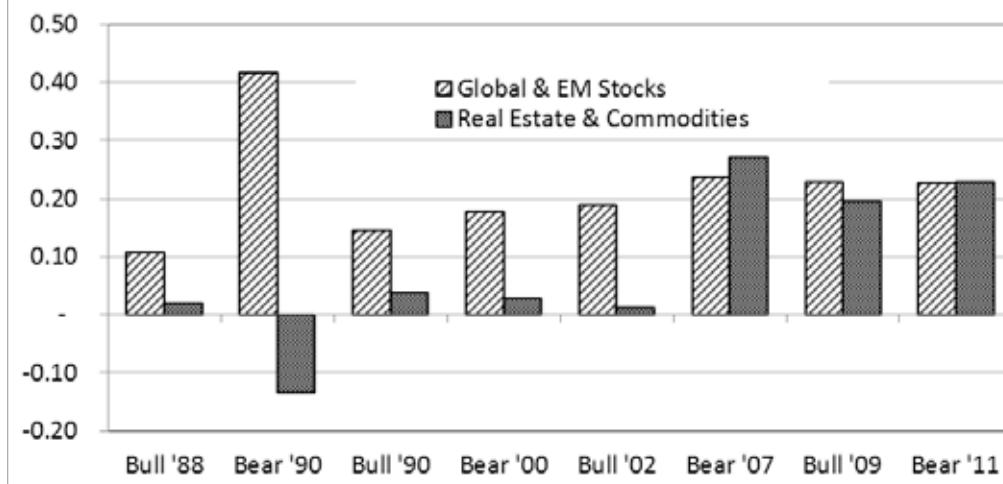
## 8. Asset Beta Behaviour

Another way to examine the causes of stress-betas is to examine the individual asset class betas. By examining individual betas we can determine how effective diversification is. As the US Equity beta is constant and the beta of the two bond assets is very low we will ignore them in the analysis. Figure 7 compares the beta of the remaining assets. The figure

contrasts the combined beta of global and emerging market stocks with the combined beta of commodities and real estate. Aside from the 1990 bear market, the beta of global and emerging market stocks maintains a modest range. Excluding the 1990 bear market, the variation in beta is not enough to cause the stress-betas exhibited by the portfolio.

The combined beta of real estate and commodities however, is more interesting. Rather than differing between bull and bear market phases as one might expect, these assets seem to vary between cycles. The distinction can be seen before and after the GFC, which ended the 2002 bull market and started the 2007 bear market. Prior to the GFC, real estate and commodities contributed very little to portfolio beta. In fact on average they had a beta of zero for the period. After the GFC however, these two asset classes had a significant impact on portfolio beta as can be seen in Figure 7. During the last three market phases real estate and commodities contributed as much to portfolio beta as the global and emerging market stocks. The most recent incidence of stress-beta appears to be largely due to the increase in real estate and commodity beta.

**Figure 7** Asset contributions to Portfolio Beta



## 9. Conclusion

Diversified portfolios exhibit stress-betas, that is, episodes where portfolio beta is higher than the long-run average. We find that these episodes are not unique to bear markets, and moreover, stress-betas are not guaranteed to occur during bear markets. Stress-betas, in our study, appeared only when both correlation between, and volatility ratio of, portfolio and market returns increased. Our findings suggest that three recent occurrences of stress-beta were largely caused by an increase in real estate and commodity beta. Our results suggest that multi-asset diversification is susceptible to increased betas from time to time, decreasing the impact of portfolio diversification. Despite this, there have been periods where diversification has functioned as expected. Diversification may be capricious but it is not kaput. The work of, Leibowitz & Bova (2009) considered the issue of stress betas during a single market condition (specified in their paper as the GFC period of calendar 2008), we build on this work by defining 'stress' in this paper as a period of extended market decline. A potential area for research consideration would be to identify very specific, shorter periods when the market was under stress, measure the betas during those periods, and make recommendations to investors based on the findings.

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## **LATIN AMERICA AUTOMOTIVE MARKETS OUTLOOK- IMPLICATIONS FOR ASEAN PRODUCERS**

by

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## Abstract

Characterized by a remarkable decade of steady growth and economic stability, Latin America has emerged as one of the world's most important and lucrative markets for vehicles and auto parts. To help ASEAN auto companies target this important market, this paper sets out to evaluate current situations at the supply and demand level. The paper will first discuss the production capacity of ASEAN automobile suppliers with a focus on the top three producers (ASEAN-3)-Thailand, Malaysia and Indonesia. The paper will also attempt to outline characteristics and trends in relation to the demands of Latin American auto markets. It concludes that the demand for motor vehicles in Latin America region is strong and will remain robust in the long term. It also concludes that the potential for ASEAN auto suppliers to meet those demands are large and should be further explored.

**Key words:** automobile, auto suppliers, Latin America, ASEAN-3

## 1. Introduction

The automotive industry plays a very important role in the economies of Southeast Asian nations (ASEAN). In fact, it is a major driving force behind the manufacturing contribution to national and regional gross domestic product (GDP), employment, innovation, foreign direct investment and cross-border trade.

The ASEAN automotive landscape is currently dominated by the top three producers: Thailand, Malaysia and Indonesia. Among which, Thailand was ranked as the 9th-largest auto manufacturing country for cars and commercial vehicles in 2012, up from 14 in 2008 (OICA, 2012). While the majority of production is for domestic consumption, ASEAN is projected to be the world's 8<sup>th</sup> largest automotive market by 2015 (Duangjai Asawachintachit, 2012), ASEAN automakers also seek to stimulate overseas sales through enhancing export.

The decline of car sales in Europe, exasperated by the present Eurozone financial crisis and the slow recovery of American consumer confidence, are bringing ASEAN auto manufacturers closer to the Latin America markets. Characterized by a remarkable decade of steady growth and economic stability, Latin America has emerged as one of the world's most important and lucrative markets for vehicles and auto parts.

To help ASEAN auto companies target this important market, this paper sets out to evaluate current situations at the supply and demand level. The paper will first discuss the production capacity of ASEAN automobile suppliers with a focus on the top three producers (ASEAN-3)-Thailand, Malaysia and Indonesia. The paper will also attempt to outline characteristics and trends in relation to the demands of Latin American auto markets. It concludes that the demand for motor vehicles in Latin America region is strong and will remain robust in the long term. It also concludes that the potential for ASEAN auto suppliers to meet those demands are large and should be further explored.

## **2. Significant impacts of automotive production on the ASEAN's economies**

Numerous examples across the global indicate that the automotive sector is tremendously efficient way to boost economic growth, job creation and technology development. It is estimated that the manufacture of vehicles contributes more than USD 430 billion to the governments of 26 countries combined and creates 5 % of global manufacturing jobs (ReportLinker). In the United States (US), the industry generally contributes 3-3.5 % to the overall GDP and engages over 1.7 million people in sectors of designing, engineering, manufacturing, and supplying parts and components to assemble, sell and service new motor vehicles (Hill et al, 2010). For such countries as the United Kingdom, Japan, France, Italy, Sweden, and Germany, the special requirements of automotive mass production have also encouraged technological advances in petroleum refining, steel making, paint and plate-glass manufacturing, and other industrial processes (L3D).

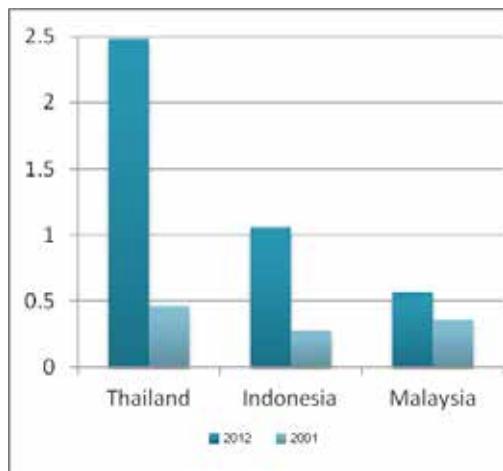
For ASEAN countries, automotive production and export also creates similar effects. In Thailand, the automotive industry is the third-largest sector besides food and tourism. In 2012, the industry employed more than 700,000 people and accounted for 12 % of GDP (BOI, 2012). The supply industry is highly diversified and involves more than 160 production fields, among them steel, plastic, rubber and electronics (Autobiz, 2012).

Likewise, the national automotive industry is not only one of the major industries in Malaysia, but it is also a strong source of national pride. The industry contributed USD 9.7 billion into the country's GDP in the year 2012 and engages an average of more than 300,000 people in the local automotive manufacturing and after-sales sectors. The contribution of the industry into the GDP is expected to increase from 6 to 8 % by 2020 (MAI, 2013).

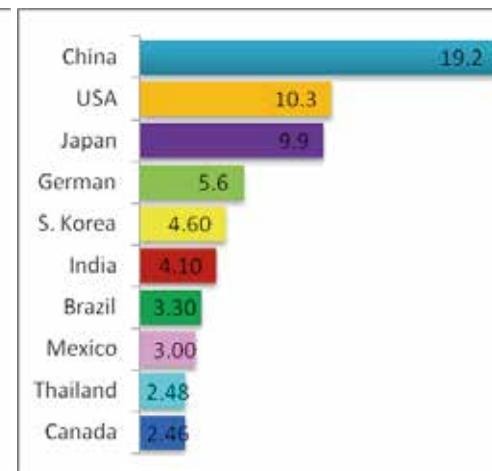
As the second-largest producer in the ASEAN region, the automotive sector in Indonesia contributed approximately USD 46 billion to the national GDP in 2012 and engages around 93,000 workers in producing motor vehicles, trailers and semi-trailers (BPS, 2012).

In the last ten years (2001-2012), ASEAN-3 experienced a major expansion in automotive production and export thanks to rapidly rising demand on the global market, increasing export opportunities and continued investments in new factories. The production of cars and commercial vehicles increased 272 % over the same period (from 1.1 million in 2001 to 4.1 million units in 2012) (Figure 1) (OICA, 2012).

**Figure 1** Production Vehicles 2001-2012

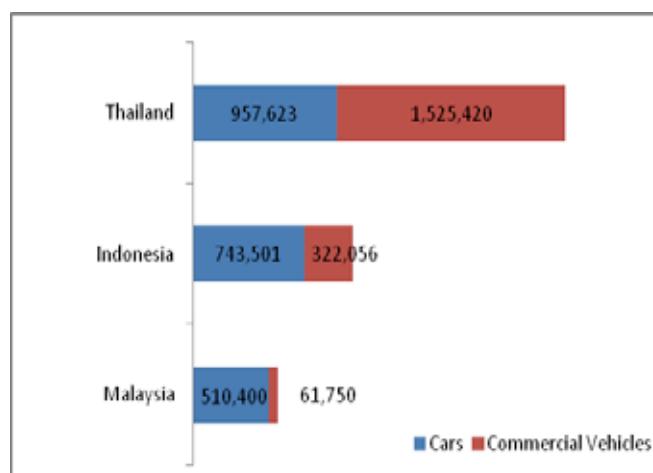


**Figure 2** Top 10 Automotive Production Nations



Source: OICA- Organisation Internationale des Constructeurs d'Automobiles (Unit-Millions)

**Figure 3** 2012 Production Vehicles in ASEAN-3



Source: Combined by authors from various sources

### 3. Export performance

The massive expansion in the automotive industry of ASEAN-3 has a strong connection with overseas sales. In fact, motor vehicle exports in those countries are essential to maintaining the balance of international trade. In the last ten year period (2001-2012), Thailand and Indonesia saw a vigorous increase in export values of both categories: vehicle units and auto parts and components (see Table 1). In 2012, Indonesia's export of cumulative motor vehicles was more than export total of Thailand and Malaysia together. Meanwhile, Thailand stood right above in auto parts trade with almost USD 6 billion worth in value (UNCOMTRADE, 2012). Globally, Thailand has become the 7<sup>th</sup> largest car exporters (The Economist, 2013) and the 2nd largest market for the one-ton pickup truck, behind the U.S (ITA, 2011).

**Table 1** Export values in USD between 2001 and 2012 (US\$-Million)

	Parts and Components		Vehicles	
	2001	2012	2001	2012
<b>Indonesia</b>	255	1,477	1,909	16,235
<b>Malaysia</b>	131	870	57	295
<b>Thailand</b>	490	5,861	25	2,490

Source: Calculated by authors from UNCOMTRADE HS Code 1992  
Code 8702, 8703, 8704, 8708

#### 4. Latin America auto markets

The emergence of mega cities, the increase of the middle-class and the continued demands for automation and industrializations all together are creating fertile landscape for the ASEAN automotive industry. In order to make the region's industry globally competitive, expanding the export portfolio becomes essential. In the context that traditional markets such as Europe the US continue to suffer from volatility and slow growth; the rapidly motorizing emerging markets of Latin America have become rather attractive.

Latin America is home to approximately 600 million people. Since the early 2000s, the region has enjoyed remarkable macroeconomic stability and the tide of economic growth is rising faster than most other markets (Wharton School, 2012). Output growth strengthened to an average of 4 % per year in 2003-2012, from less than 2.5 % per year on average in 1980-2002. Between 2003 and 2012, per capita income in real purchasing parity dollars increased by more than 30 % (Werner and Celasun, 2013). Prosperity in the region has resulted in an expansion in its middle class by 50 % in over the past ten years (Jorge Heine, 2013). The region's bright outlook has a psychological impact: consumers are more confident about their futures, and thus more willing to invest in cars -- the second-largest purchase most will make, after houses (Wharton School, 2012) (see Table 2).

**Table 2** Consumer Confidence Index vs Motor Vehicles Sales

	Argentina		Brazil		Mexico	
	Consumer Confidence Index	Motor Vehicles Sales	Consumer Confidence Index	Motor Vehicles Sales	Consumer Confidence Index	Motor Vehicles Sales
	2012	46	832,026	122	3,802,071	96
<b>2011</b>	56	883,350	119	3,633,248	92	905,886
<b>2010</b>	48	698,299	118	3,515,064	86	820,406
<b>2009</b>	40	487,142	106	3,141,240	80	754,918
<b>2008</b>	43	611,770	109	2,820,350	92	1,025,520

Source: CEIC Data & OICA

Latin America auto markets can be divided into three large groups of countries: the first group consists of Brazil, the world's fifth biggest automotive market (Joann Muller, 2012). The country produces and imports the largest number of vehicles, compared to other markets in the region. Despite the global economic downturn that depressed passenger vehicle sales in many countries, Brazilian sales of passenger vehicles grew from over 2.8

million in 2008 to more than 3.8 million in 2012 (CECIC Data). In the same period, the import of passenger vehicles rose from 6 million to over 10 million (CECIC Data). The Brazilian market places a unique emphasis on vehicles with engines capable of burning both gasoline and ethanol, known as flex-fuel vehicles (UN-Energy, 2006).

The second group comprises of countries such as Argentina, Colombia, and Mexico, which are also major manufacturers that export part of their output, but which require substantial vehicle imports to meet domestic demand. Mexican new car sales are up a solid 9% year-on-year in 2012 to reach 987,747 new registrations, and the best annual figure since 2008. Brand-wise, Nissan holds onto its pole position with 244,962 sales and 24.8% share. This makes Mexico the only country in the world where Nissan is No.1. Chevrolet and Volkswagen stay No.2 and No.3 while Chrysler passes Ford to rank No.4 (AMIA). Small cars are among preference segments of Mexican imported passenger vehicles. Currently, small cars make up nearly 59 % of passenger vehicles sales in Mexico (David Coffin, 2013). Mexican imports are almost evenly divided between light trucks with gasoline engines; cars, vans, CUVs, and SUVs with 1.5–3 liter gasoline engines; and cars, vans, CUVs, and SUVs with gasoline engines larger than 3 liters (David Coffin, 2013).

Import plays an important role in the automotive development of Argentina with the imported inventories accounting for over 60% of the vehicles it sales (BBVA Research, 2012). Although the car sales and vehicle imports slowed down a bit in 2012 due to foreign exchange restrictions and the slump in exports, Argentina has seen a marked growth in its automobile fleet (including cars, light and heavy utility vehicles), while the age profile has also improved vehicles (BBVA Research, 2012). It recorded that the automobile fleet reached approximately 11.2 million in 2012, a ratio of 3.7 inhabitants per vehicle, at the forefront of the Latin American ratios (BBVA Research, 2012).

Appearing in the similar pattern with Argentina, Colombia also imports the large proportion of its automobile fleet and automotive parts. In 2011, the country imported 211,240 units, amounted to USD 4.4 billion, of which 58% were automobiles, 13% 4x4s, and 29% commercial vehicle (BBVA Research, 2012)s. The latter -mostly pick-up, and articulated and dump trucks- have been gaining market share since 2009, when they accounted for 23% of the total, thanks to greater demand from mining and other cargo activities (BBVA Research, 2012). Imports of automotive parts amounted to USD 4.059 billion, concentrated in the areas of tires (12%), chassis (2%), and filters (2%) (BBVA Research, 2012).

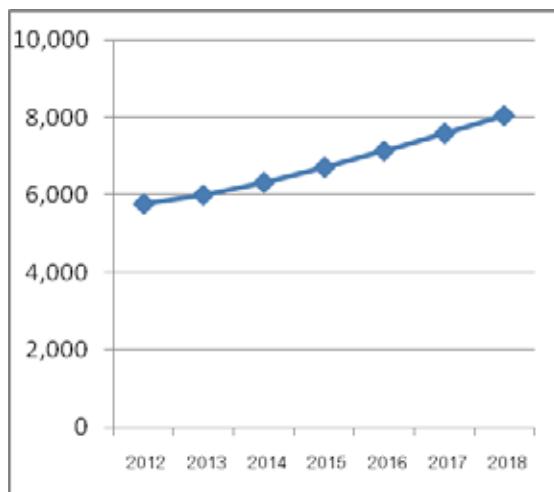
The final group is countries such as Chile and Peru, which import all their vehicles (BBVA Research, 2010). Peru has seen dynamic demand for the acquisition of new cars since 2008. As of December 2012, sales of new cars reached 168,500 units, an 82 % growth against 2008 (OICA, 2012). Compared to the previous year 2011, there has been a significant increase of 38% in sales of light vehicles, while sales of commercial and cargo vehicles rose by 11.5%) (BBVA Research, 2012).

Similarly, Chile has also experienced a rapid growth in the vehicle fleet. According to the National Automotive Association of Chile, 338,826 light vehicles were sold in 2012, 1.4% above sales for 2011 (BBVA Research, 2013). Of which, passenger vehicles continued to account for around 55% of the total, SUVs approaching 20%, and vans and commercial vehicles standing at approximately 17% and 9%, respectively. The local market showed a strong preference shifting towards lower value cars (from 5 to 9 million pesos) and second

hand vehicles (BBVA Research, 2013). In 2012, the value of vehicle imports to Chile from ASEAN-3 reached USD 500 million, increase 23 % from 2011 (UNCOMTRADE).

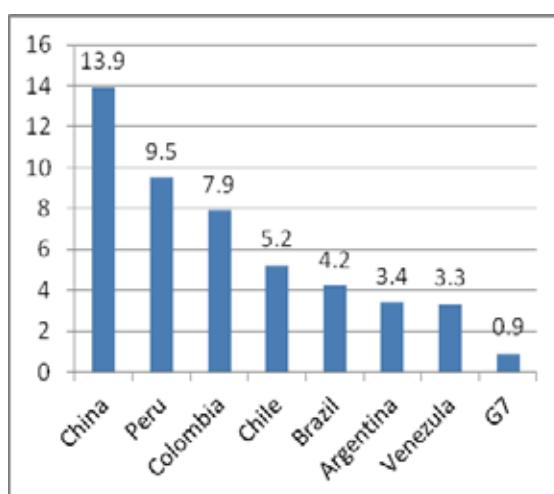
The auto market in Latin America is expected to grow rapidly in the next decade given the high density population and the steady economic growth, accompanied with strong investment, largely in trade, industry and provision of public services. By 2018, the regional nominal GDP will reach USD 8 trillion, rising 39% from USD 5.8 trillion in 2012 (Figure 4) (CECIC Data). Similarly, it is expected that by 2020 more than 100 million people in the region will enter higher income baskets (BBVA Research, 2010). This improvement of economic growth and household income will continue to support the strong performance of the motor vehicle sector. It is anticipated that Peru will lead the region in the total number of vehicles fleet with an annual growth rate of 9.5 % within the period between 2010 and 2020, followed by Colombia and Chile (Figure 5) (BBVA Research, 2012).

**Figure 4** GDP Projection for the period 2012-2018 (US\$-Billion)



Source: CECIC Data

**Figure 5** Average annual growth of vehicle fleet for the 2010/2020 decade.



Source: BBVA Research, 2012

The bright outlook of the Latin automotive markets is offering a number of useful insights for ASEAN producers and manufacturers. The increase in employment and household income will promote a greater demand for household cars with comfort-related features. At the same time, the high density population and the high price of gasoline will shift the consumption preference into subcompact/mini cars and eco cars. The Brazilian market, for example, places a unique emphasis on vehicles with engines capable of burning both gasoline and ethanol, known as flex-fuel vehicles (David Coffin, 2013). This information on market segment preference fits well with the recent automotive policies initiated by ASEAN-3. The ASEAN-3 governments have introduced various investment promotion measures for producing low cost eco cars and low cost subcompact/mini cars. Low cost subcompact/mini cars for the new emerging middle class will be priced in the USD 7,000-10,000 (Haijime Yamamoto, 2012) while low cost eco cars will cost from USD 9,500 to 14,500 (Nils J. Wright, 2011). The price range is in line with the increase in real wages in the years to come. Some models of these kinds are produced in Thailand and Indonesia such as March Micra by Nissan, Swift and Global small by Suzuki, Mirage by Mitsubishi, and Brio by Honda (Table 3) (Haijime Yamamoto, 2012).

**Table 3** Low cost subcompact/mini cars produced in ASEAN

OEM	Nameplate/Platform	Thailand	Indonesia
Hyundai	Brio / GSP	71,000	17,000
Mitsubishi	Mirage	148,000	
Nissan	March (Micra) / A Platform	107,000	19,000
Suzuki	Swift	48,000	
	Global Small	72,000	
Toyota	Etios/ EFC		66,000
	Small Low	108,000	
Ford	Ke/ B2 platform	16,000	

Source: Haijime Yamamoto, 2012

Demands for vehicles will not be restricted to private consumption only but also include freight and commercial vehicles, for example, the pick-up truck, to which Thailand is the world second largest producer. The strong investment in trade, industry and provision of public services will encourage significant demand for passenger and cargo transport. For the case of Peru, substantial demand for cargo transport is expected to continue due to the execution of large mining investment projects over the next five years, as well as the sustained dynamic mood in the construction, industrial and commerce sectors (BBVA Research, 2012). Likewise, in Colombia, commercial vehicles such as vans, utility vehicles, and cargo and passenger vehicles is connected to the dynamism of the mining industry, with high demand for transport equipment for domestic and foreign trade (BBVA Research, 2012). The mass construction and services in Brazil for major upcoming events such as World Cup in 2014 and the Olympics Games in 2016 will increase the automobile fleet stock in the years to come. With the projection of average annual production growth of 5.8 % (Haijime Yamamoto, 2012), ASEAN for sure will meet this dynamic demand of the Latin America auto markets.

## 5. Conclusion

To sum up, the automotive industry is a key for the economic development of ASEAN nations. In order to achieve the significant economic scale for the industry, boosting oversea sales through export appears equally important as domestic sales. While traditional auto markets such as Europe and US have not shown any positive signal for a strong recovery, Latin America appears much more attractive. The demand for vehicles in the region has grown continuously since 2008 and is projected to rise considerably by 2020 given a number of positive factors including the steady economic growth and the new middle classes. These will bring major opportunities for ASEAN producers and manufactures.

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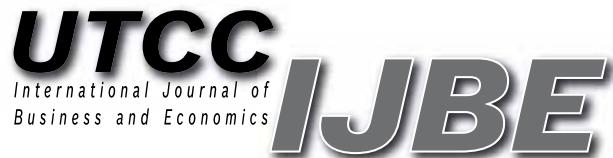
## **DETERMINANTS OF INTERNATIONAL RESERVES IN THAILAND**

by

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# DETERMINANTS OF INTERNATIONAL RESERVES IN THAILAND

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## Abstract

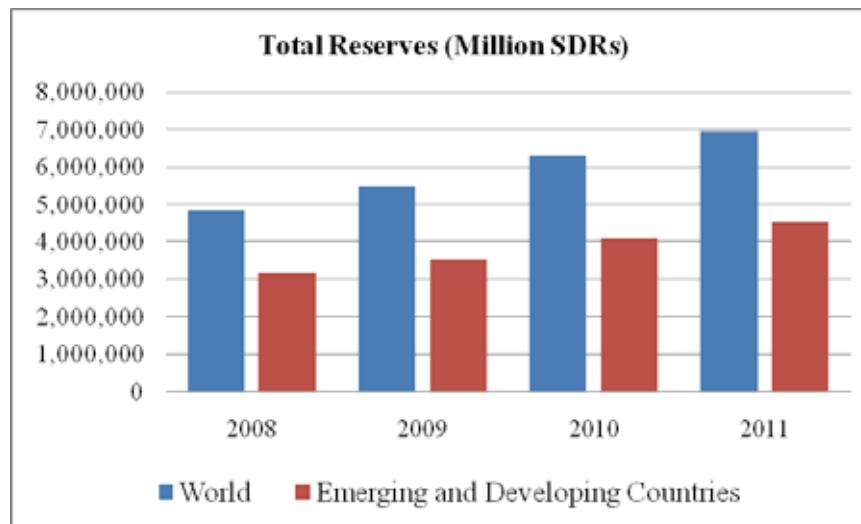
The study of determinants of international reserves in Thailand employs the multiple regression with ordinary least square to test the monthly data of international reserves (IR), gross domestic product (GDP), propensity to import (PIM), trade balance (TB), external debt (DEBT) and exchange rate (EXR) during 2000-2011. The study finds that DEBT and EXR are statistically significant determinants of IR at 95% confident level and 99% confident level consecutively. External debt positively relates to internal reserves because of precautionary motive, especially, after the 1997 Asian financial crisis. Moreover, exchange rate (US\$/Thai Baht) positively determines internal reserves because an appreciation of Thai Baht leads to an increase in import so that there will be an increase in international reserves. Government, business and academic can apply these results accordingly.

## 1. Introduction

There are four major reasons for holding international reserves, including stabilizing exchange rate, servicing foreign debt, protecting against unanticipated exogenous shocks, and assuring foreign investors of the political and economic strength of the country. Since international reserves have both benefits and costs, every country has to be certain that the benefits from having international reserves justify their cost (Archer and Holiday, 1998). In addition, holding higher international reserves is beneficial to decrease the likelihood of currency crises as well as a sudden unwillingness of the international lenders to provide new loans (Calvo and Reinhart, 1999); to lower external borrowing costs through the improvement of credit ratings on sovereign foreign currency debt (Mulder et al., 2002); and to reduce real exchange rate volatility (Hviding et al., 2004). However, international reserve levels may vary according to policy choice (higher reserves lead to more active use of currency intervention) and market sentiment (higher reserves increase market confidence by lowering the probability of a currency crisis) (Hviding et al., 2004).

Asian countries have been holding high level of international reserves since the 1997 Asian financial crisis. According to Matthew and Thomas (2004), Rodrik (2006), Joshua and Jaewoo (2007), and Cheung and Qian (2009), this increasing trend in international reserve holding is viewed as a precautionary for self-insurance against possible crisis in future. The world reserves had increased from 4,843,975 million SDRs in 2008 to 6,968,131 million SDRs in 2011 as shown in figure 1. Moreover, approximately 65% of the world reserves had come from emerging and developing countries. Figure 1 also exhibits the rise in the reserves of emerging and developing countries from 3,165,445 million SDRs in 2008 to 4,525,614 million SDRs in 2011.

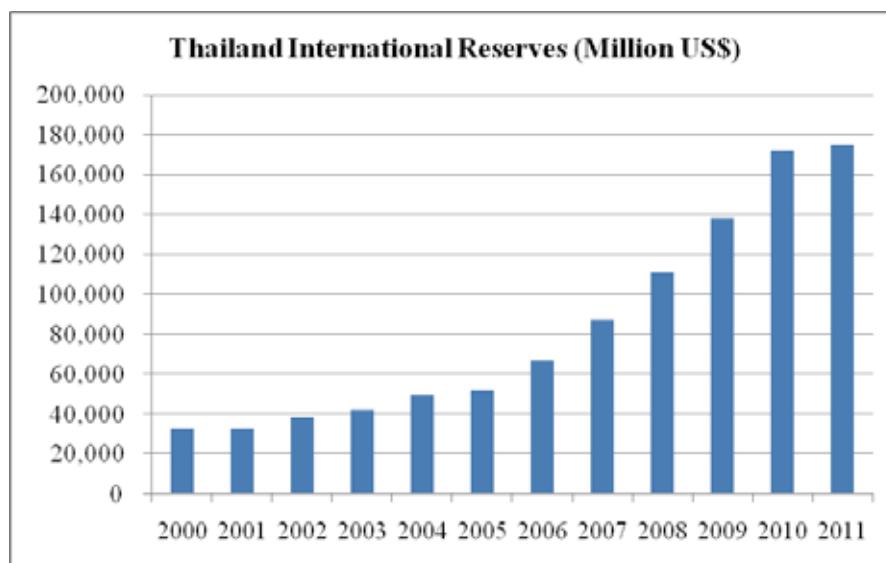
**Figure 1** Total reserves of world and emerging & developing countries during 2008-2011



Source: International Financial Statistics, IMF (2011)

Thailand, one of the emerging and developing countries, had claimed as the originator of the 1997 Asian financial crisis. After the crisis, international reserves of Thailand have been increasing. As demonstrated in figure 2, the reserves in Thailand were 32,661.30 million US\$ in 2000, and the reserves had risen more than five times to 175,123.77 million US\$ in 2011.

**Figure 2** International reserves of Thailand during 2000-2011



Source: Bank of Thailand (2011)

Previous studies on international reserve holdings have analyzed using data from developed countries such as Flood and Marion (2002) and Bahmani-Oskooee and Brown (2004) and developing countries such as Aizenman and Marion (2003), Mendoza (2004), and Zhou (2005). Some studies compare the behavior of international reserve holdings for both developed and developing countries include Lane and Burke (2001), Choi and Beak (2004), and Joshua and Jaewoo (2007). However, there is no clear evidence about the determinants of recent large reserve holding in Thailand from the empirical literatures on the demand for international reserves. Therefore, it is attractive to conduct a study to examine the determinants of international reserves in Thailand and to fill up the gap in the literature.

## **1.2 Objective**

The objective of this study is to examine the determinants of international reserves in Thailand during the period from 2000 to 2011.

## **1.3 Hypothesis**

$H_0$ : None of the variables examined, namely gross domestic product, propensity to import, trade balance, external debt, and exchange rate is statistically significant in determining international reserves in Thailand.

$H_1$ : At least one of the variables examined, namely gross domestic product, propensity to import, trade balance, external debt, and exchange rate, is statistically significant in determining international reserves in Thailand.

## **1.4 Scope of the Study**

In order to study factors that determine international reserves in Thailand after the 1997 Asian financial crisis, the monthly time series data of international reserves, gross domestic product, propensity to import, trade balance, external debt, and exchange rate spanning from 2000 to 2011 are utilized. All the data can be obtained from International Financial Statistics published by International Monetary Fund and Economic Statistics published by Bank of Thailand.

## **1.5 Benefits of the Study**

The study of determinants of international reserves in Thailand is beneficial to government, business, and academic. Understanding factors influencing international reserves, government can adjust macroeconomic policies accordingly in order to achieve the target level of international reserves. Multinational enterprises (MNEs) can comprehend the relationship among the major economic factors, comprising of international reserves, gross domestic product, propensity to import, trade balance, external debt, and exchange rate, so that MNEs can make decisions more reasonably on international operations and transactions. Moreover, for academicians, the results of this study will fulfill the gap in the literature regarding the determinants and reasons for recent large international reserve holding pertaining to emerging and developing countries.

## 2. Literature Review

Previous studies had used a lot of factors to explain international reserve holding. This study uses five explanatory variables to investigate their impacts on the international reserve holding in Thailand. These variables are gross domestic product, propensity to import, trade balance, external debt, and exchange rate.

According to the theory proposed by Frenkel (1974a) in which international reserve holding is a function of a scale variable, propensity to import, and the variability measure, gross domestic product and propensity to import are chosen in this study. The scale variable shows the volume of international transactions. The larger is the size of the country, the more the trade activities; and the demand for international reserves will increase accordingly. The positive relationship between the scale variable and international reserves is found in Guo and Tsai (2006), Wang and Ma (2008), Nor et al. (2011), and Puah et al. (2011). Therefore, gross domestic product and international reserves are expected to be positively related. Propensity to import has a positive impact on international reserves because propensity to import acts as a proxy for openness of an economy (Frenkel, 1974b). Nor et al. (2011) also find a positive impact of propensity to import on international reserves. However, Heller (1966) find that propensity to import and international reserves can be negatively related if propensity to import acts as marginal cost of adjustment. Thus, propensity to import can have a positive or negative impact on international reserve holding.

Trade balance, which is a main part of current account balance in Thailand, is selected in this study to take into account the surge in current account surplus in Thailand during 2000-2011. Dunn and Mutti (2000), Taniuchi (2006), and Nor et al. (2011) find a positive relationship between current account balance and international reserves. Therefore, trade balance and international reserves are expected to be positively related. This study also includes external debt as one of the determinants of international reserves in Thailand since the incorporation of this variable reflects the importance of the precautionary motive for holding reserves in Asia after the 1997 financial crisis as highlighted by the recent theories on international reserve holdings. Recently, the studies of Kang and Chou (2011) and Nor et al. (2011) find a positive relationship between external debt and international reserves in China and ASEAN countries, respectively. Thus, external debt and international reserves are expected to be positively related. Lastly, exchange rate is incorporated in this study. Even though Flood and Marion (2002) find that exchange rate flexibility decreases the demand for reserves because central banks do not need large reserves to maintain a peg or to enhance the peg's credibility, international reserves remain important in Thailand in order to stabilize value of Thai Baht under managed floating exchange rate regime. Moreover, Puah et al. (2011) find that the appreciation of Malaysia Ringgit leads to an increase in international reserves. Hence, exchange rate and international reserves are expected to be positively related as supported by the findings in Puah et al. (2011).

## 3. Methodology

There are three types of tests in this study. The first test is the Augmented Dickey-Fuller (ADF) (Dickey and Fuller, 1979) unit root test. This test will be used to check for the stationary properties of the data. The second test is the Johansen and Juselius (1990) cointegration test. This test will be applied to examine the existence of long run relationship between international reserves and its determinants. The final test is the regression analysis as

shown in equation (1). This test will be implemented to obtain the impact (both magnitude and direction) of each of the determinants on international reserves. Moreover, in order to avoid the problem of the different unit scale, the percentage change form is applied to all the variables except the propensity to import.

$$IR_t = \alpha + \beta_1 GDP_t + \beta_2 PIM_t + \beta_3 TB_t + \beta_4 DEBT_t + \beta_5 EXR_t + \varepsilon \quad \text{----- (1)}$$

Where:

$IR_t$  = percentage change in international reserves at period t

$GDP_t$  = percentage change in gross domestic product at period t

$PIM_t$  = propensity to import at period t

$TB_t$  = percentage change in trade balance at period t

$DEBT_t$  = percentage change in external debt at period t

$EXR_t$  = percentage change in exchange rate (US\$/Thai Baht) at period t

#### 4. Results

The study of the determinants of international reserves in Thailand uses the monthly data of international reserves, gross domestic product, propensity to import, trade balance, external debt and exchange rate from 2000 to 2011. The results of descriptive statistics, unit-root test, cointegration test and regression analysis are as follows.

**Table 1** Descriptive Statistics

	IR	GDP	PIM	TB	DEBT	EXR
Mean	1.207625	0.492051	0.193374	137.0607	0.118198	0.135846
Median	1.122985	0.406322	0.192845	-42.05706	-0.088538	0.158413
Maximum	9.380290	2.938112	0.261926	19218.83	5.791194	3.682622
Minimum	-4.523598	-5.729107	0.130006	-6306.335	-5.224548	-3.421020
Std.Dev.	2.294514	1.327160	0.025495	1856.913	1.804897	1.447748

Table 1 shows descriptive statistics of the data during the period of study from 2000 to 2011. For percentage change in international reserves (IR), the maximum is 9.38%, and the minimum is -4.52% with the mean of 1.21% and the standard deviation of 2.29%. For percentage change in gross domestic product (GDP), the maximum is 2.94%, and the minimum is -5.73% with the mean of 0.49% and the standard deviation of 1.33%. For propensity to import (PIM), the maximum is 0.26 times, and the minimum is 0.13 times with the mean of 0.19 times and the standard deviation of 0.03 times.

For percentage change in trade balance (TB), the maximum is 19,218.83%, and the minimum is -6,306.34% with the mean of 137.06% and the standard deviation of 1,856.91%. For percentage change in external debt (DEBT), the maximum is 5.79%, and the minimum is -5.22% with the mean of 0.12% and the standard deviation of 1.80%. For percentage change in exchange rate (EXR), the maximum is 3.68%, and the minimum is -3.42% with the mean of 0.14% and the standard deviation of 1.45%.

**Table 2** Unit Root Test

Variable	Augmented Dickey-Fuller test statistic: constant	Augmented Dickey-Fuller test statistic: constant and trend
	Level	Level
IR	-9.119899***	-9.240337***
GDP	-5.568163***	-5.512739***
PIM	-3.047596**	-4.387956***
TB	-12.01568***	-11.98398***
DEBT	-3.104576**	-4.470567***
EXR	-7.859321***	-7.932214***

\*\*\* denotes statistical significance at 1% level

\*\* denotes statistical significance at 5% level

Table 2 shows the results from unit-root test. According to the percentage change data (at level) of international reserves, gross domestic product, trade balance, external debt and exchange rate, Augmented Dickey-Fuller (ADF) statistics are significant at least 5% level. Thus, the percentage change in international reserves (IR), gross domestic product (GDP), trade balance (TB), external debt (DEBT) and exchange rate (EXR) are stationary at level. In addition, Augmented Dickey-Fuller (ADF) statistics indicate significance for propensity to import (PIM) at level. Therefore, for further analysis, this study uses the percentage change data of international reserves (IR), gross domestic product (GDP), external debt (DEBT) and exchange rate (EXR) at level as well as the data of propensity to import (PIM) at level.

**Table 3** Correlations among Independent Variables

Variable	GDP	PIM	TB	DEBT	EXR
GDP	1.000000	-	-	-	-
PIM	-0.056833	1.000000	-	-	-
TB	-0.029401	-0.025046	1.000000	-	-
DEBT	0.286576	0.270941	0.077459	1.000000	-
EXR	0.048199	-0.130120	0.101358	0.278830	1.000000

Before running linear regression, the correlation among all of the independent variables is examined in order to check for the multicollinearity problem, which is the problem of any pairs of independent variables having absolute correlation above 0.8. Table 3 demonstrates the correlation matrix among independent variables, including gross domestic product (GDP), propensity to import (PIM), trade balance (TB), external debt (DEBT) and exchange rate (EXR). The results show no multicollinearity problem because none of the independent variables has absolute correlation above 0.8. Thus, all five independent variables can be used for further analysis.

**Table 4** Cointegration Test

Hypothesized No. of CE(s)	Trace statistic		Max-Eigen statistic	
	Constant	Constant and trend	Constant	Constant and trend
None	165.6939***	186.8121***	49.52205***	57.24518***
At most 1	116.1719***	129.5669***	37.56990**	46.17164***
At most 2	78.60197***	83.39530***	31.33647**	31.96033*
At most 3	47.26550***	51.43496***	19.77321*	19.78815
At most 4	27.49229***	31.64682***	18.81443***	18.81452*
At most 5	8.677858***	12.83230**	8.677858***	12.83230**

\*\*\* denotes rejection of the hypothesis at the 0.01 level

\*\* denotes rejection of the hypothesis at the 0.05 level

\* denotes rejection of the hypothesis at the 0.10 level

Table 4 shows the significant results of cointegration test, indicating the existence of long run relationship between international reserves and its determinants. After checking and solving the problems of multicollinearity, heteroskedasticity and autocorrelation, the results of linear regression with ordinary least square (OLS) are as follows.

$$IR_t = 3.012232 + 0.210963GDP_t - 10.50371PIM_t + 0.0000134TB_t \\ (2.236189)** \quad (1.632682) \quad (-1.531900) \quad (0.152595)$$

$$+ 0.218852DEBT_t + 0.699533EXR_t \quad ----- (2) \\ (2.096648)** \quad (5.828665)***$$

Adjusted R-Squared = 0.293180

F-Statistic = 12.77995

Prob (F-Statistic) = 0.000000

Durbin-Watson Stat = 1.914786

\*\*\* denotes statistical significance at 1% level

\*\* denotes statistical significance at 5% level

From Equation 2, F-Statistic is 12.77995 with Prob(F-Statistic) of 0.000000, meaning that at least one independent variable can explain dependent variable (international reserves). Adjusted R-Squared is 0.29318, meaning that all five independent variables can help determine international reserves 29.318%. The rest 70.682% can be explained by other factors. Additionally, Durbin-Watson Statistic of 1.914786, which is very close to 2.0000, shows no problem of autocorrelation. Therefore, the explanation of the coefficients of significant independent variables is as follows.

### External debt (DEBT)

External debt (DEBT) statistically and significantly determines international reserves (IR) at 5% level. This can be interpreted that when external debt increases 1%, international reserves will increase 0.218852%. On the other hand, when external debt decreases 1%, international reserves will decrease 0.218852%.

## Exchange rate (EXR)

Exchange rate (EXR) statistically and significantly determines international reserves (IR) at 1% level. This can be interpreted that when exchange rate increases 1%, international reserves will increase 0.699533%. On the other hand, when exchange rate decreases 1%, international reserves will decrease 0.699533%.

Nevertheless, the coefficients of gross domestic production (GDP), propensity to import (PIM) and trade balance (TB) are not statistically significant.

## 5. Conclusion and Discussion

The study of determinants of international reserves in Thailand examine the monthly data of international reserves (IR), gross domestic product (GDP), propensity to import (PIM), trade balance (TB), external debt (DEBT) and exchange rate (EXR) during 200-2011 by using the multiple regression with ordinary least square method. The study finds that DEBT and EXR are statistically significant determinants of IR. However, GDP, PIM and TB are not significant in determining IR. The results are summarized in table 5 as follows.

**Table 5** Result Summary

Independent Variable	Coefficient	Statistical Significance
GDP	+0.210963	No
PIM	-10.50371	No
TB	+0.0000134	No
DEBT	+0.218852	Yes
EXR	+5.828665	Yes

According to table 5, factors significantly affecting international reserves are external debt and exchange rate. External debt positively significantly determines internal reserves in Thailand because of precautionary motive, especially, after the 1997 Asian financial crisis. The positive association between external debt and international reserves is consistent with Kang and Chou (2011) and Nor et al. (2011). In addition, exchange rate (US\$/Thai Baht) positively significantly determines internal reserves in Thailand because an appreciation of Thai Baht leads to an increase in import so that there will be an increase in international reserves. The positive association between exchange rate and international reserves is consistent with Puah et al. (2011).

Factors insignificantly affecting international reserves are gross domestic product, propensity to import and trade balance. Gross domestic product is an insignificant determinant of international reserves in Thailand. However, the positive relationship between gross domestic product and international reserves is in line with Guo and Tsai (2006), Wang and Ma (2008), Nor et al. (2011) and Puah et al. (2011) because the larger the size of the country, which is determined by gross domestic product, the more the trade activities are and the increase in the demand for international reserves.

Propensity to import is an insignificant determinant of international reserves in Thailand. Nevertheless, the negative relationship between propensity to import and international reserves is in agreement with Heller (1966) because propensity to import acts as

the marginal cost of adjustment. Furthermore, trade balance is an insignificant determinant of international reserves in Thailand. Nonetheless, the positive relationship between trade balance and international reserves is in harmony with Dunn and Mutti (2000), Taniuchi (2006) and Nor et al. (2011). Since trade balance reflects an openness of country's economy, the high trade balance leads to the high economy openness which resulting in the high demand for international reserves in order to stabilize the value of country's currency.

The results of this study can be used by government, MNEs and academicians. First, Thai government knows that if Thailand has larger external debt and/or if Thai Baht increases in value, Thai government needs to hold more international reserves. Next, multinational enterprises (MNEs) understand that external debt and exchange rate significantly affect and positively relate to international reserves. Also, gross domestic product and trade balance positively relate to international reserves, and propensity to import negatively relate to international reserves. Thus, MNEs can employ these results to evaluate the international stability of Thailand in order to make investment decision in Thailand. Finally, academicians can refer to the results of this study as the literature regarding the determinants of international reserves in another developing country, Thailand.

To broaden the knowledge about international reserves determinants, future research may examine the effects of other factors besides the ones employed in this study. Moreover, future research involving international reserve holdings should focus on other countries in Asian Economic Community (AEC) to help these countries reduce currency value volatility and create currency value stability. Additionally, future research should compare factors affecting international reserves among countries in AEC, which will be beneficial to foreign investors to make investment decision in these countries.

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**ENHANCING LEARNING ORGANIZATION IN CRIME SUPPRESSION  
DIVISION: EMPIRICAL STUDY OF CENTRAL INVESTIGATION  
BUREAU, ROYAL THAI POLICE, THAILAND**

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**Abstract**

The development of an organization toward a learning organization is an important approach to enable it to perform most efficiently and to fulfill its goals. This study aims to identify the relationship between organizational factors, administrative factors and learning organization. It is an empirical study employing questionnaire as research instrument to collect 400 samples from police officers working in Crime Suppression Division, Central Investigation Bureau, Royal Thai Police. Data are analyzed using descriptive and analytical statistics particularly multiple regression (MRA). The results indicate positive relationship between organizational factors and learning organization for the Crime Suppression Division with leadership having the highest of association. Administrative factors also exhibit positive relationship with learning organization. These are in line with previous studies on learning organizations. Discussion and recommendations are presented.

**Keywords:** Learning Organization, Organization Factors, Administration Factors, Crime Suppression Division

## 1. Introduction

The world is witnessing a very rapid change especially in the technological sector. Modern organizations have to make adjustments in their operations in response to these changes and several others challenging factors (Drucker, 1999). In the Southeast Asian region the countries have agreed to form ASEAN Community by 2015 to integrate their development on economic, social, cultural and security dimensions to become one common market and production base. Consequently, many organizations including public ones have made preparation in response to the expected change. Royal Thai Police is one such organization that needs to make preparation in all aspects of its functions relevant to the efficient development of the country (draft Master Plan on Preparation for the Commencement of AEC, 2010). One of the approaches to increase efficiency in response to external changes for modern organizations is Knowledge Management within the organization (Lindner and Wald, 2011). According to this Knowledge-based view, the focus is on the knowledge best suited to enable the organization to achieve its goals and to build its competitiveness (Kogut and Zander, 1992; Conner and Prahalad, 1996). The Crime Suppression Division, as one of government units under Royal Thai Police designated to enforce the law, would also have to develop itself to keep up with the change. To strengthen the organization and increase its efficiency, it would embrace an important modern

management approach of developing into a learning organization which would contribute to high performance and long-run sustainability of the organization (Easterby-Smith, 1997). According to the Marquardt (1996) systemic approach, an organization would succeed in becoming a learning organization by coordination of five sub-systems of learning process, organization system, human resource, knowledge and technology. To succeed, an organization would not only have to constantly learn from its experience but also to recognize the importance of Knowledge Management thought to be an essential part of organization management and development at all level (Dickinson McGaw & George Watson, 1976: 415). Senge (1990) points to five factors contributing to the development of a learning organization. These are 1) Personal Mastery, 2) Mental Model, 3) Team Learning 4) Shared Vision, and 5) System Thinking. The approach has been employed by both modern public and private organizations in their operation and development. The factor most focused on is the leadership especially in the area of change management which is appropriate for the organizations relying on strategic management. Such leadership would arouse inspiration and organization-wide effort to bring about successful change and is thus the role of an effective leader in motivating and supervising the needed change (Robert S.K. and David P.N., 2004) in order to accomplish the set tasks and objectives.

This paper consists of five sections being: Introduction, Literature Review, Research Methodology, Results and Discussions, Conclusion and Recommendation. The research question is what factors would contribute to the development of the Crime Suppression Division into a learning organization. The objective of the study is to examine the relationships between organizational factors, administrative factors and learning organization contributing to efficiency and effectiveness in the operation of the Crime Suppression Division. The results would provide guidelines for the future development of the organization. The paper is limited to the presentation of organizational factors and administrative factors exhibiting relationship with learning organization. Literature review is undertaken on Learning Organization to examine relevant concepts and theories in order to develop a conceptual framework of the study specifying the relationships between the variables. Hypotheses are formed accordingly. Research methods include identification of population and sample, data collection, research instrument and statistical analysis of data. The results are reported as guidelines for the Crime Suppression Division to develop itself into a learning organization.

## **2. Literature Review**

There are two main concepts or theories, these are: 1) Learning Organization (LO), and 2) Antecedents of Learning Organization.

### **2.1 Learning Organization (LO)**

Learning organization is positively associated with organization development and high organizational performance (Arngón-Correa et al., 2007). It also is crucial to organizational survival and efficiently high performance (Senge, 1990; Zahay and Handfield, 2004), encourages creativity (Sánchez and Mahoney, 1996) and inspiration for new ideas and knowledge (Damanpour, 1991; Dishman and Pearson, 2003), enhances the ability to understand new concepts and apply them to current operations (Damanpour, 1991), and reflects the practices that deems Best Practices. The benefit of being a learning organization is not limited to the high organizational performance but also the provision of good organization image

contributing to trust and admiration from stakeholders (Bayraktarolu, 2001). Senge (1990) provides definition of learning organization as organization that has constantly increase its capability at individual, group, and organizational levels to truly accomplish their respective goals. It possesses new patterns of thinking that would bring about collective aspiration of organization members. It involves constant learning, shared learning, and collective learning for the organization. Garvin, D.A. (2000) describes learning organization as organization that is capable of skillful creation, knowledge transferring, and behavioral adjustment to reflect the inception of new knowledge. According to Richard Karash (2002), learning organization is one that exhibits learning and promotion of learning process through the exchange of information among its members to form work-relevant knowledge. It is flexible, receptive, and open to new ideas including changes arising from a shared vision. The people at all levels in the organization expand their capability to create results they truly desire. Senge (1990) identifies five components of a learning organization. These are: 1) Personal Mastery, emphasizing the importance of live-long continual learning through practice and acquiring of knowledge, 2) Mental Model, patterns of thoughts, beliefs and attitude gained from experience, 3) Shared Vision, holding a common view of the desired future and putting effort in the same direction 4) Team Learning, learning together through exchange and transfer of knowledge and experience, and 5) System Thinking, ability to link and see the relationship logically and understandably though the overall view of work before considering its elements. In summary, the research is of the view that the concept of Learning Organization has been widely accepted as a modern management tool essential for organization performance. Most of the studies up to now focus on issues related to learning organizations in the private sector. The studies of the concept as applied to the public sector are still limited. Public organizations seeking high performance could employ the learning organization approach as their management strategy to form good organization practices contributing to internal organizational learning conducive to effective and efficient performance. The promotion of internal organizational learning is an important factor for the sustainability of organizations (Easterby-Smith, 1997). The context of this study is the public sector, particularly the Crime Suppression Division entrusted with the function of looking after the well-being of people and society. Applying the approach of Senge (1990), learning organization in this study is defined as organization consisting of individuals and groups capable of utilizing available knowledge to support organization performance to accomplish its goals efficiently. These individuals are pro-active in learning new knowledge. Organizations planned to become learning organization would achieve highly efficient work performance.

## 2.2 Antecedents of Learning Organization

Past studies of organization behavior indicate that modern managers recognize that learning organizations could play important roles in organization development and efficient organizational work performance (Huber, 1991; Argyris and Schön, 1996). Thus they are seeking approaches to transform their organization into learning organization. These studies cover various approaches and factors contributing to becoming learning organizations. Bennett and O'Brien (1994) identifies 12 factors contributing to learning organizations, namely: Strategy or Vision, Executive Practices, Managerial Practices, Climate, Organization Structure, Information Flow, Individual and Team Practices, Work Process, Performance Goals, Training or Education, Individual and Team Development, and Rewards or Recognition. Study by Marquardt and Reynolds (1994) introduces factors facilitating the development of learning organizations consisting of Appropriate Structure, Corporate Learning culture, Empowerment, Environmental Scanning, Knowledge Creation and Transfer, Learning Technology, Quality, Strategy, Supportive Atmosphere, Teamwork and Networking, and Vision. Based on the

above studies, the conceptual framework for this study is developed by the researcher classifying the causal factors linking to learning organization of the Crime Suppression Division into two main groups of organizational factors and administrative factors as independent variables. The organizational factors include 5 variables, namely: Structure, Culture, Leadership, Communication, and Technology. Administrative factors also include 5 variables, namely: Climate Setting, Member Empowerment, Human Resource Development, Rewarding and Knowledge Management. The dependent variable is learning organization.

### 2.2.1 Organizational Factors

Facing increasingly changing and erratic environment, organizations have to counter the increasing pressures from various sources by developing greater flexibility, agility and adaptability (Terreberry, 1968). Thus the internal characteristics of the organization would play important roles in enabling it to achieve its set goals. In this study the organizational factors examined are the physical situations in the Crime Suppression Division including the behavior and characteristics of the leader that would have an effect to support and facilitate the learning of police officers in the Division. The organizational factors in this study consists of Structure, Culture, Leadership, Communication, and Technology.

- **Structure** refers to the lines of command which clearly defines the order, stage, and link of the tasks to be taken to achieve the goal of the Crime Suppression Division and to facilitate the development of learning-focus by personnel. In response to environmental changes, organizations would have to make changes to its structure to fit its operations, particularly to enable quick decision making and flexibility of command (Lawler, Mohrman and Ledford, 1995). In addition, organizations with adequate flexibility, not too tight command structure, and non-duplicate work practices would facilitate learning by people in the organizations (Marquardt and Reynolds, 1994).

- **Culture** refers to the work practices regularly held and followed by people in the Crime Suppression Division. These could facilitate the exchange of knowledge and learning within the organization. Organization Culture could explain the differences of events or outcomes in the organization (Skerlavaj, Song and Lee, 2010). It is the pattern of practices traditionally held by people in the organization. All members of the organization take part in forming this pattern which must be learned and accepted by new members (Jacques, 1952). Any organization with a Corporate Learning culture would force its members to recognize the importance to their own need to learn and contribute new ideas (Marquardt and Reynolds, 1994).

- **Leadership** refers to characteristics of leaders regarding the ability to support the development of learning focus among individual and group personnel of the Crime Suppression Division. The leadership characteristics in this study include vision of the future for the organization, ability to perform, ability to transfer professional knowledge and expertise, and ability to create trust and recognition among the workers. Leadership is very important in establishing trust, implementing changes and achieving high performance in the future (Hitt and Ireland, 2002). Characteristics of a good leader include cross-check of received information, transfer of knowledge for utilization, encouragement of learning and contribution to the development of organization capability (Ireland and Hitt, 1999).

- **Communication** refers to information exchange behavior between people in the Crime Suppression Division. The information is passed on from one person to another

through various media or channel of communications with the purpose of interpersonal or inter-unit communications directly and indirectly in such ways as to support or assist the development of learning ability of organization members. Communication factor in this study includes regularity of information exchange, clarity of information transfer, open and speedy access to information, availability of communication with team members, and organization-wide dissemination of learned knowledge to practical work situation. Appropriate internal organization communications would enable the efficient absorption of knowledge including the transfer of knowledge and information to various people in the organization (Jiménez-Castillo and Sánchez-Pérez, 2013). The efficiency of communication would affect the development of personnel with respect to ability to receive, absorb, transfer, and apply information usefully (Lenox and King, 2004; Lewin, Massini and Peeter, 2011; Volberda, Foss and Lyles, 2010). Thus communications within an organization play an important role in the learning of organization members.

- **Technology** refers to the acquisition, support and development of relevant technologies conducive to organization learning process. In this study this factor examines the clarity, consistency, continuity of possible utilization of technology and innovation in the work process, the resolving of problems arising from technology utilization, and the maintenance and development of information technology network. Past studies on organization efficiency found technology being one of the important factors affecting the efficiency of an organization (Itami and Nunagami, 1992; Pavitt, 1990). Technological capability would lead to the sharing of knowledge and information (Adler, 1990; Huber, 1991; Williams and Kotnour, 1993). Therefore, technological support and development significantly contribute to exchange of data, information and knowledge resulting in beneficial learning within the organization.

In this study it is postulated that organization factors of Structure, Culture, Leadership, Communication, and Technology are positively related to learning organization of the Crime Suppression Division.

### 2.2.2 Administrative Factors

Administrative factors here are defined as situations or behaviors related to the supervision, control, organizing, and facilitating of work efficiently, and contributing to learning and development of personal learning. In this study administrative factors include Organization Climate, Member Empowerment, Human Resource Management, Rewarding, and Knowledge Management.

- **Organization Climate** refers to the arrangement of physical and social environments supportive of efficient work performance and conducive to fostering of learning and development of learning orientation among organization members. In this study the factor is measured by the clarity, appropriateness, and regularity of such arrangement and the reception of employees and executives regarding office layout, working atmosphere, and work amenities. These working environments within an organization have considerable effect on the transfer of knowledge (Hammami, Amara and Landry, 2013). Successful organizations are those capable creation of new knowledge continually (Nonaka, 1991) and transferring to other people in the organization. The climate driving an organization to achieve its goals should be one of openness and trust; people are unafraid to share their ideas and speak their minds, whether positive or negative (Bennett and O'Brien, 1994). Thus the arrangement of organization climate to support, promote and facilitate learning process would help push the organization into a learning organization.

- **Member Empowerment** refers to organization policies and procedures that promote freedom of thought to support learning process of individual employees and teams. In this study the factor focuses on clarity, appropriateness, regularity and probability of the authoritative limits in functional operation within the rule of law. Organizations allowing its members to learn, to make decision freely regarding the work under their responsibility, and to reduce their dependency on others to solve their problems would expand their knowledge relevant to their work performance more efficiently resulting in learning organization (Marquardt and Reynolds, 1994).

- **Human Resource Management** refers to the provision of system and process for the development of individuals or work teams to improve quality and to adjust working conditions in response to economic and social changes. In this study the factor is measured by the clarity, continuity, and compatibility of strategic formulation and resulting strategies; the development of organization based on modern knowledge; the enhancement of personal mastery consistent with operation improvement and development; and the existence of operation plan, its implementation and assessment. The amount of learning within an organization occurs most at individual level. (Nonaka and Takeuchi, 1999). Learning by individual leads to learning of a team and is related to high performance of that team (Edmondson, 1999). Therefore, development of human resource through learning of individuals and teams could drive the organization to become a learning organization.

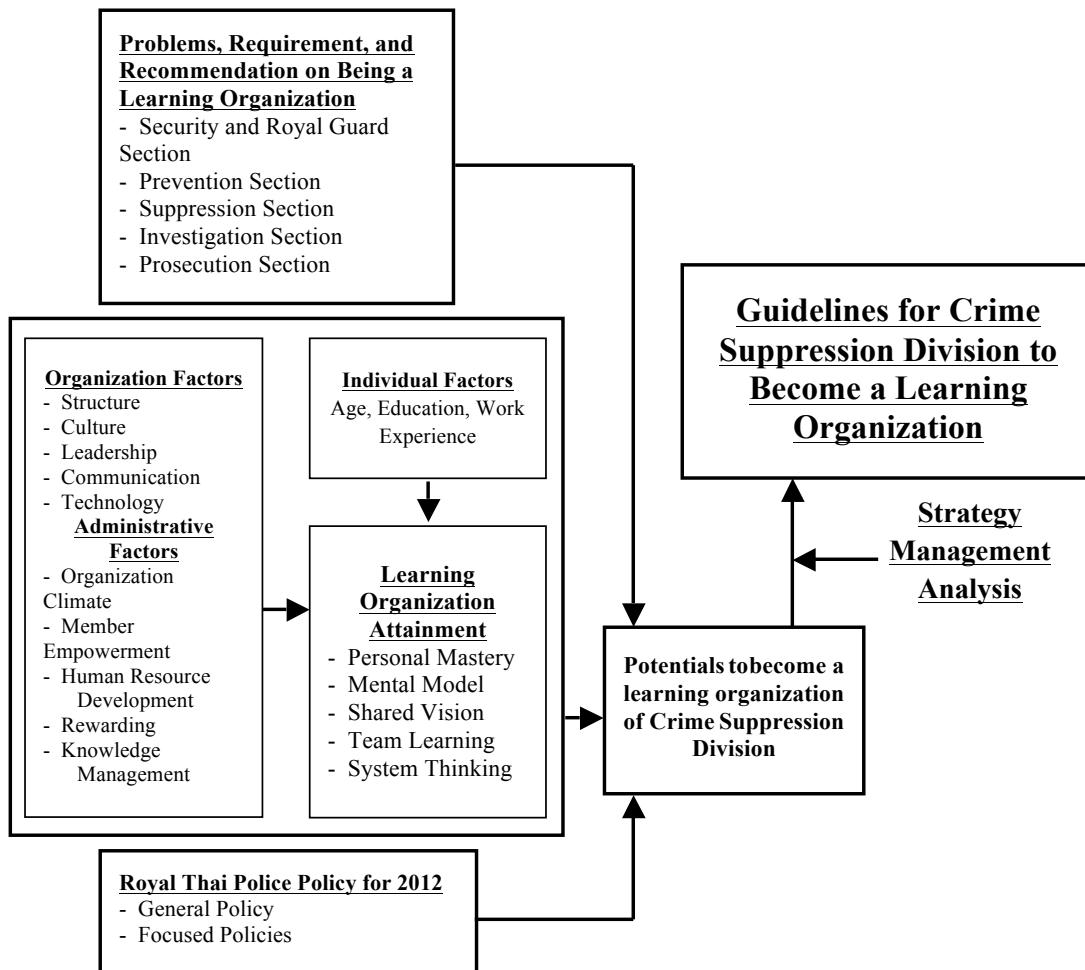
- **Rewarding** refers to the provision of operation system and process of high quality and efficiency by providing rewards both monetary and non-monetary. In this study the factor is measured by accuracy, regularity, suitability and satisfaction of rewards; executive attentiveness to rewarding; and rewards decision making. The granting of special rewards would facilitate innovations and promote learning from experience, unafraid of failure and continually learning in the area. If appropriate rewards are given while people are achieving given goals they would be encourage to learn, and acquire new useful knowledge and information (Marquardt and Reynolds, 1994). Therefore, rewarding is an important factor contributing to becoming a learning organization.

- **Knowledge Management** refers to the provision of system and process supporting the identification knowledge topics requisite for work operation and information exchange, the compilation and storage of useful information and knowledge for easy access, the transfer and dissemination of knowledge for development and formulation of management strategy, and the utilization of information and knowledge for operational decisions. In this study the factor is measured by regularity, probability, clarity and appropriateness of the system and process. If the organization has compiled the knowledge within the organization through an appropriate process, whether the knowledge exists in individual, documents or experiences, everyone in the organization would be able to access the knowledge and develop oneself as a learned member (Awad and Ghaziri, 2004). This also includes the compilation of knowledge and experience of individuals through Knowledge Management process (Nonaka, 1999; Spender, 1996) to create a knowledge bank for utilization and sharing within the organization (Probst et al., 1998), contributing to the overall image of being a learning organization.

It is postulated that the administrative factors consisting of Organization Climate, Member Empowerment, Human Resource Development, Rewarding, and Knowledge Management are positively related to Learning Organization of the Crime Suppression Division.

Based on the review of literatures on factors relating to becoming a learning organization, a conceptual framework is developed for this study on “Enhancing Learning Organization in Crime Suppression Division: Empirical Study of Central investigation bureau, Royal Thai Police, Thailand”. In this study the variables examined are limited to the organization factors, administrative factors and learning organization.

**Figure 1** Research Framework showing relationships between Organization Factors, Administrative Factors and Learning Organization



### 3. Research Methodology

#### 3.1 Population and Samples

The population of this study on factors related to learning organization attainment of the Crime Suppression Division are 1,309 police officers working in the Crime Suppression Division consisting of 332 commissioned officers and 977 non-commissioned officers. Sampling Table of Krejcie and Morgan (1970: 607-610) is used to set the sample size. A set of 400 samples are used in this study selected by Stratified Random Sampling, stratified according to the proportions of officers in the sub-divisions and by simple random sampling from each sub-division to obtain a good representation of the population. Data are collected by questionnaires 400 of which are sent to Sub-Division 1-16, Central Sub-Division, Special

Operation Sub-Division and Prosecution Section. All 400 questionnaires are received subsequently and found to be complete.

### 3.2 Measurement and Analysis Techniques

The instrument for data collection in this study is a questionnaire developed from relevant concepts and theories covering all issues to be examined. It is reviewed by 5 experts in the area for validity of its contents (Content Validity). Its reliability is analyzed by a pre-test of 30 samples with similar characteristics to the sample set, the Cronbach's Alpha are found to be between 0.77-0.95 being greater than 0.70 for all items (Nunnally and Berstein, 1994) indicating reliability. The questionnaire consists of 5 parts. Part 1 is about individual respondent data; Part 2 covers the 5 organizational factors of Structure, Culture, Leadership, Communication, and Technology. Part 3 deals with the 5 administrative factors being: Organization Climate, Member Empowerment, Human Resource Development, Rewarding, and Knowledge Management. Part 4 is on Learning Organization. The items in Part 2, 3 and 4 are 5-scale rating type questions. The last part is open-ended questions for respondents to express their opinions. Descriptive and inferential statistics are used to analyze the data. Multiple regression is used to identify the relationship proposed in the framework.

## 4. Results and Discussions

In this study of factors affecting the attainment of a learning organization by the Crime Suppression Division, computer software is used to analyze the data producing descriptive statistics on personal data of the sample and inferential statistics from multiple regression to test the relationships of the variables.

The results show that most of the sampled respondents are non-commissioned officers, with average age of 42 years, bachelor-degree graduates, working as Squad Leaders, with average working experience in the Crime Suppression Division of 13 years.

The relationships between the organizational factors, administrative factors, and learning organization are shown in Table 1 below.

Variable	1	2	3	4	5	6	7	8	9	10	11
1. Structure	1.00										
2. Culture	0.75	1.0									
	**	0									
3. Leadership	0.67	0.7	1.0								
	**	7**	0								
4. Communication	0.64	0.7	0.7	1.0							
	**	8**	1**	0							
5. Technology	0.55	0.6	0.6	0.7	1.0						
	**	9**	5**	8**	0						
6. Organization Climate	0.58	0.6	0.6	0.6	0.6	1.0					
	**	3**	4**	4**	1**	0					
7. Member Empowerment	0.62	0.7	0.6	0.7	0.7	0.7	1.0				

		**	1**	8**	6**	2**	1**	0	
8. Human Resource Management	0.64	0.7	0.7	0.7	0.7	0.6	0.7	1.0	
	**	4**	1**	9**	4**	8**	8**	0	
9. Rewarding	0.55	0.7	0.6	0.7	0.6	0.5	0.6	0.7	1.0
	**	0**	6**	3**	9**	9**	9**	5**	0
10. Knowledge Management	0.64	0.7	0.6	0.7	0.7	0.6	0.6	0.7	0.7
	**	2**	4**	6**	1**	2**	8**	6**	6**
11. Learning Organization	0.64	0.7	0.6	0.7	0.6	0.6	0.6	0.7	0.7
	**	1**	8**	4**	9**	5**	9**	6**	1**
									8**
									0

\*\* Correlation is significant at the 0.01 level (2-tailed)

**Table 1** Correlation metrix of all variables

From the correlation table in Table 1, learning organization is positively related to organizational factors of Structure, Culture, Leadership, Communication, and Technology and administrative factors of Organization Climate, Member Empowerment, Human Resource Development, Rewarding, and Knowledge Management. The correlation coefficients between dependent variable and each independent variable are in the range of 0.55-0.78. Testing for multicollinearity, the VIF values are between 2.38 – 3.99, much less than the criteria of 10 and the Tolerance values between 0.25 – 0.36, less than 1. It can be concluded that the relationships between independent variables would not cause problem of Multicollinearity (Hair et.al., 2006). Among the independent variables Knowledge Management is found to have the highest correlation coefficient with learning organization (0.78) followed by Human Resource Development (0.76 and Communication (0.74) respectively. These are the high relationship group of factors. The factor with the lowest correlation coefficient is Structure (0.64), followed by Organization Climate (0.65), and Leadership (0.68) respectively. These are factors may be considered to have less impact on the attainment of learning organization than the high group. This could be from the fact that the Crime Suppression Division is a public organization with long history and thus more difficult to change its structure (with lowest correlation), while Knowledge Management and Human Resource Development are important factors contributing to change.

**Table 2** Regression results of organization factors and learning organization

Organization Factors	Learning Organization		$\beta$	t	p-value
	Standardized Coefficients	Standardized Error			
Constant	0.86	0.11		7.66	0.00***
Structure	0.15	0.05	0.15	3.30	0.00***
Culture	0.11	0.05	0.11	1.96	0.05*
Leadership	0.13	0.04	0.16	3.10	0.00***
Communication	0.23	0.05	0.29	5.00	0.00***
Technology	0.14	0.04	0.20	3.93	0.00***
Adjusted R <sup>2</sup>	= 0.64				

\*p < 0.10, \*\*p < 0.05, \*\*\*p < 0.01<sup>a</sup> Beta coefficients with standard errors in parenthesis

Table 2 shows the results of regression analysis of Learning Organization with Organization Factors of Structure, Culture, Leadership, Communication, and Technology. Structure, Leadership, Communication, and Technology exhibit positive relationship at significant level of 0.01 ( $\beta = 0.15$ ,  $p < 0.01$ ;  $\beta = 0.16$ ,  $p < 0.01$ ;  $\beta = 0.29$ ,  $p < 0.01$ ;  $\beta = 0.20$ ,  $p < 0.01$ ), while Culture indicates positive relationship at significant level of 0.10 ( $\beta = 0.11$ ,  $p < 0.10$ ). This leads to the acceptance of Hypotheses 1a, 1b, 1c, 1d, and 1e consistent with past studies. Organization culture is an important factor contributing to the creation and sharing of knowledge within the organization (Szulansky, 1996). Leaders take important roles in promoting the participation of Knowledge sharing activities (Eppler and Sukowski, 2000; Fong, 2003; Liebowitz and Megbolugbe, 2003), facilitating the efficient internal communication for the transfers of knowledge and information (Jiménez-Castillo and Sánchez-Pérez, 2013). Technology management of the organization is a factor affecting the sharing of knowledge and information (Adler, 1990; Huber, 1991; Williams and Kotnour, 1993). Therefore, the organizational factors of Structure, Culture, Leadership and Technology are shown to be associated with the attainment of Learning Organization.

**Table 3** Regression results of administration factors and learning organization

Administration Factors	Learning Organization		$\beta$	t	p-value
	Standardized Coefficients	Standardized Error			
Constant	0.91	0.09		9.91	0.00***
Organization Climate	0.09	0.03	0.13	3.20	0.00***
Member Empowerment	0.06	0.04	0.07	1.44	0.15
Human Resource Development	0.22	0.05	0.26	4.75	0.00***
Rewarding	0.08	0.04	0.10	2.18	0.03**
Knowledge Management	0.31	0.04	0.38	7.80	0.00***
Adjusted R <sup>2</sup> = 0.69					

\* $p < 0.10$ , \*\* $p < 0.05$ , \*\*\* $p < 0.01$ <sup>a</sup>Beta coefficients with standard errors in parenthesis

Table 3 shows the results of Regression analysis of Administrative Factors consisting of Organization Climate, Member Empowerment, Human Resource Development, Rewarding, and Knowledge Management with Learning Organization. Organization Climate, Human Resource Development, and Knowledge Management exhibit positive relationship with statistically significant level of 0.01 ( $\beta = 0.13$ ,  $p < 0.01$ ;  $\beta = 0.26$ ,  $p < 0.01$ ;  $\beta = 0.38$ ,  $p < 0.01$ ) while Rewarding shows positive relationship with statistically significant level of 0.05 ( $\beta = 0.10$ ,  $p < 0.05$ ). Thus Hypotheses 2a, 2c, 2d and 2e are supported, consistent with past studies indicating that organization climate can influence transfer of knowledge (Hammami, Amara and Landry, 2013). Such a climate is one of openness, trust, willingness to express opinions and listen to others both positive and negative (Bennett and O'Brien, 1994) for achieving organization goals. Human Resource Development can encourage individual learning and subsequently team learning and finally organizational learning (Nonaka and Takeuchi, 1999). Appropriate rewarding given to workers could induce them constantly to learn, enquire, and seek relevant new information for the organization (Marquardt and Reynolds, 1994). A good Knowledge Management system could compile and produce a valuable knowledge bank for efficient use and sharing within the organization (Nonaka, 1999; Spender, 1996; Probst et al., 1998). Therefore, the four Administrative Factors of Organization Culture, Human Resource

Development, Rewarding and Knowledge Management are those affecting the attainment of Learning Organization. For Hypothesis 2b on the factor of Member Empowerment which is not supported by the data here, the explanation could be the context of the study being a public organization where the subordinates are familiar with following orders from their superior and team efforts are highly emphasized. Member Empowerment may thus not be related to the attainment of a Learning Organization.

## 5. Conclusion and Recommendation

The results of this study could provide guidelines for the executives of the Crime Suppression Division to develop the organization into a learning organization. The Organization Factors to be considered are those of Structure, Culture, Leadership, Communication, and Technology, while Administrative Factors are Organization Climate, Human Resource Development, Rewarding and Knowledge Management. These factors are shown to be positively related to the continued attainment of a learning organization which is appropriate for dealing with rapidly changing environment and for the commencement of the ASEAN Community in 2015. The guidelines would improve the operation efficiency of the Division whose functions are to maintain civil order and to foster well-being among the citizen, as well as to develop its members to be professional police officers consistent with the policies and strategies of the Royal Thai Police to develop its personnel and organization for operational readiness at all levels from the top down to Bureau, Division and Police Station. One of the strategies is to transform into a learning organization. Learning from the working conditions can occur constantly at all time, non-stop; and such learning could lead to personal mastery keeping up with the changing environments, contributing to continued organizational development. The results could also be used as indicative approach for other interested organizations wishing to become learning organizations, making them consistently seeking new knowledge and continued development beneficial to their own organizations and overall national development.

The Crime Suppression Division could utilize the results of this study in laying out its operational strategies for each annual budget consistently.

## 6. Acknowledgement

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## **DEVELOPMENT OF THAI-MYANMAR-INDIA TRADING NETWORK MODEL UNDER BIMSTEC**

by

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## Abstract

Attitude and levels of relationship among nations under BIMSTEC in Particularly Thailand-Myanmar-India Trading have not been related to the purpose of the agreement which effected the trade volume of the three countries. This participatory action research-PAR utilized the principle of cultural-based practices-CBP for the relationship development Process by the application of relationship and communication development theories. The process divided into three activities including attitude development workshop, business matching and trade exhibition. The study found that participants from Thailand-Myanmar and India trading had been greatly satisfied with three activities and would like the project to be continued annually. The model of attitude and relationship development among traders and involved persons in three countries “TMINTM” should be further application with other BIMSTEC member. Such as Thailand-Nepal-Bhutan and Thailand-Sri Lanka-Bangladesh respectively.

**Keywords:** Development Thai-Myanmar-India Trading, Trading network Model, Bay of Multi-Sectoral Technical and Economic Cooperation.

## 1. Introduction

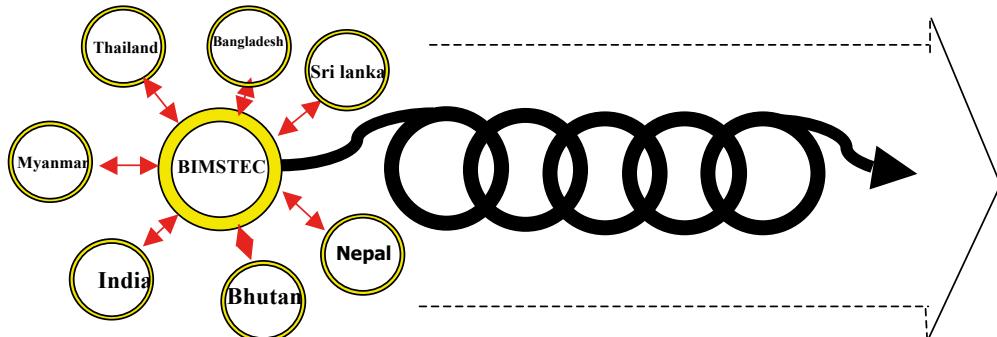
The research project on the Development of Thai-Myanmar-Indian Network Model Under BIMSTEC (Bay of Bengal Initiative for Multi-Sectoral Technical and Economic Cooperation: BIMSTEC) based on culture has arrived at its significance due to the low ratio of trade value among Thailand, Myanmar and India despite chances to be extended. Geographically, Thailand and Myanmar share the border area of over 2,400 kilometers (Economic Relation and Cooperation Promotion Division, 2004) which should create a manifold trade value between Thai-Myanmar. This along with the issues of forming a joint economic group in the region should be considered since Thailand, Myanmar and India are members of BIMSTEC (Europe, Middle East, Asia and African February, 2006)) with seven country members, namely India, Thailand, Myanmar, Bangladesh, Sri Lanka, Nepal and Bhutan. Unfortunately, at this stage, the value of trade expansion between Thailand-BIMSTEC does not have much value yet, in particular, the trade value of Thailand-India, the largest market in BIMSTEC with a population of 1,130 million and being the second largest market in the world next to China whose population is 1,325 million (International Trade Negotiation Department, August, 2009). The reason might be mainly because of some attitude and relationships among traders and the concerned parties, both government and non-

government, towards people in Myanmar reputed from some historical perspective as invaders and enemies of Thai people in the ancient times. Even nowadays, there is still the existing insult of the people as being inferior in terms of standard of living and daily conduct. Moreover, Thai people remain being negative or non-constructive in attitude toward the people of India as can be seen in an old saying, "When encountering a snake and an Indian man, one should hit the Indian first." (Royal Institute Thai Dictionary, 1999) Such attitudes have affected the trade value of Thai-Myanmar and other BIMSTEC countries causing it to fail to expand along with some activities and opportunities as well as the environmental contexts. Therefore, it became a significant concept for the development of the Thai-Myanmar-India Traders Network under BIMSTEC by arranging for traders and those involved in the three countries to meet and talk to establish some positive feelings, understanding and trust while participating in some activities related to their similar way of life and culture as means of promoting the market in BIMSTEC member countries and for it to also be expanded to the markets of other countries as well.

According to the importance of concept for the development of the Thai-Myanmar-India Traders Network under BIMSTEC above, this paper aims to explore the trade situation of Thai-Myanmar and Thai-India under BIMSTEC, to study the factors and readiness and potential of traders of Thai, Myanmar, and India on a traders network development of the Thai-Myanmar-India under BIMSTEC. In addition, this study also examine to develop Thai-Myanmar-India Traders Network under BIMSTEC. It was anticipated that the findings of this study will eventually lead to the sustainable accomplishment of the model for a traders network development of the Thai-Myanmar-India under BIMSTEC.

**Figure 1** The cycle of BIMSTEC trading network Trade of Thailand as BIMMSTEC.

Year	2007	2008	2009	2010	2011	2012
Value (Million Baht)	307,809	388,994	356,554	413,774	498,803	532,453
Share (%)	3.03	3.29	3.14	3.46	3.64	3.57
Growth rate (%)	9.65	26.37	-8.34	16.05	20.55	6.75



Thailand-Myanmar (Value: Million Baht)	113,074	156,285	148,628	155,623	192,391	211,344
Growth rate (%)	(-3.81)	38.22	(-4.90)	4.71	23.62	9.85
Share (%)	1.11	1.32	1.52	1.30	1.41	1.42

Thailand-India	163,699	197,457	169,313	211,319	248,472	275,337
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(Value: Million Baht)						
Growth rate (%)	25.22	20.64	(-14.25)	24.81	17.58	10.81
Share (%)	1.61	1.67	1.73	1.77	1.81	1.85

Source: Department of Foreign Trade Minister of commerce

## 2. Research Methodology

### 2.1 The Sample

This study on the Development of Thai-Myanmar-Indian Network Model Under BIMSTEC was done by Participatory Action Research (PAR) and the relationship and communication development building theories with the strategy to get the entrepreneurs of the three countries involved through voluntary and willingness activities. The field work in Thailand was conducted along the Thai-Myanmar border in the West of the country as well as the areas in the Central and Southern regions totaling 26 provinces. The field work in Myanmar was conducted along the Tanaosi and the Andaman Sea as well as Yangon Chiang Mai Province and Chennai in India. The cooperation in developing the strategy and traders network development was based on the culture, and 30 samples of each nation total 90 samples from Thai-Myanmar-India which comprised 4 characters as follows:

2.1.1 Wholesalers, Small and Medium Enterprises (SMEs), Border Traders and Cross Border Traders from Thai-Myanmar-India.

2.1.2 Thai government representatives, namely those from Ranong Province, The Office of Trade Policy and Strategy, Ministry of Commerce, Office of Joint Trade Investment, Department of Foreign Trade, Office of International Promotion at Yangon, Myanmar, Office of International Trade Promotion, Chennai, India, Office of International Trade Promotion, Ministry of Commerce and other relevant trade representatives of Thailand in the respective areas such as the Office of Commercial Affairs of 15 provinces, Provincial Business Development of 5 provinces, Internal Trade Office of 5 provinces, Customs Posts in Ranong, Chiang Mai and Chiang Rai as well as the Thai-Myanmar Border Coordination Agency, Area 6, Ranong Province. and The government representative officers from Myanmar-India.

2.1.3 Representatives of the private sector of Thailand, such as the Thaiperson of the Chamber of Commerce in 20 provinces, the Southern Rubber Industrial Cooperatives, Ltd., in Surat Thani Province, local newsmen of Chiang Mai Province, the Economy Quadrangle Committee, the Chamber of Commerce in 10 provinces in the North, Chiang Rai Province, the Industrial Council in 5 provinces, the Committee on Economic Cooperation with Neighboring Countries, the Thailand Chamber of Commerce, Mae Hong Son, Community Enterprise for Coconut Juice Production of Ban Saeng Arun of Phachuap Khirikhan, the Economic Promotion and ASEAN-China Trade Cooperation Association in Prachin Buri.

2.1.4 The private sector representatives of Myanmar and India comprised The Union of Myanmar Federation of Chambers of Commerce & Industry (UMFCCI) in Yangon, Meyik and Dawai, Trade Association of the Northwestern Region of India (Mr.Bijoy Phangcho, Chairperson), the Chennai Trade Association of India, Vice-Chancellor of M.G.R. Medical University, the State of Tamilnadu, India.

### 2.2 Research Procedure

This research divided the strategies into three groups and each step of the strategies involved evaluation of the potential and readiness of the Thai-Myanmar-India Traders Network under BIMSTEC as follows:

Strategy 1: Organize a seminar cum workshop under the cultural atmosphere of the three countries, Thailand-Myanmar-India to build trust and pride in one another for a strong relationship. Issues to be discussed in the seminar were dealing with problems and solutions in trade management from the past to the present and the future direction.

Strategy 2: Arrange for a trade dialogue and conference among trade partners and the interested groups of commodities in a friendly cultural atmosphere of the three countries involved as a continuity from strategy one above.

Strategy 3: Provide space for product exhibition and sales of as grand a scale as that of a trade fair to give a chance for traders to introduce and exchange products where the general public in the areas could come and participate.

After the body of knowledge for the traders network based on the three strategies above had been established, it could be tested theoretically and the data were analyzed, conclusions were drawn and comparison of some events were to adjust the model while further investigation was done by in-depth interview of some experts to ensure perfection and correctness matching with the data and facts as much as possible.

In each of the three strategies, there was an evaluation of the potential and readiness of the entrepreneurs to be members of the Thai-Myanmar-India Traders Network under BIMSTEC as well. Furthermore, there was an evaluation of all relevant parties regarding satisfaction with various activities based on the strategies by means of quantitative and qualitative research procedures for data collection using questionnaires and interview forms in four areas of the field of work as follows:

1) The Republic of the Union of Myanmar The 90 sample Thai-Myanmar-India comprising those in the business talk or negotiation among Thai-Myanmar-India in the seminar cum workshop and trade exhibition in Yangon referred to as “Road Show and Business Matching” between 29 March - 2 April 2011.

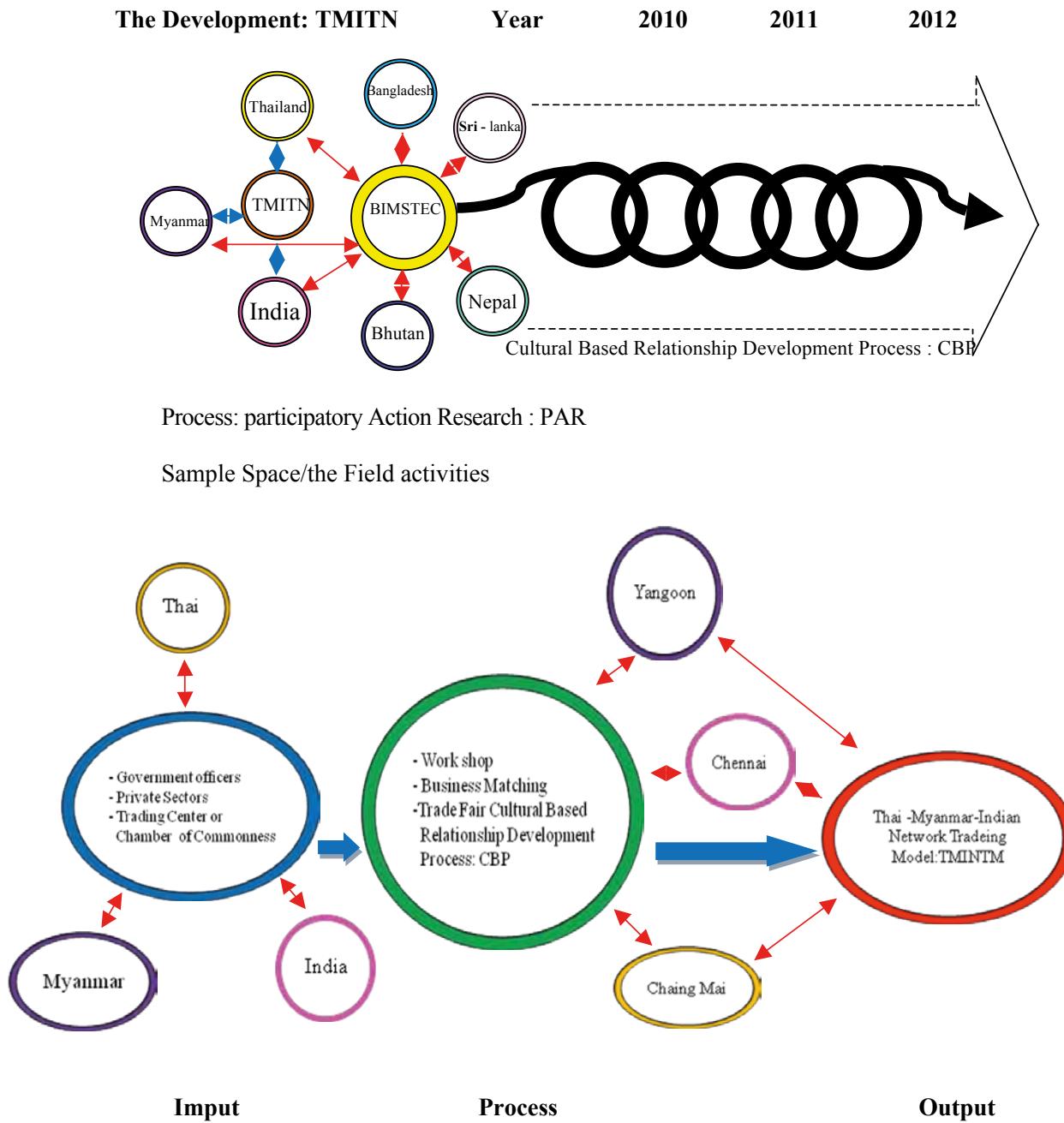
2) India has been a large market that is fast growing in terms of economy. Its Northeastern region borders with China, Bhutan, Bangladesh and Myanmar while India cooperates in the ASEAN-India Free Trade Area as well as that of Thai- Myanmar -India. The 90 samples involved in the trade negotiation strategy among the Thai-Indian traders and exhibition strategy participated in the Thailand Fair in Chennai, India and the “Thailand Exhibition 2012” between 18-22 August 2011 organized by the Department of International Trade Promotion, Ministry of Commerce. They also attended the seminar cum workshop according to strategy on as well.

3) Chiang Mai Province is the economic center in the upper north of Thailand which partly borders on the Republic of the Union of Myanmar around Shan State The sample group in this province was 90 samples from Thai-Myanmar-India who participated in all three strategic activities such as the “Thai-Asian-India Trade Fair 2011” between 7-12 December 2011.

## 2.3 Research Tools and Data Collection

Data from questionnaires and interviews in all areas was analyzed to define the pattern for developing the Thai-Myanmar-Indian Traders Network under BIMSTEC as agreed upon among the sample who participated in all three types of activities.

**Figure 2** The Development of Thailand - Myanmar - Indian trading network Model Under BIMMSTEC during 2010-2012.



### 3. Data Analysis

The sample of the Thai-Myanmar-Indian entrepreneurs and the relevant parties were satisfied with the activities.

3.1 The results of the seminar cum workshop in Chiang Mai, Thailand had an average level of Satisfaction of 4.15 (SD=0.61 which was a high level), while the one in Myanmar had an average of Satisfaction 4.17 (SD=0.66 also a high level), the one in India was at the average 4.19 (SD=0.62 a high level as well).

3.2 The exhibition and trade fair in Chiang Mai, Thailand had an averaged a level of satisfaction of 4.09 (SD=0.59), In Myanmar average level of Satisfaction of 4.07 (SD=0.64) while the one in India averaged 4.13 (SD=0.62) The all field were at a high level.

### 3.3 Business/Trade Negotiations.

- In Chiang Mai, for Thai entrepreneurs the level of satisfaction was also high 4.09 (SD = 0.59) for their Myanmar counterparts, it averaged 4.07 (SD = 0.64) and for their India counterpart, it averaged 4.13 (SD = 0.62).

- In the Republic of the Union of Myanmar, the Thai entrepreneurs showed an average level of satisfaction of very high, 3.91 (SD = 0.73) while level of satisfaction of the Myanmar entrepreneurs averaged 3.93 (SD = 0.68) and The Indian entrepreneurs showed an average level of satisfaction of every high, 3.91 (SD = 0.67).

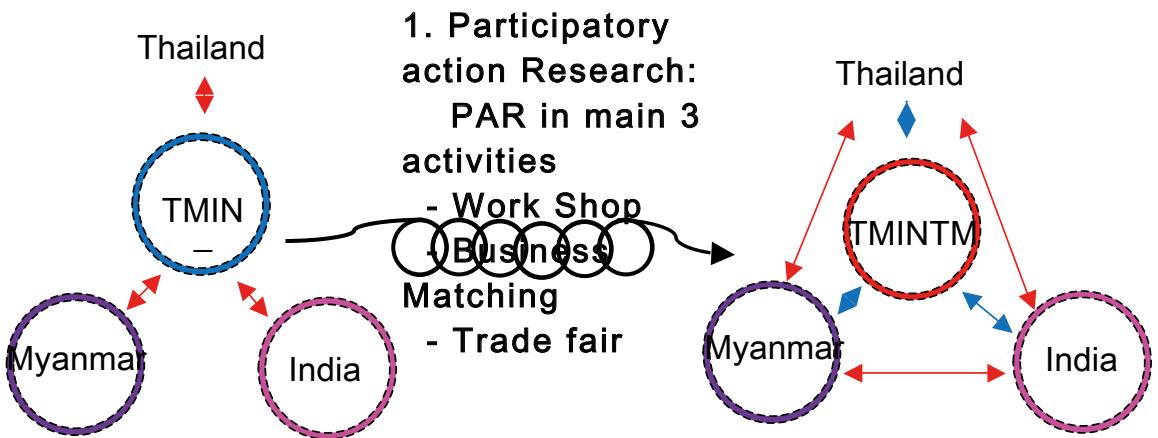
- In India, the average of satisfaction for Thai entrepreneurs was 4.05 (SD = 0.65) for Myanmar, entrepreneurs was 4.06 (SD= 0.66) and the level of satisfaction of the entrepreneurs of India was 4.06 (SD = 0.64).

- In Chiang Mai, the Thai entrepreneurs had an average level of satisfaction of 4.17 (SD=0.59) which was high. The entrepreneurs of Myanmar had a average level of satisfaction of 4.16 (SD = 0.63) And the Indian entrepreneurs' level of satisfaction was 4.20 (SD = 0.61). They were all at a high level.

## 4. Outcomes

The outcomes of the regional market development project under BIMSTEC was the TMITN model for the development of the Thai-Myanmar-India Traders Network under the economic cooperation of BIMSTEC, which placed the emphasis on the Participatory Process of all partners involved in a voluntary and Synergistic Manner at all stages of the strategies: seminars and workshops, business negotiation and large trade exhibitions and trade fairs based on cultural similarity for a better attitude and network among the traders of the three countries as shown on the chart.

**Figure 3** Cultural Based Relationship Development Process: CBP “TMINTM”



	Input	Process	Output
TMINT Systemic Approach Time	Relationship under BIMSTEC Trading cycle: Thailand, Myanmar and India 2010	Relationship under BIMSTEC based on cultural based Practices Model: CBP 2011	(Thailand-Myanmar-India Trading Network Model) 2012

## 5. Conclusions

As a government official in the Ministry of Commerce, being the Director of the Office of Commercial Affairs of the Province responsible for the import duty in the marketing and sales promotion for the benefit of traders at the provincial level, the researcher would like to express his appreciation to the Planning and Strategy Office of the Ministry of Commerce for granting the budget to support the activities to mobilize the economy in the Southern border areas to be ready and to adjust themselves for the coming Asean Economic Community (AEC) in 2015, and for the security and sustainability in developing the country's internal trade through the strategy of developing the Thai-Myanmar-Indian Traders Network under BIMSTEC.

5.1 The Thai government sector will indeed play a great role as a Thai Traders Network in supporting traders at all levels of the provinces and the country as a whole. It has been discovered that at present the TMINTM development of the Thai-Myanmar-India Traders Network under BIMSTEC will be a significant mechanism in mobilizing the development of traders in the region related to BIMSTEC.

5.2 The Private Sector of Thailand, the Republic of the Union of Myanmar and India will play an important role in the process of each of the strategies at all stages in a voluntary participatory manner in pushing for the development of the network of traders of the three countries willingly and equally, which will result in a Commitment to each other as intended according to the strategies, which means that the traders will jointly conduct trade activities and set up core strategies to continually work together.

5.3 Assessment of the strategic activities.

5.3.1 Seminars and attitude development workshops Business Matching and trade Fairs in all areas under the cultural atmosphere of the three countries were rated at a high satisfactory level by the sample group in all areas.

5.3.2 Business negotiations or trade dialogue among Thai-Myanmar-India traders (in Yangon) was participated in by 68 Thai traders 63 Myanmar traders and 50 India Traders with as many as 33 pairs of business partners (or 58.92 percent) being matched.

5.3.3 Business negotiations or trade dialogue between Thai- Myanmar-Indian traders in Chennai, India was participated in by 12 Thai 15 Myanmar and 19 Indian traders with 8 pairs of business partners (or 14.29 percent) being matched.

5.3.4 Business negotiations between Thai-Myanmar-Indian traders in Chiang Mai was attended by 40 Thais traders, 20 Myanmar traders and 25 Indian traders with 15 pairs of business partners (or 26.79 percent) being matched.

5.3.5 The sample group who attended the Thai-Myanmar-Indian Traders negotiation accomplished the goal with as many as 56 pairs of business partners out of 127 pairs (or 44.09 percent) being matched. Moreover, the report on the estimated income from the sale of goods in 2010 (October 2010 - September 2011) was 342.93 million Baht and in 2011 (October 2011 - September 2012), the average income from the activities was 439.57 million Baht, a 94.64 million Baht or (28.18 percent) increase. The products consisted of rubber products, timber logs, shoes, women's accessories and ornaments, dry ground fish, consumer goods, fresh seafood, processed food, construction materials, fruits, herbal cosmetics, cashew nuts, sangyot rice, ready-to-wear clothes, jewelry, precious gemstones, pearls, sandstone ornaments, spa-health-beauty products, mineral water and related products, coconut oil products, cold extracted coconut oil, souvenirs (bracelets and beads), dry or preserved fruit and aloe vera juice, etc.

#### 5.4 Product display/exhibition and trade fair

5.4.1 As for the Road show and Business Matching in Yangon between 29 March - 2 April 2011, there 150 booths and approximately 20,000 Myanmar visitors came each day and expected circulation of net less than 32 Million baht.

5.4.2 As for the Thailand Exhibition in Chennai, India, there 250 booths and approximately 50,000 Indian visitors came each day between August 18-22, 2011 with a total sales value of approximately 35 million Baht and expected circulation of not less than 85 million Baht.

5.4.3 The "Thai ASEAN Trade Fair 2011" at Big C shopping mall in Chiang Mai between September 7-12, 2011 more than 400 booths of Thai and Myanmar traders were open with an estimate of approximately 65 million Baht and a total sales value of 30 million Baht.

#### 5.5 Problems in the study of the development model of the traders network.

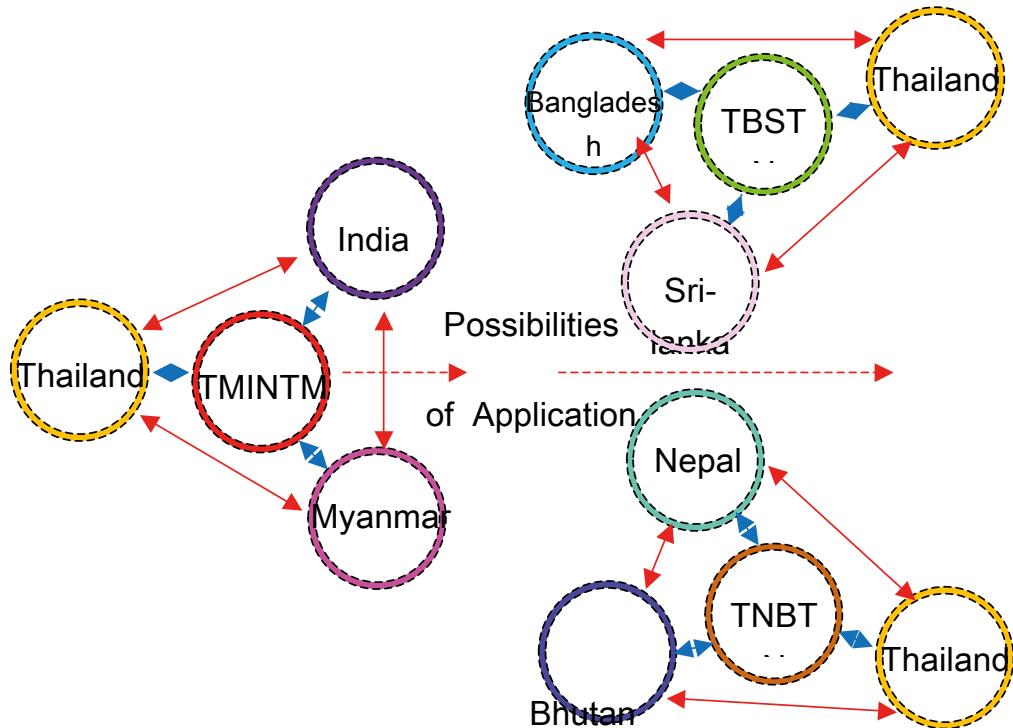
This study on the Development of Thai-Myanmar-Indian Network Model was the first of its kind so the policy-related problems encountered were those related to the sample group's inability to realize the potential of the area in the Republic of the Union of Myanmar

in the beginning, but after participating in the activities they became very interested. Other problems involved language and communication in each of the areas. Limitation in communicating with the sample group made one place and emphasis on establishing understanding among the participants by organizing seminars and workshops on the culture and customs of the sample group of the three countries whose data could be used to carry out the three strategies in the areas. This researcher was assisted by data supplied from the Ph. D. Program in Mekhong and Salween River Basin Studies, Chiang Mai Rajabhat University, so I would like to thank them and acknowledge their invaluable assistance on this occasion.

## 6. Recommendations for Further Study

This research studies the development model for Thai-Myanmar-Indian Traders Network under BIMSTEC, however it could be used for market and trader development in the seven BIMSTEC countries, in particular, Bangladesh Sri-Lanka Nepal and Bhutan as well as the market under Asean Economic Community: AEC in 2015. The diagram of the application of TMITN Model (TMITNM) is shown below.

**Figure 4** Possibilities of Application of TMITN Model (TMITNM)



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