INFLUENCING FACTORS TO DECISION OF TOURIST IN CHOOSING SERVICES TOURIST ATTRACTION

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ABSTRACT

This research investigation, the researcher inquires into the effects of decision of tourist on choosing services of tourist attraction. In carrying out this investigation, the researcher applies a conceptual framework derived from various theories of competition. The methodological approach adopted by the researcher blends quantitative and qualitative research methods. As such, the research instruments utilized by the researcher to collect apposite data were twofold, viz., an focus group interview form and a questionnaire. The data were obtained from 400 persons of tourist from tourist attraction for Quantitative and the data from 30 persons for focus group interview.

The data collected were subsequently analyzed using the structural equation modeling (SEM) technique. Using confirmatory factor analysis (CFA), the researcher validated the items in the questionnaire in terms of accuracy and reliability. In determining the weight of factors derived from testing the construct validity of the factors, the researcher found the following: chi-square (X2)=89.99; degrees of freedom (df)= 88; probability-(p-)value=.08; $\chi^2/df=1.19$; root mean square error of approximation (RMSEA)=.01; goodness of fit index (GFI)=0.99; adjusted goodness of fit index (AGFI)=0.99; normed fit index (NFI)=0.96; non-normed fit index (NNFI)= 0.97; incremental fit index (IFI)=0.98; relative fit index (RFI)=0.99; comparative fit index (CFI)=0.98; and Hoelter's critical "N" (CN)=319.46 (n=400).

In addition, analysis revealed that safety quality, tourism quality, and services quality were explanatory of variances in decision of tourist at 64.5 percent (R2 = 0.645). Furthermore, services quality and safety quality were explanatory of variances in tourism quality at 37.5 percent (R2 = 0.375). When an organization encounters problems, it can adopt the aforementioned three strategies in solving problems. Also, it can bring to bear thirty major factors in solving organizational problems.

INTRODUCTION

Nowadays the business competition becomes much more aggressive while the business itself is changing rapidly. Many businesses need to adjust themselves and apply different strategies in response to the fluctuating environment for their survival. The tourism industry is one of the fast-growing industries, and this industry is highly affected by the competition. However, it is the industry that gets support from the governments of almost all countries, as it is the industry that brings a lot of income in many countries. The income comes from several forms including the employment in the tourism. The tourism industry is thus playing a significant role for economic development and leads to the development in several parts of the country, including the improvement and development of the tourist attractions, the construction of the infrastructure and facilities, such as restroom, tap water and electricity system, for the convenience of both domestic and international visitors. A wide range of development helps improve satisfaction among tourists. Also, it attracts tourists to the tourist attractions.

The tourism industry is categorized as part of the service industry, which is growing and playing a vital role for the economy of the country. It is the business that provides conveniences for both Thai and foreign tourists, who wish to travel to in the country and abroad. However, the development is still needed to set up a guideline for service quality management in response to the tourists' needs to improve their satisfaction and impression and to attract repeat customers.

THEORIES AND RELEVANT LITERATURE

Value theory [10]. The principles of the value theory utilized by the researchers specify the requirement that service users perceive benefits they receive from services to be of greater value than the costs incurred. If so, they will consider the services provided to be worthy in the sense of judging them to be of higher value in comparison to other provisions of service. If they are satisfied with the services, they tend to become repeat users of said services, regardless of whether they are tourists, consumers of products, or users of services. If the service users are dissatisfied with the services provided, they will have a tendency to use the services provided elsewhere [10]. In addition, it was found that levels of satisfaction tend to affect loyalty to products and services [8, 9].

Tourism Quality (TOU) according to the study in many countries, the factors that allows the business to become successful consisting of three factors: 1) Access to Customers: The study about the tourist, who are tourists, what are their qualifications, what are their behaviors, and what do they want. The service can be provided in response to the customer's needs. 2) Communication: The accuracy of the information, rapidity and technology are needed. 3) Business: Tourists travel for business and after the business, the time left will be spent for traveling. This type of travel focuses on rapidity, comfort, convenience and punctuality. Tourists are willing to pay for the trip. Businessmen sometimes need to entertain their customers. [5,7,8,10]

H1 : Tourism Quality has a positive effect on Decision

Services Quality (SER) tourist services provider : regarding providing successful service to tourists and influence of providing service to tourist at tourist attraction, providing service is the main factor of tourism industry. It means selling thing that can respond to customers' needs and make them satisfy. There are three main factors comprising satisfaction, readiness, value, care, friendliness, and effectiveness. 1) Services readiness : Service must be ready at all time and in all situations including personnel, place and materials. Moreover, the service provider must be prompt to add more details to the work. 2) Services value: The value of service comes from quality service. The customers will be impressed with the service and come back again. The customers' needs. The service provider must be sincere. The customers must receive the same standard of service. The service provider must be friendly, polite, warm and service-minded. [4,5,7,8,10]

- H3 : Services Quality has a positive effect on Decision
- H5 : Services Quality has a positive effect on Tourism Quality

Safety Quality (SAF) The security afforded travelers by service providers is a factor in service provider competition that must be taken into account. Security considerations involve political problems, crime, safe traveling conditions, protection from police officers, prevention of the spread of diseases, and capability in service management [4,5]. 8) Safety: The service provider must care for customers' life and property. Tourists have different purposes for traveling. Tourists can be classified into two main groups: 1) Pleasure 2) Business [4,5,9]

- H2 : Safety Quality has a positive effect on Decision
- H4 : Safety Quality has a positive effect on Tourism Quality

Decision of Tourism (DIS) Organization Performance There are four aspects measuring decision of tourism: efficiency and effectiveness. Efficiency focuses on the use of resources or input to the end of the maximization of benefits. Mostly, it involves the measuring and controlling of costs. Effectiveness focuses on achievement as set by performance output. Mostly, it involves measuring matters related to customer service in the aspects of time, quality, and responsiveness as indicated by levels of customer satisfaction. Accordingly, measuring performance engages four important indicators as follows: (1) economics costs; (2) Reliability; (3) pleasure; (4) timely. [6,7,8,9]

Figure 1





RESEARCH METHODOLOGY

The researcher used both qualitative and quantitative methods in carrying out this research investigation. Therefore, the research instruments were twofold. The qualitative research instrument involved conducting focus group interviews in order to obtain relevant facts and elicit information showing what were the precise relationships among variables. Upon collecting this information, the researcher was thereupon able to construct a questionnaire to be used in the quantitative research phase of the investigation.

The quantitative research investigation required using a questionnaire constructed on the basis of a review of relevant literature and conducting focus group interviews. As such, the research instruments were used to investigate (1) tourism quality; (2) safety quality; (3) services quality; and (4) decision of trouist. The data were obtained from 400 tourist from different attraction. The data collected were subsequently analyzed using the structural equation modeling (SEM) technique. Using confirmatory factor analysis (CFA), the researcher validated the items in the questionnaire in terms of accuracy and reliability. In determining the weight of factors derived from testing the construct validity of the factors.[1,2,3]

FINDINGS

Analyzing causal relationships involving decision of tourist. In analyzing the relationships between apposite variables to determine whether the empirical data were congruent with the theory and in accordance with research hypotheses, the researcher found the following:

Using the structural equation modeling (SEM) technique by reference to the conceptual framework adopted by the researcher, it was found that the results were congruent with the empirical data.

In hypothesis testing, the researcher found that the factors of tourist quality, safety quality and services quality, and decision of tourist and were explanatory of variances in marketing competency at 64.5 percent (R^2 =0.645) at the statistically significant level of 0.000. The factors of services quality and safety quality and influenced tourism quality and were determined to be explanatory of tourism quality at 37.5 percent (R^2 =0.375) at the statistically significant level of 0.000.



Figure 2 The results of data analysis conducted using the structural equation modeling technique



Chi-Square = 89.99, df = 88, p-value = 0.08, $\chi^2 / df = 1.19$, RMSEA = 0.01, GFI = 0.99, AGFI = 0.99, NFI = 0.96, NNFI = 0.97, IFI = 0.98, RFI = 0.99, CFI = 0.98, CN = 319.46)n = 120)

*means the statistically significant level of .05 ($1.960 \le t$ -value <2.576) **means the statistically significant level of .01 (t-value ≥ 2.576

Hypotheses testing

DIS =
$$\beta_0 + \beta_1 \operatorname{SER} + \beta_2 \operatorname{SAF} + \beta_3 \operatorname{TOU} \zeta_1$$
(1)
TOU = $\beta_4 + \beta_5 \operatorname{SER} + \beta_6 \operatorname{SAF} \zeta_2$ (2)

Table	2
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Results of hypotheses testing

Path	Path coefficients	t-stat	p-value	result
H1 : Tourism Quality has a positive effect on Decision	0.355	6.297**	0.00	support
H2 :Safety Quality has a positive effect on Decision	0.493	6.532**	0.00	support
H3 : Services Quality has a positive effect on Decision	0.549	5.892**	0.00	support
H4 : Safety Quality has a positive effect on Tourism Quality	0.599	7.785**	0.00	support
H5 : Services Quality has a positive effect on Tourism Quality	0.433	6.715**	0.00	support

Variable Result	Decision DIS)			Tou	rism Quality)	TOU)
Variable Caused	DE	IE	TE	DE	IE	TE
Tourism Quality : TOU	0.355**	-	0.355	-	-	-
Services Quality : SER	0.549**	0.268**	0.817	0.433**	-	0.433
Safety Quality : SAF	0.493**	0.238**	0.731	0.599**	-	0.599
R ²		0.645			0.375	

 Table 3

 Result of testing for path influences

The results of hypotheses testing

On the basis of inspecting the table, it can be inferred that there is an overall influence on organization performance. As can be shown, depicting the mutual influence between causal variables in each path will provide the means whereby the testing of hypotheses will allow the answering of research questions.

Using analysis involving construct validity, the researcher found the following: The test validating the measurements used in this inquiry suggested that the indicators utilized measured the same construct. The criteria for evaluation used in this connection were that the indicators must have a loading value higher than 0.707 concomitant with a Cronbach's alpha (α) greater than 0.700 [1,3], and an average variance extracted (AVE) greater than 0.50 concomitant with a statistically significant level result found upon testing convergent validity. Findings are as follows:

indecator	loading	t-stat	CR	AVE
Tourism Quality: TOU				
TOUC : Communications	0.756	15.083	0.982	0.689
TOUP : Promotion	0.888	7.957		
TOUA : Access	0.798	11.284		
Services Quality : SER				
SERS : Services Ability	0.849	10.934	0.839	0.752
SERG : Generosity	0.993	13.332		
Safety Quality : SAF				
SAFS : System Security	0.779	11.917	0.785	0.732
SAFG : Security Guard	0.918	9.975		
Decision of Tourist : DIS				
DISR : Reliability.	0.865	10.336	0.796	0.739
DISP : Pleasure.	0.727	12.511		
DISE : Economy.	0.933	12.927		
DIST : Timely.	0.812	10.863		

 Table 4

 The results of an analysis of factorial construct validity



The results from conducting an overall analysis of the measurement model showed construct validity for hidden variables, services quality, tourism quality, safety quality, and decision of tourist. This was equivalent to the relationship path between observed exogenous variables and hidden exogenous variables (λ -X [LAMDA-X]) and the relationship path between observed endogenous variables and hidden endogenous variables (λ -Y [LAMDA-Y]), while taking into account t-values governing the computation of the weight of the factors of concern. All observed variables were validated as being mutually correlated in accordance with the set hypotheses postulated for this investigation.

CONCLUSION

It can be concluded that the strategies that aviation industry administrators should pay greatest heed to are in the following descending order: tourism quality, safety quality, and services quality. The statistical values that were explanatory of decision of tourist variances were found to hold at 64.5 percent (R2=0.645). services quality and safety quality were determined to be explanatory of variances in tourism quality at 37.5 percent (R²=0.375).

In addition, it would be well if administrators considered the most appropriate management: tourism quality with the following ranked in communication: promotion; accuracy; and identical information. Next, in descending order, was the services quality with the following ranking in importance: the use of a services development and services expanding. Lastly was the safety quality with the following ranking in importance: system security and security guard expanding a new relate customer base. Finally, important factors to be used in the tourist attraction were altogether thirty nine in number.

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DISASTER AND SUSTAINABILITY : THE PRACTICE OF ICCA INRUKAI COMMUNITIES POST TYPHOON MORAKOT TAIWAN

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ABSTRACT

The 2009 Typhoon Morakot was a serious disaster for southern Taiwan. The indigenous Rukaiinhabited Wutai Township bore the brunt of the damage: of Wutai's eight villages, five were relocated from the mountains to the lowlands. For the southern Rukai this sudden and turbulent socio-cultural change is a serious matter, potentially resulting in the collapse of Rukai society. Many studies have shown that when discussing the relocation and reconstruction of communities, not only must peoples' lives and property along with national land restoration be considered; even more attention must be given to cultural heritage, the intactness of tribal institutions and societies, and the aspirations of tribespeople regarding community development. We believe that at the present stage, maintaining the relationship that the Rukai have with their land and directly involving the tribespeople in natural resource restoration and management work such as ICCA, in the process keeping in mind the expectations that all involved parties may have for the forests, is crucial in successful post-disaster reconstruction. In light of this, the Wutai Township Office recruited local Rukai tribesmen to receive mountain forest patrol training, the monitored areas including village peripheries and traditional tribal territories. Besides demarcating many traditional points of cultural relevance, identifying wild plants and animals in the area, and detecting the precise zones of collapse post-typhoon, patrol team members also played a significant role in detecting the illegal felling of five great trees and suspicious activity. Moreover, the Moulin, one of the Rukai tribe in Kaohsiung, also tried to restore their traditional ecological knowledge through the Hunting School project. This illustrates the effectiveness of the ICCA; in addition to monitoring forest resources and providing scientific information, they can also strengthen local authorities, contribute to soil conservation and disaster prevention. Implemented by the local indigenous peoples and township office, unlike past instances where the Forestry Bureau, National Park Services, or other environmental management agencies dominated, this effort not only allows ethnic characteristics to emerge, but also highlights the feasibility of putting co-management of the region into practice.

Keywords: Forest Patrol, Hunting School, ICCA, Relocation, Typhoon Morakot

INTRODUCTION

1.1 Modern trends in natural resource management

Traditional management of natural resources and protected areas has been approached from the viewpoint of scientific management, with national government at the helm, emphasizing scientific knowledge and technology and professional technocrats at the core. Because this model neglects other stakeholders and often ignores the rights and benefits of the local population, at times even relocating them, it has been termed the exclusive approach. Discussions on exclusive and inclusive approaches began as early as the 1960s and 1970s (Brandon & Wells, 1992; West & Brechin, 1991). In terms of protected areas, Western Europe is representative of inclusive management as the rights and benefits of the local community are often the core of the management strategy (Borrini-Feyerabend, 1996). Although the traditional exclusive scientific management approach has historically been the mainstream standard for government management of natural resources, over the past few decades, an inclusive approach has emerged with proactive and positive contributions to the conservation of areas with more local community and activities (Borrini-Feyerabend, 1996).

Inclusive management of natural resources and protected areas has two primary aims: participation by the local population and seeking a balance between conservation of resources and development of the local and neighboring communities (Holdgate & Phillips, 1999; IUCN, 1993; Murphree, 1994; Western & Wright, 1994). There are multiple reasons for having the local population participate in management work: 1. To rebuild the relationship between people and nature. Archeological data shows that earth's modern landscape is closely related to human activity and that people play a key role in the workings and biodiversity of many ecosystems. Therefore, in order to conserve habitats and biodiversity, we must understand where mankind stands in terms of overall ecological functions and find a method for coexistence. 2. Under current administrative conditions, manpower, material, and financial support are often lacking. Management with a centralized authority is difficult to effectively implement in outlying protected areas. 3. Most important is that conservation experts no longer see local (or neighboring) communities as destructive actors, but as main stakeholders and important partners (especially small communities or indigenous peoples) with which they wish to cooperate. To prevent areas with rich natural resources (biodiversity) from becoming ecological islands, to call attention to the importance of human factors and the limitations of government power, and to create partnerships with the local population, in recent years, international conservation societies have advocated transboundary thinking, in the hopes of planning and integrating more departments and resources on an all encompassing scale (Lu, 2009).

A relationship between a local population and the natural environment forged from long-term interaction, including the use of resources, taboos, and traditions, conforms to modern ecological principles. Some anthropologists and ecologists approve and praise this relationship, which also known as ecological intelligence. Its conservation is no less effective than management approaches based on modern technology (Berkes, 1999; Ghimire & Pimbert, 1997; Gomez-Pompa & Kaus, 1992; McNeely, 1994). Therefore, how to maintain long-lasting local traditional land use (resource management) methods, or new patterns of land use founded on traditional use (resource management mechanisms), including traditional ecological intelligence, has become a hot topic in natural resource and protected area management (Hanna et al., 1996; Hellier et al., 1999; Ostrom, 1990).

1.2 Indigenous and Community Conserved Area (ICCA) theory and practice

Indigenous and Community Conserved Areas (ICCA) are habitat conservation models recently advocated by international conservation societies. In theory, this can be seen as community-based conservation (CBC) or community-based natural resource management (CBNRM). Basically, community-based conservation areas are natural and/or restored ecological systems with high biodiversity value, ecological services, and cultural value that are voluntary conserved by indigenous tribes and local communities (permanent or migrant) through customary law or other effective methods. Community-based conservation areas include ecosystems with varying amounts of human intervention, from very low to very high, and are extensions, restorations, or amendments to traditional customs or new activities, including recovery movements for new threats or opportunities facing the community. Among these areas are many that have yet to be encroached upon by humans, some that people have never used or used very little, and some that have been subject to various types of limited use, ranging from very small to very large tracts of land and bodies of water. These areas share three important characteristics:

- (1) One or many communities have a close relationship to the ecosystem and its species due to dependence, either for cultural reasons or existence and livelihood.
- (2) Communities are important participants in natural heritage management decision making and implementation, suggesting that community organizations are able to enforce control in reality and/or legally. Normally, other stakeholders cooperate, and in many cases, the land is officially held by the national government; however, in all cases, decision and management efforts from the community are vital.
- (3) Community management policies and efforts help conserve the habitat, its species, ecosystem services, and related cultural value, although conscious management goals may be different from conserving biodiversity or the ecosystem itself, for example protecting livelihood, the safety of water resources, or sites important for cultural and psychological reasons.

Community-based conservation areas cover a wide range of natural ecosystems and species of wildlife, farmland, and grazing land. These are all managed by the regulations of diverse organizations and mechanisms, and by traditional and modern communities. It is worth noting that community-based conservation areas are not necessarily the "protected areas" officially named by the national government. If the demands of government and public regulations are met and the relevant community is willing, community-based conservation areas can be protected areas. However, cooperation, agreement, and acknowledgment from many parties are required for community-based conservation areas to exist and play their role.

Therefore, the key concerns of ICCAs include environmental resources, the economy, social humanism, system design, and plan implementation, especially as those concerns relate to the continuation of tribes, local communities, and ethnic cultures, connections between traditional social organizations and modern institutions, and coopetition between tribal customary laws and modern national laws. These issue involve not only negotiation and coordination on the definition of development within the community, but also models and strategies of mainstream society which ensure public safety, protect the environment, and adapt to climate change. They above all require collaboration between various mechanisms and cannot ignore the cooperation and involvement of ecological resources, political systems, social culture, industries, and the economy.

Regions and lands occupied and used by indigenous tribes and other local populations have abundant biodiversity and wildlife resources. These indigenous tribes and community-based conservation areas hold a vast amount of conservation knowledge, techniques, and practices, which are closely related to local livelihoods, the mentality and values of the local culture, and customary laws on land resource management. Although community-based conservation areas have significant conservation effects, for the past two centuries, they have not been noticed by the important mechanisms and policies that dominate global conservation; therefore, they have largely been overlooked. In the twenty-first century, however, some important international conservation organizations and agreements have finally started to focus on the long-term contributions of community-based conservation areas. Especially worth mentioning is that each country has acknowledged the function of community-based conservation areas in the Programme of Work on Protected Areas of the Convention on Biological Diversity (CBD). The Millennium Development Goals also emphasize environmental sustainability and the reduction of poverty. The UN Declaration on the Rights of Indigenous Peoples (UNDRIP) asserts the inalienable rights of indigenouss in regards to land and natural resources.

Despite the role of community-based conservation areas and the appropriate support given to them, they have already become important issues when facing global climate change and emerging adaptation and mitigation strategies. However, community-based conservation areas and all other areas rich in biodiversity undoubtedly face serious threats from both external and internal pressures. External pressures come from domestic or international sources, for example, the processes of development and commercialization, including mining and extracting fossil fuels, deforestation and reforestation, the fishing industry and marine dredging, large scale grazing and farming (including agrofuel and crops), rerouting waterways and drainage engineering, urbanization and large infrastructure projects, tourism infrastructure projects, wars, violent conflicts, the relocation of refugees, land expropriation (through nationalization, privatization, or conservation plans, especially for the establishment of nationally governed protected areas), the assimilation of social groups in community-based conservation areas (for example through official education systems which have yet to incorporate local cultures, livelihoods, or values, or which plan to propagate different beliefs), exploitation, inappropriate taxation, and other financial burdens, sudden influx, strengthening, or creation of local injustices due to political parties or funds which create segregation and conflicts, unauthorized extraction of wood and other vegetation, air and water pollution, diffusion of invasive/non-indigenous species, climate change, etc. Internal pressures come from changes within indigenous tribes and local societies which create threats; these threats include changes in values and cultural efforts to adapt to mainstream society (this affects younger generations and separates them from their traditions), pressures on resource use, especially the replacement of local subsistence economies by market economies, intrinsic or new inequalities between economies, social classes, and genders in the community, etc.

The aforementioned internal and external threats and pressures have made it more difficult for ICCAs to become conservation and management models acceptable to conservation groups and national governments. Pathak et al. (2005) proposed that if ICCAs wish to successfully operate, they must ensure the rights to land and resources, have fair and transparent decision mechanisms, solid and forceful local leaders, and partnerships with outside parties.

Currently many countries and regions around the world are already developing ICCAs, with results helping conservation efforts, the development of indigenous peoples and local communities, and the preservation of traditional cultures. However, there are only a few countries that have included ICCAs into national systems for protected areas; many still base them on their current environmental and natural resource management regulations and cooperate with indigenous peoples or local development projects to develop an ICCA model for regional environmental resource control. Internationally, Sabah is a global ICCA example outside of the protected area system. In recent years Sabah has aimed to integrate ICCAs and the present protected areas to construct an ecological corridor and network (Cooke and Vaz, 2011). In 2008, the International Union for Conservation of Nature's (IUCN) Fourth World Conservation Congress held an ICCA workshop which shared examples from India, Mexico, the Philippines, Madagascar, the Melanesian and Polynesian islands, Ecuador, Columbia, Iran, China, Italy, Australia, Vietnam, Bolivia, and the Himalayan mountains.¹, IUCN's Theme on Indigenous Peoples, Local Communities, Equity and Protected Areas (TILCEPA)² and Theme on Governance, Equity and Rights (TGER)³ have strived to provide relevant inspections of each region and have already completed reviews for India, Australia, South Africa, Central and South America, Pacific islands, Central Africa, Kenya, Southeast Asia, South Asia, French Africa, Brazil, South America, West Asia, Southern Mexico, Canada, Russia, Southwestern China, and the Andes. In view of the external and internal threats and pressures facing ICCAs, the issues discussed in the conference mainly revolved around strengthening and revising international ties and domestic laws. Internationally, it was suggested that the people in community-based conservation areas be allowed to participate in international forums, not just environmental conventions, including economic and governmental conventions and organizations, in order to establish a better connection between the rights of indigenous peoples and environmental conservation. It was also suggested that relevant places be listed in appropriate global databases (with the permission of the relevant communities), for example, the United Nations Environment Programme's World Conservation Monitoring Centre (UNEP-WCMC) World Database on Protected Areas including community-based conservation areas in special registration books. Civil society organizations can effectively increase awareness by closely monitoring the threats facing community-based conservation areas, and adopt global measures for each threat with the help of international economic and political powers. They can also lead countries willing to recognize and support community-based conservation areas via the CBD and other international forums to ensure that community action plans receive support and do not fail. In addition, exchange programs and learning networks between policy makers could support NGOs from different countries and members of local community-based conservation areas. Community-based conservation areas and their supporters can create global networks or forums to share ideas, plans, and projects. Domestically, it was suggested that the rights of indigenous tribes and local communities to lands and resources should be recognized, as well as that the community is a legal entity capable of adopting conservation and developmental action. The creation of lists of community-based conservation areas was also suggested in order to further understand their effectiveness in managing conservation and livelihoods in the context of the local history and system. Help groups in community-based conservation areas record their own traditions and current knowledge and customs, and with their permission, propagate the knowledge and customs to familiarize official conservationists with the community. It was also suggested that policies be drawn up to understand and recognize that community-based conservation areas have their own rights and that they are protected areas and a part of the country's protected area system, and to

¹. Please see http://www.iucn.org/about/union/commissions/ceesp/topics/governance/icca/events/wcc.cfm or the ICCA Consortium website.

². TILCEPA was set up by IUCN's World Commission on Protected Areas (WCPA) and Commission on Environmental, Economic and Social Policy (CEESP).

³. TGER is a theme mandated to IUCN CEESP.

provide adequate support (technologies, funding, etc.) based on their needs. Support of national and regional community-based conservation area networks or connections between community-based conservation areas and other conservation projects, including exchanges and visits, was also advocated. In terms of younger people becoming involved in local conservation work, they are encouraged to study their culture and develop a sense of identity and pride, including their relationship with the community-based conservation area, to get young people invested in community conservation work. Effective action includes joint analysis, organized research, and participatory action research into the local environment and society, creating a list of employment opportunities and analyzing biological and cultural diversity, collecting oral and written history about the community-based conservation area into the local educational system, environmental and cultural festivals and competitions, local celebrations and recognitions and declarations of the community conservation area, and exchanges, visits, and research by young people from different community-based conservation areas.

This study aims to find energy to support traditional knowledge in contemporary environmental management from two post-disaster reconstruction plans implemented in Taiwanese indigenous areas and attempts to create a path for the implementation of post-disaster reconstruction for indigenous peoples and the restoration of mountain forests.

2. Post-disaster environmental management and cultural reconstruction: A discussion of two cases

Case 1: Wutai Township mountain forest patrol

2-1. Creation of the mountain forest patrol

Wutai Township, where many of the Rukai live, was devastated by Typhoon Morakot in 2009. The Wutai, Ali, Jilu, Dawu, Jiamu, and Yila tribes are all near the northern drainage basin for the Ailiao River. Many homes, farmlands, public facilities, and ceremonial and ritual spaces were destroyed by the typhoon. The entire village of the Kochapogan tribe at the south of Ailiao River was buried in a landslide; all of their ancestral lands disappeared. After the disaster, the government moved the Kochapogan tribe from the south of Ailiao River to Majia Farm, and the Ali, Jilu, Jiamu, and Yila tribes from the north of Ailiao River were moved to Changjhih Township Tzu Chi Great Love Campus. Finding a place for post-disaster settlement and reconstruction, and the management and use of traditional lands, were especially challenging for the Rukai of Wutai Township. Based on the information above, some of the members of this project participated in the Wutai Township Mountain Forest Protection Project to help the tribe create a community participation nature conservation management model.

2-2. Implementation and results

From January 2010, this group began helping the Wutai Township Office to recruit, train, and employ eighteen Rukai members (two or three members from each of the eight tribes) to create the "Rukai Mountain Forest Patrol" in charge of patrolling the forests and collecting and organizing data on natural resources and environmental monitoring. The patrol headquarters and all information and data are located at the Wutai Township Library and Information Center. The members of the patrol team elected a chief officer and chose the overall coordination and implementation for each part of the project. Members also autonomously established a conservation treaty, made uniforms, and allocated equipment required for individual outdoor work.

This group organized basic and advanced mountain forest protection and environmental monitoring skill courses, workshops, and field training to improve the patrol team's professional skills. Course content included the relationship between the traditional area and community forestry, the rights and obligations of the mountain forest patrol team and the law enforcement agency, regulations and methods for forest patrol, GPS and tracking device application and data management, traditional borders for each tribe and patrol trails, survey methods for rare wildlife, processing and storage methods for precious and ethnobotanical plants, collection methods for tribal chiefs' and experienced hunters' knowledge, and locating and recording important natural resources and devastated areas. During courses, aside from introducing and practicing traditional GPS devices,

the group also had the patrol team carry a simple tracking device to record and store data on their movements. Each time the patrol returned to the headquarters, this data was downloaded to the computer to draw a map of their route. After multiple rounds of testing and refinement, we found that tracking devices were cheaper (traditional GPS devices cost approximately NT\$10,000-20,000, whereas tracking devices are NT\$2,000), lighter, and more convenient, could work for three or four days straight (turning the system off while camping lengthened the operation time even further), had similar accuracy compared to GPS devices, and did not require patrol members to stop while using them. Important information, such as the locations of landslides, cultural ruins, or important plants and animals, could also be retrieved from pictures taken during patrol by verifying timestamps with synchronized digital cameras.

The daily tasks of the "Rukai Mountain Forest Patrol" include: (1) reporting illegal or prohibited actions and aiding the relevant law enforcement agencies; (2) surveying, recording, collecting, and digitizing the damage caused to Wutai Township and its traditional areas (including the homes and farmlands of tribe members, important landmarks and scenic areas, bridges, etc.) by Typhoon Morakot; (3) using field surveys to demarcate and digitize the traditional lands, old tribes, water sources, and historical landmarks of the Western Rukai; (4) systematically and scientifically demarcating, recording, and digitizing medium and large mammals and their tracks and rare or endangered trees and ethnobotanical plants found during patrols. Delineating and drawing a Wutai Township Typhoon Morakot "disaster map" serves to accurately grasp the damage situation and changes to the terrain and to analyze the nature and extent of devastation in each area of Wutai, the damage done to roads and waterways, and other information vital to area safety. After completion, this with help lay out the potential disaster area and integration with local traditional ecological knowledge can help in discussing and planning future emergency shelters, evacuation routes, and preventative measures. Long-term continuation of natural resource surveys can integrate geographical information systems to analyze conditions within traditional areas and aid in analyzing regional, seasonal, and annual trends and changes in quantity. If further comparison with past data is possible, the required scientific foundation for each phase in future land restorations could also be adjusted.

The Mountain Forest Patrol organized four short normal patrol routes (Figure 1) near several tribes. They were also organized into four task groups according to the tribe that the patrol members belong to and the trails they were familiar with. These four one-day trails covered key locations and roads in and out of Wutai Township. Normal patrols help maintain internal safety; after the road conditions were devastated again during the 2010 rainy season, the shorter Shenshan and Yila routes were maintained within the patrol range. As of mid-October 2010, the "Rukai Mountain Forest Patrol" performed 187 normal short patrols, of which 182 were conducted during the day and five at night. During these daytime patrols, aside from recording the situation of normal roads, slopelands, and village housing, the patrol team encountered five accounts of suspected or serious illegal activity, of which, the illegal logging discovered April 23-24, 2010, had the largest impact and was an effective warning. There were no new incidents after that April, showing that daily patrols and the reporting of illegal activities effectively prevent unlawful behavior.

To extend the scope of the patrols, survey the situation in traditional areas, and collect information on natural resources, the mountain forest patrol also conducted four long-distance patrols (Figure 2). Long-distance patrols ranged from 40km to 100km, and the situations of the roads were completely different than those encountered on the daily patrol routes. The majority of places along these long-distance patrols did not have roads at all, and landslides were more severe than expected; at times it was impossible to find past familiar trails and waterways. The environmental situations recorded with digital cameras during the patrol are important and these were also the first time visiting remote mountain areas after the disaster. The data collected is still being processed and include location information for at least 45 landslides, 45 cultural ruins, and various rare wildlife and ethnobotanical plants. This information and the area they cover were collected through multiple patrols and have a large impact. In 2011, the "Rukai Mountain Forest Patrol" began its second year; in addition to strengthening the protection of their homelands and the collection of environmental and natural resource data, the patrol also added professional training in emergency rescue, disaster prevention, and large tree location



(Figure 3) to gradually broaden the technical skills of the patrol team and contribute more to the development of the tribes.



Figure 1. Short patrols



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Figure 2. Long patrols



Figure 3. Tree demarcation

Case 2: Maolin Township Hunting School

The advent of the term "Hunting School" marks a new direction in Taiwan's ideas of traditional conservation; the traditional ecological knowledge and practices of indigenous peoples are no longer considered "barbarian," but are now viewed as practices that can be implemented with contemporary conservation trends. The word "hunter" carried a negative connotation in early Chinese society; however, in indigenous societies, it represents a courageous spirit and a position of authority. This distinction was determined by the "civilized" and cultural imperialist Chinese according to the subjective values and social system made from their cultural background seizing. Therefore, the controversy over the image of hunters is not about the actual act of hunting, but the result of "who is interpreting" and "why they are interpreting" the term (Lin, 2005).

Following the emergence of indigenous movements in Taiwan in the 1990s, discourse on the image of hunters began to change. In 1996, the "Indigenouss are the Protectors of the Forests" symposium initiated by ecologists and indigenous activists was the first time the negative image of hunters in conservation was changed to a role of "protectors of the mountains and forests." The ecological intelligence, including the taboos, rituals, and legends, involved in hunting culture were emphasized, all of which reflect the coexistence between hunters and the natural ecosystem. Similar opinions have been raised internationally; in 1992, the United Nations held a global summit in Rio de Janeiro, Brazil in which the Rio Declaration on Environment and Development, Agenda 21, and Convention on Biological Diversity were signed in an attempt to solidify sustainable development plans into concrete programs of action, among which, greater importance was also placed on sustainable development and the traditional ecological knowledge of indigenous peoples.

In recent years, "Hunting Schools," which offer hunter ecological intelligence and indigenous culture activities, have become a slogan and selling point for tribal ecotourism. Some examples include one of the National Youth Commission's events in the Youth Travel in Taiwan series, the Atayal Hunting School—Ha-pen Ecological and Humanities Camp. Together with a Atayal hunter, Ashong, and the 523 Mountaineering Association, participants learn the meaning of "hunter," pick wild vegetables, build hunting shelters, cut firewood for a campfire, cook, and set traps for mice and boar along the Ha-pen Historic Trail that runs the border of Wulai Township, Taipei, and Datong Township, Yilan. This mountain life and learning experience with an indigenous hunter is offered to Taiwanese youths aged 15-30. The Nanzhuang Trip—Luchang Tribe Hunting School is another example. Miaoli's Luchang Tribe turned an abandoned elementary school into a Hunting, handicrafts, unique agricultural products and cooking, and indigenous housing. The Cidal Hunting School is made up of young Amis people. They advertise Hualien and Taitung tours and provide an introduction to the indigenous people and river trekking, shrimp and crab fishing, and open fire cooking activities. The Cidal Hunting School also cooperates with the Farglory Hotel in Hualien offering a two-day, one-night tour package.

The Maolin opened a Hunting School in 2010; its success was mainly due to the devastation caused to Maolin District, Kaohsiung City, by Typhoon Morakot in August 2009. Maolin District is home to the Maolin, Wanshan, and Duona tribes. Aside from damage to roads, many tourist areas that the tribes rely on, such as Lovers' Valley and Duona Springs, were destroyed. As a result, the tribes hoped to develop other economic sources. The main force behind the Maolin Hunting School was a local retired teacher, Chen Cheng. After retiring from Maolin Elementary School, Chen became devoted to reconstructing and passing on tribal culture. In 1998, the Purple Butterfly Research Society inspired Chen to value the tribe's ecological conservation efforts, and together with conservation groups Chen established and acted as board director for the Maolin Township Purple Butterfly Valley Conservation Association in 1999. Chen also co-organized local events with many conservation groups and started thinking of ways to maintain traditional tribal culture and develop the local economy on the foundation of ecological conservation.

In 2010, Chen began a "Hunting School" and a three-day, two-night "little hunter" camp at his own "De-en Gorge" guesthouse with the help of the Society of Wilderness and Tree Valley Foundation. Chen hopes to give children from other cities an opportunity to experience the Rukai's mountain forest intelligence. Chen invites wilderness volunteers and experienced tribal hunters for their help with the feasibility, trail routes, and cultural content. Five "little hunter" camps have been held since 2010; participants are mainly ethnic Chinese, and each camp has accommodated approximately twenty fifth- or sixth-grade children. With the help of the Tree Valley Foundation, ten Maolin, Wanshan, and Duona children were able to attend one of these camps free of charge. In 2011, Chen added a special camp along with the Society of Wilderness' "big hunter" event. Eighteen people attended, the majority of whom were members and volunteers of the Society of Wilderness and their families (Figure 4).

The "little hunter" camp is mainly led by three indigenous hunters and two Society of Wilderness volunteers. Chen and his family and friends prepare room and board. The three indigenous hunters are all tribe elders and are in charge of the camp events; the camp participants call them "mumu." The two volunteers are

assistants who act as intermediaries between the administration and the camp, ask "mumu" questions about traditional hunter culture, and ensure that the camp runs smoothly. The camp is centered around indigenous hunter culture and introduces the children to their principles and skills through three days and two nights of activities.



Figure 4. Hunting School "little hunter" camp

The Maolin Township Hunting School was created by the tribes without any aid from the public sector, and all those involved are local people. They integrate tribal elders and outside conservation groups to create an example of indigenous and Chinese cooperation in the promotion of ecological education and sustainable environmental management. Our observations and records found that the Hunting School has the potential to both impart cultural knowledge and also to aid in the sustainable management of nature in society, the economy, and environment.

1. In society:

The Hunting School provides a reinterpretation and new platform for the tribes' traditional hunter cultures. In the preparation for a Hunting School, Chen did literary and historical work, to create opportunities for conversations between indigenous elders, create a form for traditional Maolin hunter culture, and reconstructed hunter culture through camp activities with the help of mainly Chinese conservation groups. This is also in line with the UN's 2002 International Council for Science (ICSU) which stressed that traditional ecological knowledge is a complex dynamic system continuously adapting and changing. Therefore, in recent years, studies into traditional ecological knowledge in Taiwan have removed the stigma that it is just meant for static museum exhibits, investigating the local social, economical, and cultural backgrounds to emphasize how this dynamic knowledge system continues to be constructed within a tribe.

2. In the economy:

Expenditures for Hunting School activities give back to the tribe; for example, the indigenous elders who lead the Hunting School receive pay as lecturers, the food for campers' meals are mostly fruits, vegetables, and chickens purchased from the tribes, and the schools provide young tribe members job opportunities serving



customers. These also comply with ecotourism's principle of having economic benefits that are given back to the local community.

3. In the environment:

Maolin Township Purple Butterfly Valley Conservation Association's previous board director Chen is passionate about ecological conservation. Chen does not use any pesticides in his lychee orchard in the hopes of providing the purple butterfly a clean natural environment. Ecological conservation is also one of the goals of establishing Hunting Schools; indigenous elder hunters in the tribe abide by and advocate traditional hunter culture. Divination rituals or prayer songs are performed before hunters go into the mountains; behind these acts is the understanding that everything in the world has a spirit, which is vastly different from mainstream beliefs. This type of spirituality also limits the hunting activity of the tribes which prevents them from overusing the natural resources. This is a concrete example of the sustainable management of natural resources.

DISCUSSION

The foundation for the Rukai mountain forest patrol comes from government support; their finances are completely reliant on the funds provided by the Council of Indigenous Peoples, Executive Yuan, through the public welfare lottery surplus. If the provision of government resources were to decrease or stop, the foundation for the mountain forest patrol would also disappear. The workforce recruited for this project is also temporary. Not only is the workforce small-scale, with only two or three tribesmen being recruited, but it also lacks support from the community and commitment from the tribes. Therefore, without support from legislation or traditional customary norms, the role of the patrol members are questioned and challenged by tribesmen who often hunt and gather in the mountains. The age of the recruited workers are often older, most being unemployed middle or old age adults with little knowledge of how to use modern technology such as computers, cameras, digital media, and mountain monitoring tools. As they lack the skills to record information (data), they have many difficulties combining traditional knowledge and modern technology. Because the patrol members are not judicial police, in situations where public authority is unclear, patrol members can only urge offenders to cease unlawful activity, they are unable to effectively exhibit force in managing the natural environment or mountain resources. Together with the lower salary for patrol members, it is difficult to retain any younger people who desire a high salary and stable work; therefore, there is a high turnover rate and often no suitable workers are available.

Although the Maolin Hunting School revives traditional tribal knowledge and is an example of local management of natural resources, the extent of its operations is limited to Mr. Chen's De-en Gorge guesthouse and it has yet to develop into a career for the entire tribe. The scope restricted to one business may also cause some tribe members to feel that Hunting Schools do not benefit the entire tribe. In addition, there are only a few young tribe members who participate in Hunting Schools; therefore, they cannot become a model for tribe development which the modern younger generation acknowledges.

These abovementioned problems prove that desires to establish an ICCA in a local community often face obstacles. However, despite this, there have been many achievements discovered after the creation of the Rukai mountain forest patrol and Hunting Schools which have contributed to habitat conservation, cultural reconstruction, and knowledge preservation. In view of ICCAs already becoming an important modern conservation developmental model and strategy, the above cases are a crucial starting point for Taiwan's ICCA development model.

CONCLUSION

4.1 The potential role of traditional ecological knowledge in modern environmental management

In early tribal society, hunter groups regularly traveled into the mountains to hunt and patrol the tribe's territory and hunting grounds under the direction of the group leader to prevent illegal trespassing. Therefore, being a hunter, they did more than provide meat; they also protected the tribe's territory. In the twentieth

century, Japan's influence entered the Wutai Township tribes and began to implement nationalization policies, invading their sacred lands to cut down the forests, strictly enforcing land privatization, and forbidding hunters paying tribute to chieftains. These measures severely impacted resource distribution in the Rukai's traditional land and damaged the connection between hunting culture and the natural ecosystem. Under KMT rule, the government implemented a policy to "make the mountains like the plains" which labeled hunting as barbaric and outdated. Since the 1980s, the government and conservationists have incorporated the majority of traditional Rukai lands into nature reserves and forbidden tribesmen to enter. These policies gradually eliminated the people managing this once legendary rich ecosystem and cultural lands (Taiban, 2010). Comparatively, after the indigenous people left the mountains, the forest conservation work under the biased management of the government has deteriorated; in recent years, aside from the reality that logging occurs where the Forestry Bureau has claimed to be implementing forestation, when post-disaster environment conservation demands immediate action, we need to take a serious look at the traditional role indigenous people play in mountain forest conservation.

4.2 Environmental management should not separate the economies and societies of indigenous peoples

Consideration for the continuation of the economies and societies of indigenous peoples in mountain forest conservation has become an international trend. Reducing emissions from deforestation and forest degradation (REDD), which was a focus of discussion in the 2009 climate change conference in Copenhagen, deeply impacted indigenous people living in forests. Many scholars and international environmentalist and human rights organizations all call for respect for the rights and benefits of indigenous peoples. During the process of negotiating any international carbon credits and forest conservation sponsorships, community rights must be respected. Content for all plans and economic mechanisms should ensure that relevant community groups are allowed to participate. Similarly, this issue cannot be ignored when discussing environmental restoration in Taiwan.

The above trends show tribes' willingness to participate in forest conservation and also remind us that it is necessary to reiterate indigenous peoples' rich knowledge of and practices in mountain forest environments through advanced plans so that tribe members are no longer restricted by the conservative forestry policies of past years. Tribes' traditional intelligence can be used to surpass traditional forestation and economic visions and to strive for diverse conservation policies aside from our current courses of action, such as incentive payments and forest protections. When this happens, promoting conservation can reach the goals for restoring the environment and restoring the culture and livelihood of tribes, and give the government and the public a brand new vision of forest conservation.

4.3 Equal importance of post-disaster reconstruction, national land conservation, and tribal development

The Rukai's classifications and understanding of space and their management of natural resources have always had traditional knowledge and ethics which maintained balance in the natural environment and resources. However, after government intervention, these traditional knowledge and management systems were destroyed, causing indigenous people to leave the mountains and move to cities. They were even branded with the name "forest killers" because mainstream society misunderstood their hunting culture and forest gathering customs. However, as previously described, the negative effects of the extreme climate on the development of mountain tribes and indigenous people are irreversible. After referencing multiple examples from around the globe, we believe discussion of the Rukai reconstruction or their relocation must consider the safety of public assets, the restoration of national lands, and more importantly, cultural heritage, tribal society, and tribe members' willingness to develop. The conservation of national lands, monitoring of mountain forests, and indigenous development should be important issues that cannot lack either related discourse or practical operations. Therefore, how to maintain the connection between tribes members and their ancestral lands while allowing them to participate in forest protection and natural restoration work and nurturing young tribesmen to become involved in future forest restoration work and conservation activities through forest education to return indigenous people to the role of protector of the forests should be the key to whether future reconstruction work is effective.

In reality, the mountain forest patrol plan and Hunting Schools in Wutai Township and Maolin Township can provide the Rukai with basic information to develop forest education, allowing more young tribesmen to receive systematic training and learn modern conservation knowledge and skills along with their traditional ecological intelligence. In this way, the forest protection and environmental monitoring urgently required by both the tribe and the government can be attended to. At the same time, traditional hunter knowledge and intelligence can be transformed to keep in line with modern concepts. In addition, from both public and private perspectives, the feasible local employment proposals in these two post-disaster reconstruction strategies developed from indigenous people will give tribesmen the ability to stay in their homeland and restore the forest, creating new opportunities for comprehensive resource conservation, cultural heritage.

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CHANGE MANAGEMENT: A REAL CASE APPLICATION IN MERGING COMPANIES

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ABSTRACT

Change management studies focus on the maximum performance, control and being foreseeable of the change. Even though change is well known in general manner, it still includes much failures in its basic steps. Therefore, this study involves high level review of the change and ideal implementation conditions. The interaction with the change of the employees of a company which undergoes change by the way of merging is also explored in the study. The study builds a bridge between the company performance indicators and the employee feelings by examining the effects of the results of the change via merging. The responses obtained from the surveys conducted to the employees of the company are evaluated and the results are compared with the studies in the literature. The results point that resistance to change is still a serious problem and understanding and participation of change are very crucial for the success.

Keywords: Change, Change management, Merging

INTRODUCTION

Change management is a comprehensive, cyclic and structured approach for transitioning individuals, groups and organizations from a current state to a future state with intended business benefits. The process of change begins with organizational leaders developing an organizational strategy, then with the creation of an initiative that is aligned with that strategy. These strategic initiatives are formulated as a direct response to a change in the business environment (PMI's Pulse of the Profession In-Depth Report, 2014). According to another definition, change management is the process, tools and techniques to manage the people-side of change to achieve the required business outcome. Change management incorporates the organizational tools that can be utilized to help individuals make successful personal transitions resulting in the adoption and realization of change. As shown in Figure 1, change management support moving an organization from a current state (how things are done today), through a transition state to a desired future state (the new processes, systems, organization structures or job roles defined by 'the change'). Change management focuses on the people impacted by the change (Creasey, 2007).

Figure 1

Organizational change as a transition process (Creasey, 2007)



The rate of change that companies face has continued at an increasing pace over the last 50 years through advances in technology since the 1960s and more recently through the globalization of supply chains.

Poole and Van de Ven (2004) define organizational change as a difference in form, quality, or state over time in an organizational entity. The entity may be an individual's job, a work group, an organizational subunit, the overall organizational, or larger communities of organizations. Organizational change can be planned or unplanned, incremental or radical.

The basic concept of organizational change involves three ideas: (1) difference, (2) at different temporal moments, (3) between states of an organizational unit or system (Poole and Van de Ven, 2004). An important issue inside the organizational change is about which factors of the organization change includes.

If we discuss the organization as a social system, it can be said that change is realized on these factors (Can, 2001):

- staff mobility, recruitment, dismissal, change of resource allocation among organizational units,
- structural changes,
- functional changes,
- changes in organizational boundaries,
- change of relations between organizational units and levels,
- change on organizational performance,
- environmental change.

For organizational change several models and theories are available up to now. One of them, Jick's model propose the following 10 steps in organizational change (Preyor et al. 2008):

- analyse the organizational need for change,
- create a shared vision and common direction,
- separate from the past,
- create a sense of urgency,
- support a strong leader role,
- line up political sponsorship,
- craft an implementation plan,
- develop enabling structures,
- communicate, involve people and be honest, and
- reinforce and institutionalize the change.

Consequently, organizational change means all kinds of interventions and changes on organizational elements, systems and their relations because of the change of internal and external environmental factors and pressures for the change. The most common known targets of organizational change include people, strategy, culture, structure, task, technology, objectivity, and purpose (Figure 2).



Figure 2 Targets of organizational change (Schermeron et al. 1995)

These targets of organizational change will influence each other. For example, the actualization of purposes depends on the incorporation of suitable strategy and the organization's culture. Therefore, in the process of organization change, the systematic thinking has to be taken, so that different change targets can be considered as a whole to achieve the organizational change successfully.

The main causes of change divide into two as external and internal. External causes can be as a result of changes in the level of technology used, market place changes, customer expectations, competitor activities, quality and standards, government legislation or political values, as well as changes in the economy. Depending on their current situation and aspirations, different companies will react to these external stimuli in different ways (Alkaya and Hepaktan, 2003). Internal causes can be organization processes, personnel, growth and downsizing, merging, change of top management, reach of organizational inadequacies at a disturbing level. In Alkaya and Hepaktan (2003), stages of the change process are explained with the sequential set of activities needs to take place:

- recognizing the need for change,
- defining the problems,
- identifying where the company is relative to the problem,
- searching for alternatives,
- defining goals,
- preparing for change,
- unfreezing (loosening the organization so that it can change),
- moving (consciously managing the process of change),
- arriving (realizing when the goals have been met),
- refreezing (stabilizing and reinforcing the change).

1.1. The Resistance to Change

Resistance to change, it is an issue frequently discussed in scientific world. Organizations are focused on resistance to change, because the organizations have a statuesque and static structures which is against new structuring. Briefly, resistance to change is a universal phenomenon (Karaer, 1990). There are various institutional forces that affect change efforts. Institutional powers are often associated with people and can easily turn into resistance. The resistance groups can be divided into in three main groups as follows (Oncu, 2002):

(1) Do not know: Most of the people who are against change are occurred in this group. The main reasons about resisting to change are insufficient knowledge about change, effect which change impact on them and they do not know how to act in face of change. (2) Not enough: Person who think that cannot work effectively without help from new surroundings and cannot keep up with the required changes are occurred this category. (3) No willing: People who do not receive satisfactory answers to their personal concerns are occurred in this group.

At the individual level, the most important reason of resistance of change is form of perception of employees. Employees may see change a threat against them. The researches show that generally employees resist changing of social factors instead of changing of technical factors. Employees has established some social relationships and these relationships transformed them into habits, they have got comfort due to adoption. This is directly related to the people, the fear of deteriotion comfortable and harmonious living may push resistance (Baysal, 1981).

If the reasons for the change convinces, employees who resistance to change will be adopted voluntary basis. Resistance is divided into two category: rational resistance and irrational resistance. The reason of why rational resistance have resistance is that people feel that they are not included. They think that change imposed upon them as if there is no interest with process. When they decided they wanted to neglect, they resisted stubbornly and persistently rejection. Business changes to conflict of wills. One of the basic rules of change is incorporation people to change. Another reason of rational resistance of people's resistance of change is to have

to learn new something. They approved that new process will bring benefits in the future, but they doubt that the ability to adopt to it. There are ways to overcome such fears. It is a way of learning it is a way of learning the first failure in efforts seen and not punished for contempt, on the contrary as evidence of the failure of this effort is to create an environment where discretion and rewarded. If management want to actually implement change management, can create such a learning environment. Stability and leadership are needed for this.

But there is also irrational resistance. Even though explanation and persuasion, some people cannot voluntarily accept change. These people do not want to change. How to manage this kind of people depends mainly on organizational culture. Instead of rejecting resistance, the argument for the change should be explained. If there is no reason for the change, change should be avoided. It is should be done that rejecting resistance rather than listening and leadership.

Most institutions is in a dynamic work environment in order to ensure long-term plans and operate balanced and flexible against cases. Because of this condition, changes continuously must be made compatible structure of companies. Unless there is the ability of dynamism, flexibility and adjustment, it may rise a static conditions. Especially, great risks may arise under the competitive conditions for big firms (Karaer, 1990). Organizations which don't understand benefits of change and novelties are trying to clear with behaviour. If we try to define it simply, resistance to change any attitude or behaviour. This attitude reflects the reluctance of people (Schermeron et al. 1995). Any variable impact on an organization's success. Most people tend to be avoid open or hidden changes. Many changes which disrupt existing balanced state arise form of indolence, active resistance and revolution (Eren, 1993).

According to a survey of the Fortune 500, resistance is the most important reason for the failure of change projects. There are eight attitudes for failure of change on employees as (Oecher and Kenneth, 1997):

- the belief of needs already met by existing system,
- the idea of change make meeting needs difficult,
- the belief of change will bring risk more than its benefits,
- the belief that change is unnecessary to avoid undesirable situations,
- the belief that process of change does not handle correctly,
- the idea that change will result in failure,
- the idea that change do not overlap worth of company and its employees, and
- lack of confidence people who manage process of manage.

In the case of changes, principle of action-reaction is valid. The acting forces are environmental and individual pressures which pushes change. The reaction is that don't accept change immediately and resistance organizational and individual level. The resistance and driving forces may be illustrated in Table 1.

r usining powers and resistance to enange (oun, 2001)				
Pushing powers to change	Resistance to change			
Changing environments	Individual resistance			
Information explosion	• Habit			
• Quick product change	• Selective perception and retention			
	• Dependence			
	Security and decline			
Changing structure of the workforce	Resistance of the organization			
• Decreasing age	• Stability of the system			
• Quality of working life	Sunk cost			
Humane values	Resource constraints			
	• Inter organizational agreements			

 Table 1

 Pushing powers and resistance to change (Can, 2001)



Although human perceive changes independently in their perceptive, they react according to the member of group which they are dependent. When group came up against a change, they try to keep balance by insisting to return the old-style which they get used.

1.2. The causes of resistance to change

The major obstacle for implementation of new policy, purpose or working method is resistance for change by employees of organization. For the success of the change process is need to be creative outside, it is show that it is often an indication how hard to resist change (Kotter, 1990). There are usually nine basic source for resist a change as here: uncertainty about the causes and consequences, reluctance to abandon existing utility and benefits, being aware of weaknesses in the proposed change, dissatisfaction with the imposed changes, the distrust of leaders, the belief that change is wrong, personal hostility, serve their own ends, and economic impacts.

If the new structural which is a result of organizational changes improve individual status, it is not observed a resistance. Otherwise, if there are loss of individual's job security, reduced of authority and responsibility or loss of prestige, individual will resist change. If an administrator specifically don't want change, he will see any change as a block against his prestige and authority, but an employee is not effective as an administrator on the process of change (Ulgen, 1985).

Behaviour and attitudes of individuals within the organization consists of affecting the basic personality and social role within the organization. Persons see a personal benefit from change before willing to participate in the process of change. What is the manager's reputation great effect becomes so great that do to change. If the information regarding change are timely and meaningful and targeted, possibility of change will be great. If person who are changed and create effect for change feel depending on the group, the rate of resistance to change will decrease. The information of needs of change, change plans and result of change should be shared with all relevant people in the group (Ulgen, 1985).

The rest of the paper is organized as follows: In the next section related works in recent literature are presented. Then surveys carried out in a merging company are mentioned in the method section. Results of the surveys, final conclusion and future recommendations are in the following sections respectively.

RELATED WORKS

Chung et al. (2014) propose a theoretical model including the process through which employees adapt to changes introduced by cross-border merger and acquisitions (M&As). Empirical analyses based on 174 Chinese employees who experienced an unexpected M&A initiated by a Western company suggest that the relationship between change management practices (i.e., provision of training and assurance of job security) and post-change performance is mediated by employees' person–change (P–C) fit perceptions. Integrating the quantitative results with interviews, they further theorize that underlying cultural dynamics drive change-related attitudes and behaviour among Chinese employees.

Olsen and Stensaker (2014) examine skill-related uncertainties among middle level managers during organizational change. The question emerged from a qualitative study of two planned organizational change initiatives in the public sector where a group of middle managers were required to learn new skills because of changes in their work tasks and managerial roles. Kavanagh and Ashkanasy (2006) present a longitudinal study that examined mergers between three large multi-site public-sector organizations. Both qualitative and quantitative methods of analysis are used to examine the effect of leadership and change management strategies on acceptance of cultural change by individuals. Findings indicate that in many cases the change that occurs as a result of a merger is imposed on the leaders themselves, and it is often the pace of change that inhibits the successful re-engineering of the culture.



Alkaya and Hepaktan (2003) describe and discuss the phases, barriers and variables that affect the change. Chen et al. (2011) express the causes of organizational change, its elements, approaches, process, resistance, management, and finally the possible factors leading to its breakdown. Nguyen and Kleiner (2003) study the organizational factors that negatively impact the integration process and suggest eight principles to make the integration successful. The factors used in the study are obtained from empirical findings, literatures, and case studies.

METHOD

This research was made to identify employees' ideas and trends about change management which are forms of merger, reveal employees reactions against change and show perception of work environment. A survey is made people who are still working a company that has spent the merger. The primary data used for this study were collected with 30 employees who are worked along different departments. The company in question is located within the top 15 companies in the industry and about 1,000 people are employed. 3 years ago, the company merged by purchasing by a multinational company and the merging have been completed.

The process of change in the company has been continued at different point and stages. By this changes company seems like a core and in this long process changes applies in the form of small steps. Effect of change is examined and to analyse according to answers of survey which are taken employee of company about change. The number of respondents were random 30 employees who are allowed by the corporate management. This group consists of people who work in different positions and ensure of diversity the group compose both of production and office employees.

RESULTS

Awareness of institution change of participants were evaluated with the first question as shown in Table 2. 90% of respondents are involved in the occurrence of a change.

Statistical result of the question "I think my company is through/undergoing a change process"

		Frequency	%	Valid %	Cumulative %
Valid	Strongly agree	19	63.3	63.3	63.3
	Agree	8	26.7	26.7	90.0
	Undecided	1	3.3	3.3	93.3
	Disagree	1	3.3	3.3	93.7
	Strongly agree	1	3.3	3.3	100
	Total	30	100	100	

The question 2 and question 10 are about change improvement and performance. The received responses to these questions are presented in Table 3 and Table 4.

	1			5 5	1 7 1
		Frequency	%	Valid %	Cumulative %
Valid	Strongly agree	4	13.3	13.8	13.8
	Agree	4	13.3	13.8	27.6
	Undecided	4	13.3	13.8	41.4
	Disagree	12	40	41.4	82.8
	Strongly agree	5	16.7	17.2	100
	Total	29	96.7	100	
Missin	g System	1	3.3		
	Total	20	100		1

30

Table 3 Statistical result of the question "The change process executed by my company is completed"

100



Table 4 Statistical result of the question "I believe that my company is enough to show a good performance through the change process"

		Frequency	%	Valid %	Cumulative %
Valid	Strongly agree	2	6.7	6.9	6.9
	Agree	9	30.0	31.0	37.9
	Undecided	5	16.7	17.2	55.2
	Disagree	10	33.3	34.5	89.7
	Strongly agree	3	10.0	13.3	100
	Total	29	96.7	100	
Missing	g System	1	3.3		
	Total	30	100		

Causes of the change were evaluated in for questions. In only one question, it is asked to the participants whether any change is occurred related to the merging (Table 5). With the aid of the remained three questions investigate the amount of internal and external factors of the company on the change process (Table 6).

 Table 5

 Statistical result of the question "It is decided to undergo a change process due to the merging in my company"

		Frequency	%	Valid %	Cumulative %
Valid	Strongly agree	15	50.0	53.6	53.6
	Agree	6	20.0	21.4	75.0
	Undecided	2	6.7	7.1	82.1
	Disagree	2	6.7	7.1	89.3
	Strongly agree	3	10.0	10.7	100
	Total	28	93.3	100	
Missing	g System	2	6.7		
	Total	30	100		

Table 6

Statistical result of the question "I know the vision and strategic objectives of my company"

		Frequency	%	Valid %	Cumulative %
Valid	Strongly agree	3	10.0	10.3	10.3
	Agree	6	20.0	20.7	31.0
	Undecided	13	43.3	44.8	75.9
	Disagree	2	6.7	6.9	82.8
	Strongly agree	5	16.7	17.2	100
	Total	29	96.7	100	
Missing	g System	1	3.3		
	Total	30	100.0		

The existence of the resistance in the related questions of the resistance to change is investigated directly but the existence of the states that sign the resistance are also investigated. This is done by questioning the existence of the signs such as increase of redundancy, reduction in efficiency and service quality on the time of change, increase of requests on department changing. Participant employees response by an agreement on the

question of whether it is available a change (Table 7). But there are many participants who still disagree or undecided (Table 8).

On the other side, according to the consequence of the questions on the signs of resistance requests of employees on department changing and redundancy increase, and efficiency and service quality decrease.

		Frequency	%	Valid %	Cumulative %
Valid	Strongly agree	8	26.7	27.6	27.6
	Agree	8	26.7	27.6	55.2
	Undecided	4	13.3	13.8	69.0
	Disagree	6	20.0	20.7	89.7
	Strongly agree	3	10.0	10.3	100
	Total	29	96.7	100	
Missing	g System	1	3.3		
	Total	30	100		

 Table 7

 Statistical result of the question "It is met an active or passive resistance against the change in the company"

Table 8

Statistical result of the question "I believingly support the change process of the company from the beginning to end"

	Frequency	%	Valid %	Cumulative %
Valid Strongly agree	6	20.0	20.7	20.7
Agree	8	26.7	27.6	48.3
Undecided	11	36.7	37.9	86.2
Disagree	0	0	0	86.2
Strongly agree	4	13.3	13.8	100
Total	29	96.7	100	
Missing System	1	3.3		
Total	30	100		

Participants answer in an agreement on the question for the requirement of informing previously about the decrease of resistance. But they answer in a disagreement speech on the question for non-occurrence of this state in the company (Table 9).

 Table 9

 Statistical result of the question "It is required to inform previously to prevent the resistance to the change"

	Frequency	%	Valid %	Cumulative %
Valid Strongly agree	16	53.3	55.2	55.2
Agree	10	33.3	34.5	89.7
Undecided	1	3.3	3.4	93.1
Disagree	1	3.3	3.4	96.6
Strongly agree	1	3.3	3.4	100
Total	29	96.7	100	
Missing System	1	3.3		
Total	30	100		

The attitude of employees against changes with change process is shown in Table 10. 57% of employees don't face difficulty in accepting changes but 23% of them have difficulty in.

		Frequency	%	Valid %	Cumulative %
Valid	Strongly agree	7	23.3	24.1	24.1
	Agree	10	33.3	34.5	58.6
	Undecided	2	6.7	6.9	65.5
	Disagree	2	6.7	6.9	72.4
	Strongly agree	8	26.7	27.6	100
	Total	29	96.7	100	
Missing	g System	1	3.3		
	Total	30	100		

Table 10 Statistical result of the question "I don't have difficulty in accepting change proposals related to my business"

CONCLUSION AND FUTURE WORK

The paper presents high level review of the change and ideal implementation conditions. The interaction with the change of the employees of a company which undergoes change by the way of merging is also explored in the study with the aid of a field survey. With the current study, the findings can be summarized as follows: (1) Prior to the change process it should be defined a comprehensive vision. It should be remembered that people adapt change but if they want. (2) In change management project, companies generally cannot complete the project or obtain expected results. In the current study, participants respond differently about the completion of the change process because of internal and external factors. Most of the employees know the cause of the change by merging. (4) Employees agree with the negative causes of the change as increase of redundancy, reduction in efficiency and service quality and increase of requests on department changing. (5) Success of a change process project is directly related to the existence of a reformist leader. (6) People usually prefer escaping from uncertainty. For this reason, they remain indifferent to change or resistance. In the field survey, employees give positive feedback about informing previously to prevent the resistance to the change. (7) The employees in the field survey are found in the place of *open to change* and *sufficiently open to change*. For future studies, it is proposed to reveal overall aspects of the change process as well as merging.

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NETWORK AND SCHEDULE MANAGEMENT IN AN AIRLINE COMPANY

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ABSTRACT

The effects of globalization, the tough competition between airline carriers and the investments are rapidly increasing in today's aviation industry. It is obvious that airlines should be faster and smarter in order to maintain and also improve their market shares. Due to the resource constraints and rising fuel costs, airline companies should focus on good products and cost effective supply chain activities. In order to lead in the sector among a lot of powerful competitors, generating a wide global network is one of the most important subjects for a worldwide airline company. Smart investments are required in order to manage in competition with other air carriers. To achieve the desired results from the investments, first it is necessary to analyze in detail and make a deep plan. In recent years, carrying cargo and passenger traffic of airlines have dramatically increased in the world. Hence, airlines are working hard to manage the potential and projected demand with their innovative investment ideas. In this study, first it is explained the past and the recent situation in the aviation industry. In the next sections, new market entry strategies for the South America continent are mentioned. Multi criteria decision analysis and feasibility analysis are conducted in order to define the flying points in South America.

Keywords Airline Strategies, Analytic Hierarchy Process (AHP), New Flight Destination, Technique for Order Preference by Similarity to Ideal Solution (TOPSIS).

INTRODUCTION

Since it is fast and equipped with advanced technological features, the air transportation has become more important in recent years. Despite economical crisis, terror events, wars, political issues and the other bad trends worldwide, the aviation industry is still going on to grow. Concepts such as tourism and globalization are also effective on this growth. Compared to other transportation industries, since air transportation presents faster and more comfortable services, it influences the passengers travelling all around the world. Today, people are competing with time as they are in need of reaching a point as soon as possible. As we already know, the aviation industry serves people who prefer to be quicker in long distances. In the rapidly increasing competition atmosphere, the airline companies are required to make strategic decisions to define new destinations in their network structures because new investments are quite costly and risky [1,2]. It is needed to conduct deeply planned activities and decisions.

In Turkey, the air transportation has progressed in recent years. New domestic companies which have cost effective strategies have been established. In globalization period, airlines are trying to define the most suitable flight destinations in order to meet the passenger demands. In the aviation sector which is confronting with tough competition, the airline companies trying to increase their profitability and market share should analyze their investment decisions in detail. They should effectively utilize their decision tools [3,4].

Since the market's demands have been met in rapidly changed and developed aviation industry, the companies now focus on new opinions and decisions. Airlines which are trying to widen their flight network have started to focus on not just the passenger numbers but also some other specific criterion. Companies already flying to destination which there has been the highest passenger demand are nowadays paying attention to commercial relations, tourism, development rates, growth rates and some other criteria. Airline companies are

not only passenger and income focused now; each of them also puts effort to define their own special strategies in order to determine new flight destinations [5,6].

Strategies might be differed due to the structure of the airline company but basically some factors such as; seasonality, competitors' flight schedules and frequencies, detour factors for connected flights, country populations, population growth rates, the level of development, GDP (purchasing power parity), exports and imports values might be examined in markets researches.

ANALYSIS OF CURRENT SITUATION IN THE AVIATION INDUSTRY

Before making new investments in the aviation sector the most important issue that should be examined is the external environment of the airline company. The external environment is the factor area which stays out of the company and includes all direct and indirect factors affecting the airline company.

2.1. Economical Evaluation

The aviation industry with its rapidly growing structure has a very important state due to economy. High fuel costs, labor costs, idle capacity and risks occurred, company's behavior against economical crisis and with some other economical actions, the airline company has an economical environment to be effected.

- High fuel costs: One of the most important costs for the companies in the aviation sector is fuel cost. Airline companies are affected by the changes of fuel costs because a large number of variable expenses are consisted of fuel costs. Hence, the airline companies try to use aircrafts which use less fuel.
- High labor costs: In the aviation sector, experienced (business expert) employee usage is high; naturally the labor costs are higher than other sectors. Educational services and trainings should be conducted and renewed periodically. This issue also increases the labor costs.
- Economic fluctuations: The aviation industry comes first among the other industries due to economic fluctuations. The industry is very sensitive about economical changes and progresses. For instance; in the periods in which economical changes occur, people start to prefer other transportation systems. Therefore, the incomes of airline companies decrease dramatically. In order to manage this kind of crisis, airlines chose to make their fleet smaller and increase the dismissals.
- Idle capacity: Airlines forcedly have idle capacities because of the following reasons;
 - > The number of flight frequency of the scheduled airlines is very important due to the competition with other companies. Airlines try to have high number of flight frequency from the hub to the flight destinations.
 - Since the fixed costs are high, airline companies seek to fly the aircrafts as much as possible. According to the airline companies, as long as the fixed costs are met, it is better to make aircrafts fly. In the sector, the fixed costs are more than the variable costs. Generally the fixed costs are more than % 60 of total costs. In order to meet the fixed costs, companies make discount on ticket prices to sell the seats. Therefore, hard cost and ticket price competition occur between the airline companies [7,8,9].

2.2. Demographic and Socio-cultural Environment

Since in the content of air transportation, cities, regions, countries and continents are taken into account, the socio-cultural features are very important. Passengers might travel with touristic purpose by airlines which care their socio-cultural values. For instance; they can prefer the airline company which shows the best hospitality with their kind cabin crew [9,10].

2.3. Technical Evaluation

The air transportation is a sector which needs advanced technology. After a specific time, aircrafts that are utilized can't meet the demands. Therefore, especially big companies need to renew their technologies continuously. Aircrafts which have large capacity, fuel cost effective, less noisy and emission are developed. On the other hand, aircrafts that are more suitable for regional flights are also manufactured rapidly.

2.4. Legal and Political Issues

Airline companies should get slot, landing and civil aviation permissions in order to start their flights from one point to another destination. These rules and laws are widely mentioned in some literature sources about traffic rights in aviation. Companies can fly with a limited number of frequencies constrained with competition laws.

THE GOAL AND GENERAL CONCEPT OF THE STUDY

The project is about an airline's network strategy. In this study, the airline company aims to determine new flight destinations in the South America continent. As it is seen in the world map below, company is already flying more than a hundred countries all around the world. The hub of the company is Ataturk Airport (international) in Istanbul, Turkey. The airline company has also flights in the South America but the number of flights is not high. In this specific continent, the company is flying to Sao Paolo (GRU) in Brazil and to Buenos Aires (EZE) in Argentina.

Figure 1

Airline Route Mapper



The company aims to increase the market share in the South America via new flight destinations. In order to compete with the other carriers in later years, the company will need to widen its network also in the South America. Hence, this study is conducted as a decision help tool which combines the literature and multi criteria decision techniques. The steps of the study are mentioned in the following pages in detail.

METHODOLOGY

As mentioned in the previous sections, the aim of the study is making decisions about the flight network of the airline company. The company aims to fly to more destinations in the South America. In order to determine the new destinations, two of the multi criteria decision algorithms will be used in the study.

In this section of the study, the steps of the methodology will be described in detail.

4.1. Defining the criterion: literature research and expert views

In order to determine the decision factors (criterion), two ways have been followed:

Literature research was carried out. The academic articles (such as Elsevier, Taylor&Francis, Interscience) and journals (such as Expert Systems with Applications, Journal of Air Transport Management) from online electronic databases of the universities have been scanned on internet.

Short interviews were carried out with experts who are working in the production planning department of the airline company. Interviews were made with 15 experts in the department who are experienced between 1 and 5,5 years in the aviation industry[12,13,14,15].

Participants are experienced people who were graduated from engineering and management departments at universities as it is shown below:

- Industrial engineers: 12 experts
- Electrical and electronics engineers: 1 expert
- Plant engineers: 1 expert
- Management: 1 expert

Figure 2 The steps of the study



ANALYTIC HIERARCHY PROCESS (AHP)

5.1. Survey among experts

In order to define the importance level of each factor to the other, a survey study is carried out in the department. Experts were asked to evaluate each criterion. Saaty's evaluation scale is used at this point. This scale wishes the participants to evaluate the factors between 1-9 points. As it might be seen in the figure below, to reach the goal, criterion should be evaluated in AHP methodology.

In this study 7 criteria have been used: number of passengers, unit income, seasonality, distance flight, frequencies of competitor airlines, country population and country GDP. Experts are asked to fill the table shown below. This table consists of comparison matrixes. It is required to make pair wise comparisons between each criterion.

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After defining the new values of cells, averages of each rows of matrix are calculated. These averages are indeed the importance weights of the factors.

Table I.

SUM OF MATRIXES	Number of passengers	Unit income	Seasonality	Distance	Competitors' Flight Frequencies	Population	GDP	AVERAGE of ROWS
Number of passengers	0,161	0,290	0,277	0,238	0,282	0,254	0,244	0,249
Unit income	0,207	0,167	0,304	0,203	0,286	0,266	0,260	0,242
Seasonality	0,159	0,150	0,081	0,140	0,162	0,140	0,148	0,140
Distance	0,035	0,084	0,091	0,046	0,063	0,097	0,091	0,072
Competitors' Flight Frequencies	0,118	0,073	0,095	0,171	0,068	0,141	0,163	0,118
Population	0,139	0,113	0,069	0,099	0,067	0,040	0,052	0,083
GDP	0,181	0,123	0,082	0,103	0,072	0,062	0,041	0,095

Weights Of The Factors

At the end of this calculation the importance ranking of the factors are occurred. As a result, the most important criterion is the number of passengers who are travelling from the point to the other points. Unit income is very little different so it comes after the number of passengers. The least important criterion in this study is the distance [16,17,18].

5.2 Data Processing:

There are approximately 325 international airlines in the South America. These international airports generally are in the capital of the countries and they are transit markets. Hence, the number of the airports decreased to 325 from thousands.

First elimination is done for the number of airports. The airports which made flights totally more than 10 000 passengers are taken into account. The number of these airports: 32.



FACTORS	WEIGHTS
1.Number of passengers	0,249
2.Unit income	0,242
3.Seasonality	0,140
4.Competitors' Flight	0.118
Frequencies	0,110
5.GDP	0,095
6.Population	0,083
7.Distance	0,072

Table 2 THE MOST IMPORTANT CRITERIA

Seasonality is calculated by using the last two years' passenger data. Seasonality can be considered as the deviation of the monthly passenger data.

AIRPORT	SUM OF	AVERAGE OF		
	FREQUENCY	FREQUENCY		
BOG	84	42		
BSB	16	8		
CCS	81	40,5		
CNF	11	5,5		
CUN	95	47,5		
CUR	32	16		
EZE	184	92		
GDL	10	5		
GIG	151	75,5		

Table 3 Average Frequencies of Flights to each Airport

Sum of DAV	DESTINATION						
Sull OF FAX	ASU	BJX	BOG	BSB	CCS		
December 12	968	604	7116	1717	12588		
January 13	881	641	6630	1534	15883		
February 13	953	555	5782	1585	13892		
March 13	998	884	7641	1858	18425		
April 13	992	999	8071	1773	18047		
May 13	1007	1076	7801	2326	17708		
June 13	1093	1095	8475	2192	19161		
July 13	1022	1329	8695	1880	21193		
August 13	1205	1384	8181	2132	19540		
September 13	1008	1282	8084	2131	20502		
October 13	1065	1236	8964	2533	19489		
November 13	995	1423	8188	2445	14669		
Grand Total	12187	12508	93628	24106	211097		


DESTINATION	Seasonality
ASU	0,08
BJX	0,60
BOG	0,09
BSB	0,13
CCS	0,14

Table 5 seasonality regarding the destinations

TECHNIQUE FOR ORDER PREFERENCE BY SIMILARITY TO IDEAL SOLUTION (TOPSIS)

The TOPSIS procedure is based on an intuitive and simple idea, which is that the optimal ideal solution, having the maximum benefit, is obtained by selecting the best alternative which is far from the most unsuitable alternative, having minimal benefits. The ideal solution should have a rank of one, while the worst alternative should have a rank approaching 0. As ideal sites are not probable and each alternative site would have some intermediate ranking between the ideal solution extremes. Regardless of absolute accuracy of rankings, comparison of a number of different destinations under the same set of selection criteria allows accurate weighting of relative site suitability and hence optimal destination selection [19]. Results of this technique are given in Table 6

NO	AIRPORT	Ci*	NO	AIRPORT	Ci*
1	GRU	0,8612	21	ASU	0,1629
2	EZE	0,4370	22	BJX	0,1619
3	GIG	0,3807	23	HAV	0,1606
4	MEX	0,3351	24	POS	0,1549
5	ccs	0,3206	25	MVD	0,1530
6	LIM	0,2607	26	SDQ	0,1433
7	SCL	0,2291	27	PBM	0,1330
8	ΡΟΑ	0,2218	28	UIO	0,1311
9	SSA	0,2134	29	PUJ	0,1267
10	CWB	0,2127	30	GYE	0,1264
11	BSB	0,2074	31	CUR	0,1218
12	CNF	0,2066	32	SJU	0,1116
13	CUN	0,2023			
14	REC	0,1971			
15	MTY	0,1874			
16	BOG	0,1840			
17	РТҮ	0,1816			
18	SIO	0,1721			
19	GDL	0,1711			
20	GUA	0,1635			

Table 6 Results of the method

FEASIBILITY ANALYSIS

After determining the flying points by using AHP and TOPSIS techniques combined, a detailed research is carried out for the destinations chosen. Due to confidential reasons the numbers are given will not be the same

of the reality. As a sample, CCS and MEX Airports will be given. At this level, generally the following steps are carried out in detail.

- Local market
- Transit market
- Seasonality of the route
- Competitor analyze (competitors' local and transit markets)
- Unit income analyze and break-even point analysis
- Financial evaluation

CONCLUSION

New flight destinations for an airline company has been sought in this study. For this purpose, first AHP was utilized to determine the criteria weights, then the most suitable destinations were chosen by TOPSIS. We found out that After Sao Paolo and Buenos Aires, Rio, Caracas, Mexico has advantages to fly.

For further research, detailed feasibility analysis should be carried out to show the forecasted seat sold of the destinations and the load factor of the aircrafts. Business and economy profiles should be examined in detail, while income data should be examined to determine the profit/loss.

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COMPETENCY BASED HUMAN RESOURCE MANAGEMENT AS A WAY TOWARDS SUSTAINABLE GROWTH OF THAI MEETING AND CONVENTION INDUSTRY : AN OPERATION PLANNER PERSPECTIVE

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ABSTRACT

Meeting and Convention is an important sector in Thai tourism and Hospitality Industry in that they bring about foreign income both from the attending the convention and meeting themselves and also the spending on other tourism and hospitality services. Given an ever intense competition among tourism destinations, Thailand is avoidably forced to diversify its products towards alternative markets whose demands are more stable including Meeting, Incentive Travel, Convention, and Exhibition- MICE. The figure shows that sales per employee of Thai meeting and convention businesses still lagged behind those of neighboring countries in the Pacific Rim warranting the country to come up with intervention measures through increasing the competence and productivity of the sector's personnel. Instead of using task-based approach to human resource management which can be redundant and rigid, competency-based approach was considered more suitable to the formless, directionless, and clueless competitive environments. Due to the importance of operation side of MICE industry, the operation planner position was chosen. The researchers adapted the "Language of Work-LOW" model to identify competencies required in a job position in this particular study. Exploratory research through in-depth interview was conducted with five groups of stakeholders to the position namely job incumbents, job supervisors, colleagues, customers, and suppliers. Participants reported their minimum expected, differing, and ideal performances and their associated Knowledge, Skills, and Attributes-KSA. The finding of the exploratory research was further triangulated with panels of industry experts who are board members to Thailand Incentive and Convention Association- TICA, the most prominent professional association for incentive travel and convention. The finding suggested that meeting and operation planners, to deliver their performance up to the expectation of stakeholders, rely on their inherent skills and personal attributes such as personality, acumen, thinking skills, communication skills more than knowledge they have about the industry. Consequently, recruitment, promotion, and task assignment should be based on skills and attributes. Competency-based human resource model was also recommended at the end of the paper. Longitudinal studies to verify the effectiveness of the model was also suggested for future studies.

Keywords Competency, Convention, Meeting, Thailand

INTRODUCTION

Thailand's economy substantially relies on tourism economy in that foreign income are attracted, employments were generated, and basic infrastructures beneficial for tourism development and domestic consumption were created. In 2013, tourism economy yielded 58,171 million US\$ for the country accounting for 16.4 percent of Gross Domestic Product – GDP and 4,660,000 employment of the country representing 11.9 percent of the working cohort (Blanke and Chiesa 2013). However, the "variable" nature of tourism product which connotes fluctuation and seasonality of leisure market demand have forced most tourism destinations to seek alternative markets to even out the variable demand levels (Lovelock, Patterson et al. 2001). Besides, due to the progress in terms of tourism development of other destinations, Thailand's tourism and travel competitiveness ranking has gradually dropped from 39th in 2009 to 41st in 2011 and 43rd in 2013despite the same average competitiveness score (4.47) (Blanke and Chiesa 2011; Blanke and Chiesa 2013).

Business Tourism including MICE sector is another lucrative market which Thailand has performed quite well along the years. Among MICE sector, Meeting and Convention seemed to represent the highest share

in revenue generated for the country in 2013, Convention sector yielded 2,765 million US\$ (at the rate of 32 Baht per I US\$) and has also shown a continually upward trend (Thailand Convention and Exhibition Bureau 2014). The government across administrations has stated in several occasions that it wanted to promote the country to be one of the world class MICE destinations. In such a light, comparative statistics with other countries are needed. Table 1 reported the comparative competitiveness indicator of Meeting and Convention Sectors of Thailand and its neighboring countries in the Pacific Rim.

Country	Number of Event	ICCA 2013 World Ranking
Japan	342	7
China	340	8
South Korea	260	12
Australia	231	16
Singapore	175	21
India	142	27
Thailand	136	29
Malaysia	117	35
Indonesia	106	37
Philippines	53	49
New Zealand	48	51

 Table 1

 Comparative Ranking of Thai Convention Industry

Source: (International Congress and Convention Association-ICCA 2014)

Table 1 reported world ranking in the convention sub-sector of the whole MICE industry comparative to other countries in Asia-Pacific region. In 2013, Thailand hosted 136 international conventions and was ranked 29th worldwide and 7th in the Asia Pacific and The Middle East region (International Congress and Convention Association-ICCA 2014). The statistics from the above table used only number of international conventions held in a country. The statistics were, therefore, too crude as it does not signify other dimensions that underlie competitiveness. Due to difference in the industry size and the size of the economies included in Table I, number of international conventions held in a country in particular period should not be a viable basis for comparison. Barnes Report (2010), however, reported number of meeting and exhibition organizations in terms of number of employees and sales per employee. In such a report, it was found that most meeting and exhibition companies across nations are smaller in sizes due to high reliance of suppliers and third party's services. Sales per employee should be a more appropriate measurement of an industry's efficiency. Table 2 reported sales per employee of meeting and exhibition firms in Thailand and its Pacific Rim neighboring countries.

	Comparative sa	iles per employ	vee and efficiency ratios	
Country	Sales per Employee	PPP Ratio	PPP Sales per	Thailand Efficiency ratio
			Employee	
Singapore	340,631	1.377	469,048.89	18.08
Australia	135,533	0.851	115,338.58	4.45
New Zealand	114,590	0.973	111,496.07	4.30
Japan	108,873	0.819	89,166.99	3.44
South Korea	20,549	1.634	33,577.07	1.29
Malaysia	15,191	1.966	29,865.51	1.15
Thailand	12,551	2.067	25,942.92	1.00
China	12,698	1.81	22,983.38	0.89
Indonesia	8,084	1.769	14,300.60	0.55
India	4,026	2.816	11,337.22	0.44
Philippines	4,601	2.006	9,229.61	0.36

Table 2 arative sales per employee and efficience

Depicted from: (Barnes Report 2010)

Due to difference in economic development levels of the countries included in Table 2, purchasing power parity was adopted to convert the sales per employee to be on a more comparable basis. Using Thailand as the basis for comparison, it can be seen that the country's performance in this sector is comparable to those of South Korea, Malaysia, and China. However, should the country aims to be high performing destinations in Meeting and Convention sectors, it should benchmark with leading destinations in the region. Figures in Table 2 showed that Thailand 18.08, 4.45, 4.33 and 3.44 times behind Singapore, Australia, New Zealand, and Japan respectively (Barnes Report 2010).

The inferior efficiency ratio based on per employee sales can be justified by several reasons including the size of the economy, levels of economic and social development, market perspective of Meeting and Convention entrepreneurs. However, one undeniable factor is the productivity and efficiency of Convention and Meeting personnel. Should the country increase the productivity of MICE personnel, the efficiency gap with other developed countries can be expected to be narrower.

In a convention and meeting firms, several functions contribute to their respective companies' competitiveness. However, the quality of services rendered to customers is very much determined by how operation department performs and how the operational plans are laid out. Increasing the productivity of this operation planner of meeting and convention sector of the country would automatically improve service quality and competitiveness of organizations.

Amid changes and uncertainties where environments become less and less controllable, the conventional performance-based approach to human resource decision seems to be less reliable as compared to its competency-based counterpart (Langdon and Marrelli 2002). The reason is that while the former focus on what the person can do, the latter looks at what qualities and capabilities that allow a person to come up with the expected performance. This particular study aims therefore to 1) identify competencies that underlie baseline performance and high performance of meeting and convention operation planner in Thailand and 2) provide competency-based managerial guidelines for convention and meeting operation planner. The next part discusses theoretical frameworks related to the study topic.

THEORETICAL FRAMEWORK

This part of the article discussed the theoretical frameworks pertained to the topic. First, meeting and convention is discussed followed by the concept of competency and competency-based human resource management which are the parent disciplines of the topic respectively.

1.1. Convention and Meeting

As a part of tourism and hospitality, convention and meeting represents the major part of MICE industries as its revenue and number of visitors surpasses those of other MICE sub-industries in combination (Thailand Convention and Exhibition Bureau 2014). Convention and meeting can be defined as a private and public gathering for idea interchanging, entertaining and discussion (Leask and Hood 2001). It concerns a broad range of stakeholders such as organizer, venues, host organizations, and attendees as well as general public in the host communities (Gartrell 1991; U.S. Bureau of Labor Statistics 2012). Therefore, when hosting an international convention, economic and social benefits benefiting government, private sector, general publics can be expected.

Meeting and convention do not only serve as an extra revenue and employment sources but also a tool to even out fluctuating and seasonal demand of the leisure tourism market (Var, Cesario et al. 1985; Leask and Hood 2001). For these reasons, convention and meeting has been seriously promoted the destinations to host organizations and organizers by establishing exhibition and convention bureaus. The private sectors themselves have also grouped together to strengthen the negotiation power of the whole sector in international arena. As in the case of Thailand, Thailand Convention and Exhibition Bureau-TCEB served as convention bureau while Thailand Incentive and Convention Association-TICA served as convention and meeting as well as incentive travel professional association.

Meeting and convention can be categorized into three categories namely government, association, and corporate conventions)Var, Cesario et al. 1985; Oppermann and Chon 1997; Leask and Hood 2001(. Corporate meeting and convention tend to be smaller in size but the participation is obligatory (U.S. Bureau of Labor Statistics 2012). Therefore, the operation is supposed to be simpler as compared to other two types where the participations are voluntary and the number of participants is unpredictable. With the trend towards merger and acquisition worldwide that comes with globalization, corporate meetings and conventions are supposed to grow in the short run (Fletcher and Brown 2002; U.S. Bureau of Labor Statistics 2012). However, this market is supposed to shrink in the long- run as technologies advances and individuals can convene without physical presence (Roland Berger Strategy Consultants GMBH 2011). Meeting organizers should be technologically adept in embracing technologies in their services to ensure their strategic fit in the new changing business landscape. Besides, as there expected to be only high rank executives that meet for strategic direction determination, meeting and convention organizers should be prepared for smaller but higher per head value of participants.

Association and government meetings and conventions are larger in size. Government conventions and meetings are usually sponsored by the concerned public authorities. Despite the fact that their participation can be either voluntary or obligatory, organizers can be ensured of the budgetary issues of the organization. Association conventions and meetings, on the contrary, depend on enrollments and sponsorship due to pure voluntary participation. Attendees are usually responsible for their own expenses, the decisions can be influenced by both the interestingness of the content, the potential for network establishment, financial affordability, and other hedonic factors at both the venue and destination levels (Leask and Hood 2001). Besides, attendees of association conventions and meetings tend to travel with other companions. Therefore, the participation decision process is influenced by others as well (Oppermann and Chon 1997).

Planning and organizing association meeting and conventions which are usually international events tend, therefore, to be more complex starting from the content and event design to the site and destination selection to be interesting yet affordable by prospective attendees and sponsors.

Five groups of stakeholder for an international convention and meeting can be identified namely host organizations, convention planners, delegates, venues, and convention bureaus. The first four groups of stakeholder seek profit from their services, convention bureaus act as facilitators and supporters for other groups of stakeholder to perform their task.

Host organizations act as customers to convention organizers and venues while their success depended on the registration fees and sponsorship as well as how well they can control the organization cost (Oppermann and Chon 1997). Four types of factor influence the participation decision of convention attendees.

The first factor is association and conference factor which refers to prospective attendees' involvement to the association, peer pressure, perceived career benefit from participation, and the need for self-development (Oppermann and Chon 1997).

The second factor is personal and business factor which concern health conditions, financial affordability, time availability, other personal engagements, and supports from employers (Oppermann and Chon 1997).

The third factor is location factor which concern destination image, accessibility, transportation cost, accommodation costs, pre-post convention activities, and previous experience with the destination (Oppermann and Chon 1997).

The last factors concern intervening factors such as the period in which conventions are held, family obligation or financial situation in particular time, political issues and turmoil in the destination (Oppermann and Chon 1997).

As it is harder to create success in organizing association conventions and meetings, organizers and host destinations try to provide various types of conventional and unconventional venues for conventions holding (Leask and Hood 2001). These venues range from purpose build facilities, multi-purpose built facilities, community hall, conference halls, educational establishments, hotels to historic sites, museums, historic houses. Holding conventions in interesting venues help increasing the attractiveness of the conventions and is expected to create more delegate drawing power. As for unconventional venues such as museums and historic sites, cooperation from local and public authorities concerned is needed while equipment and accessibilities might not be as convenient as other types of conventional venues. Other limitations also come to concern as well such as size of the venues, the support systems of the venues. Operation planners for convention and meeting business need to combine their creative thinking, problem solving, and creative thinking in organizing conventions and meetings that are more interesting to prospective delegates and draw registration from them. At the same time, they also need to think about cost and other constraints of both host organizations and venues as well.

While delegates decide to attend a convention and meeting based on the interestingness of the conventions themselves and the attractiveness and accessibility of the destination, host organizations and meeting organizers tend to focus more on cost issues and ease of organizing. Hinkin and Tracey (2003) explored the satisfaction criteria with convention venue from the perspectives of meeting planners and meeting delegates. Safety and staff are the first two most important criteria that drive satisfaction of both groups of consumers. Table 3 shows the satisfaction criteria with convention venues as ranked by both groups of respondents.

	Comparison of importance ranking for meeting plainers and delegates						
Planners		Participants					
1	Security	1	Security				
2	Staff	2	Staff				
3	Meeting rooms – sensory factors	3	Guest rooms				
4	Guest rooms	4	Meeting rooms- sensory factors				
5	Pricing and billing	5	Food and beverage				
6	Meeting rooms-physical	6	Meeting rooms-physical				
7	Food and beverage	7	Conveniences				
8	Public Areas	8	Public Areas				
9	Convenience	9	Recreation Amenities				

Table 3
Comparison of importance ranking for meeting planners and delegates

Adapted from: (Hinkin and Tracey 2003)

Table 3 indicates the high importance of security of the venue and the quality of relationship both groups of respondent have with the staff, before, during and after the event. In another paper, Hinkin and Tracey (2003) further elaborated on their findings and categorized venue criteria into two groups namely must have, and nice to have. The former is equal to non-compensatory rules while the latter is equal to compensatory rules of decision making which allows trade off among criteria (Moutinho 1987; Crompton and Ankomah 1993). They have argued that if any venue does not pass the "must have" criteria, the nice to have criteria would not be considered (Hinkin and Tracey 2003). Another implication drawn is difference in relative importance rated by different groups of clients.

From the elaboration made in the previous paragraphs, it can be argued that a meeting or convention can be considered successful when it can draw as many participants as expected by the host organization while managing revenue and budget set by the host organization. In so doing, relationships with suppliers and customers are to be established, maintained, and enhanced. The critical success factor of convention business can be identified as:

- Participant drawing power of the event
- Budget control of the event and negotiating powers with key contracted service providers
- Long-term positive relationship with key suppliers, convention bureaus, and customers



• Service quality provided to clients and delegates derived from thorough insights about their needs and preferences

A convention can be said to be successful only it can draw the expected number of participants and earn expected income from the registration and other services offered. How meeting planners help host organization economize the budget while getting all the services wanted would add value to the relationship with key customers. Strong and firm long-term relationship with both customers is derived from trust (Hinkin and Tracey 2003) which can only be gained from the delivery of promised service at the quality surpassing the expectation (Lovelock, Patterson et al. 2001). Without the services and encounters provided to clients and participants by well-trained personnel, the quality service cannot be provided according to their expectation.

Sales and marketing skills of both the convention and meeting business operators as well as their employees seem to be a critical success ingredient of the business. The skills cannot be utilized to the fullest without up-to-date and accurate market intelligence. Besides, like all B-to-B businesses, convention and meeting businesses rely heavily on relationship management.

Convention and meeting planners and well as venue sales Operation Planners are to appreciate that they can secure long-term profitability through relationship management (Lee and Hiemstra 2001). In convention and meeting business, business relationship with key clients depend on contact persons' expertise, decision and negotiation power with contracted service providers, willingness to work harder for value of the counterpart, and low turnover rate of the personnel (Lee and Hiemstra 2001).

These factors are highly related on how convention and meeting organization manage and develop their employees, Human Resource Management- HRM and Human Resource Development measures of these organizations should center around these skills and competency as well as the corporate culture and managerial styles of leaders should be conducive to empowerment. To the scope of this study, the concept of competency and competency based human resource management will, later, be discussed in this chapter. Next section discusses the meeting and convention labor market that would frame a more precise idea how these organizations operate in regards to employees and their talents.

2.2 Competency

Competency is a deep ability and behavior of individuals to perform tasks pertained to their respective job descriptions up to the expected standard within a working organization contexts(Rainsbury, Hodges et al. 2001; Purdue, Ninemeier et al. 2002; Chapman and Lovell 2006; Holton III, Coco et al. 2008; Duad, Ismail et al. 2010; Bhatawdekar and Bhatawdekar 2012). This concept has gained quick recognition from both practitioners and academics due to its versatility to the change and uncertainties in the work environment and its contribution to the organization competitiveness (Baum 2008; Jain and Haley 2009; Bhatawdekar and Bhatawdekar 2012).

Competency has three components namely knowledge skills, and attributes (Weber, Finley et al. 2009). While knowledge tend to be easier to train and educate, skills and attributes tend to be harder or impossible develop due to their ascribed qualities (Melaia, Abratt et al. 2008; Duad, Ismail et al. 2010). Consequently, employees, despite similar educational and professional backgrounds, tend to have different potentials in contributing to their respective organizations' competitiveness.

Scholars try to define dimensions of the concept of competencies. They can be, according to Weber, Finley, Crawford, and Riviera (2009), categorized into 2 broad categories namely soft and hard competencies. The former refers to transferable skills and other attributes that underlie the mastery of task performance (Weber, Finley et al. 2009). Hard competencies are knowledge and skills directly involved with task completion (Weber, Finley et al. 2009). According to them, high standard of task completion is determined by soft competencies. Due to non-standardized nature of working process and high level of uncertainties associated with hospitality industry in the present environment, employers should focus more on soft skill competencies which allow individuals to be versatile across functional areas and situations (Testa and Sipe 2012).

Competencies are also categorized into know-whom competencies, know-why competencies, and know-how competencies (Defillipi and Arthur 1994), Know-why competencies refer to qualities and transferable that allow a person to be efficient and devoted at workplaces such as work commitment, professional identification, working disciplines, goal oriented attitudes, thinking skills, and communication skills (Defillipi and Arthur 1994). Know-whom competencies refer to professional and personal network beneficial to task completions as well as interpersonal skills (Defillipi and Arthur 1994; Cappellen and Janssens 2008). Know-how competencies refer to knowledge and technical skills which can easily be trained (Defillipi and Arthur 1994).

From the two approaches to competencies, it can be seen that technical skills and knowledge in providing services become less and less important as they can easily developed on the job within a short period. On the contrary, basic skills and attributes tend to be more important and sometimes hard to develop (Bhatawdekar and Bhatawdekar 2012). In such a light, competency-based human resource management should be the solutions for the new environment.

2.2.1 Competency Identification

As mentioned earlier, competencies are important factors for human resource decisions. For optimal use of competencies, a competency model is needed. Various competency models have been developed for several positions in hospitality and tourism industry but they seem to over-focused on technical skills (Chapman and Lovell 2006). Besides, models developed are developed from data collected from only one or two groups of informants usually job incumbents and job supervisors (Langdon and Marrelli 2002; Baum 2008; Priyadarshini and Dave 2012).

Additionally, due to higher importance of competitive environments, human capital becomes a strategic asset; organizations should make sure that employees in their payrolls possess competencies that allow them to materialize their strategies(Hamimi Abdul Razak, Kamaruddin et al. 2012). Further adaptation to each organization's strategic approach is needed. According to Jain and Haley (2009), strategic formulation and related decisions, including human capital decisions, should be resulted from a thorough discussion organization wide.

Knowing the necessity of having a mode, this particular study adopted a competency model called "Language of Work"- LOW initiated by Langdon and Merreli (2002). The LOW model was adapted for several reasons. First, the scope of this study is beyond one particular organization, organization bounded variables, such as organizational culture and working process, were excluded from the study. Second, the ultimate aim of this study is to develop a work standard operational manual for the convention and meeting operation manual that does not only be the reference for working standard for people assuming this position but also to provide decision guidelines with other people concerned with this position especially human resource managers and job supervisors. Performance standards were also included in this model.



Figure 1 Adapted Language of Work Competency Model



Adapted from : (Langdon and Marrelli 2002)

To identify competencies in terms of knowledge, skills, and attributes- KSA, job description from leading companies in the convention and meeting sectors of Thailand was accumulated and combined. These organizations are nominated from Thailand Incentive and Convention Association- TICA, the most prominent convention meeting and incentive professional association recognized by public authorities. Participants were categorized into 5 groups namely job incumbents, job supervisors, colleagues, suppliers, and customers. They were asked, according to the task list accumulated from job descriptions, what their expectation about threshold, differing, and ideal performance of sales executives in the convention and meeting business. Following the performance, participants were also asked what knowledge, skills, and attributes needed for each performance. With this model, competencies necessary for different level of task completion of sales executives in convention and meeting were discovered.

1.2. Competency-based human resource management

When talking about human resource management, activities that involve such an area are recruitment, performance appraisal, and promotion of personnel to higher positions. The ultimate aim of human resource management is actually to create organizations' productivity and competitiveness by ensuring the fit of the organization to the competitive landscape (Bourdreau and Ziskin 2011). Given the highly unpredictable and volatile competitive environment, competency-based human resource management is, therefore, of high interest of both practitioners and academics. This approach alarms human resource managers and organizations to review their decisions based on task performance or what and how a person complete their tasks to skills, knowledge and attributes that underlie different levels of task performance according to the job description (Huff-Eibl, Voyles et al. 2011). Adopting this approach, concerned parties need to change from the start which is development of job description. From a vaguely written of job natures, job description should be redesigned in a way that specifies standard with underlying competencies for the work standard.

In screening new candidates, interview questions should be developed to evaluate competencies not the ability to perform tasks included in the job description (Martin and Pope 2008; Huff-Eibl, Voyles et al. 2011). In other words, employers should focus on competencies that underlie job performance instead of the performances of task completion. Considering that competencies comprise 3 components namely knowledge, skill, and

attribute and the latter two tend to be either inherent or take more time to develop, focus should be paid on transferable skills and attributes than knowledge or technical skills. Besides, the interview process should be flexible enough with probing questions that allow the conversation to move back and forth so that interviewees can express their soft competencies (Martin and Pope 2008; Testa and Sipe 2012). Despite the fact that the newly hired employees might not complete their tasks immediately, they tend to perform better thanks to soft competencies that underlie the task completion (Bhatawdekar and Bhatawdekar 2012)

Managerial skills, thinking skills, communication skills, and interpersonal skills should be of high importance for all positions, even in non-management ones due to the changing working mode towards outsourcing, team-based, network competition, and fast changing environments(Konigova, Urbancova et al. 2012). These competencies tend to be fundamental factors that allow each employee to develop to their full potential and fully contribute to corporate competitiveness and knowledge-based organizations.

Company should consider human capital and their accumulated talents or competencies before determining their respective strategic directions. Corporate fives include corporate vision, mission statement, objectives, goals and plans while strategic fives are more specific identifying what, who, why, how value proposition should be focused and what resources and capabilities are needed (Collis and Rukstad 2008). With this direction, human resource which is usually regarded as a support function for an organization becomes a value creating function which determined the competitiveness of the whole organization.

To start with, organizations should investigate if their current employees have their competencies needed for realize the strategies aimed. Should there be any misfit of the current competencies and the strategies envisioned, organizations must decide if they would alter the strategies or nurture the competencies needed)Konigova, Urbancova et al. 2012(.

This section discussed the context of the study, convention and meeting, as well as its parent disciplines, competency and competency-based human resource management. In the next part of this article, methods of the study will be discussed.

METHODS

This particular study is of qualitative approach where constructivism paradigm was adopted (Guba and Lincoln 1991) due to limitation of number of prospective participants that is insufficient to yield statistical significance if the quantitative approach was adopted (Neuman 2011). Another reason for qualitative approach was limited number of empirical studies in the areas. Consequently, a thick and rich explanation of the participants' expectation of meeting and convention operation planners' performance and their believed underlying competencies were adopted. To ensure the validity of the finding of the study, data collection was designed to have 2phases- in-depth interview and group interview.

3.1 Phase One: In-depth Interview with Five Group of Stakeholders

Phase one of data collection processes was in-depth interview with the stakeholders to the position "convention and meeting operation planner". As earlier mentioned that most competency models developed tend to be incomprehensive due to the sample bias, this particular study 5 groups of stakeholders with direct encounter with convention and meeting operation planner were included in this participant group. The stakeholder groups were the operation planner themselves, their job supervisors, their colleagues, customers, and suppliers.

Sample size was designed at 25 where 5 participants from each of the stakeholder groups. They were recruited using purposive sampling design to ensure high work standard of the organizations for which they work. Participants were nominated by Thailand Incentive and Convention Association- TICA, the most recognized convention and incentive travel professional association in Thailand. The finding from this study might be that the data were collected from large and international organizations.

Interview questions were firstly framed from accumulation of job description from 5 leading organizations named by TICA. Tasks contained in the five job descriptions were combined, sorted, collapsed and were used as the basis for in-depth interview.

Table 4

Job Description of Meeting Operation Planner (Interview Question Frame)

Task Area	Task
Sales and Marketing	Translating clients' needs into convention/ meeting design for proposal development
Operation	Develop Operational Plan
	Choose third party's products/ services for the program
	Manage Operational Team
	Evaluate the project after the convention days
	Verify Suppliers' products to ensure quality
Administration	Correspondence and Rank and File

Tasks appeared in Table 4 were combined, and collapsed from five leading convention and meeting organizations in Thailand whose names were undisclosed. They were selected by TICA which is one of the sponsors to this project. Participants who were nominated by TICA with the assistance from snowball method of participant recruitment from original participants were interviewed with one on one personal interview. Each of the session lasts 2 to 2.5 hours.

Participants were asked to report 3 levels of performance standards of task completion as appeared in Table 4. At first, participants were asked to report the threshold performance or the minimum acceptable performance from their perspectives. Following the performance, participants were asked to report its underlying knowledge, skills, and attributes. The interview went on the next level of performance, differing performance or the difference of performance level of high performers from average ones. Underlying competencies were probed what supported the performance. Finally, participants were asked to report their expected ideal performance and their underlying competencies. The interview went on task by task from the first to the last. After interviewing, the data from this stage were used as the basis for group interview as a way to triangulate the validity of the finding.

3.2 Phase Two: Group interview with Industry Expert Panel

After the exploratory phase of the data collection to identify the expected performance levels of task completions expected by 5 groups of stakeholders through in-depth interview sessions which were reported in the previous section. Expert panel comprising TICA board members and representatives from its leading member leading organizations were selected and recruited for group interview by TICA manager. The panel comprises 10 members who have acquainted each other in the field over years and have served meeting and convention MICE sub-industry for a long time. The group interview lasted 4 hours.

The third author acted as mediator to the group interview where panelists were asked to discuss the merit and appropriateness of both performances and their underlying competencies. Panelists were urged to discuss whether the performance standard and competencies were necessary and belong to the right level of

performance. Panelists, according to the group consensus, could change the level of items, add items, adjust items, or delete items as they felt appropriate

3.3 Data Analysis

As earlier mentioned that soft competencies namely skills and attributes tend to precursor the mastery of hard competencies and high performance (Chapman and Lovell, 2006), skills and attributes according to the triangulation of expert panel will be used for human resource management decisions while knowledge were used for human resource development purposes. Threshold level of skills and attributes will be used to screen new candidates while differing level competencies will be used for promotion and task assignment.

FIDING AND DISCUSSION

Despite the fact that the sample had been designed to interview 25 participants during the first phase of data collection, only 21 participants could be recruited due to work and personal engagement of nominated informants from TICA and the anxiety of disclosure of their respective organizations' trade secret. Among 21 participants, 5 were job incumbent, other 5 were colleagues, 7 were job supervisors, 3 were suppliers, and one was customers. Despite insufficient number of participants included in the data collection process, data saturation has been shown as same performance standard and competency units were repetitively reported across participants (Hennink, Hutter et al. 2011; Neuman 2011). The data saturation indicated the sufficiency of sample size and warranted the stop of in-depth interview data collection phase (Hennink, Hutter et al. 2011). Due to the objective of this study which focus on identify the competencies necessary for different levels of task performance of convention and operation planners, Table Y reported the competency units that support the three levels of performance.

Table 5

Underlying Competency Units of Expected Performance Levels of

Level of	Competency	Competency Units
Performances	Components	
		Product knowledge about characteristics, cost and availabilities
		Customer knowledge: objectives, needs, constraints, their businesses
		Market intelligence, trends
		Competitive Intelligence
	Knowledge	Current affairs: domestic and international
		Project knowledge: agreement, structures, characteristics, components
		Knowledge of the organization: working process
		Industry knowledge
		Supplier knowledge
		Thinking skills: logical, understanding, application, analytical, critical
	Skills	Communication skills: concise, precise, logical, audience appropriate
		Teamwork
		Presentation skills, clear and logical
Threshold		Basic cost and revenue calculation
		Task coordination
		English Proficiency
		Computer Literacy
		Correspondence and document making
		Project management skills: according to agreement and timeline
		Acumen
		Integrity
		Optimism towards obstacles and problems
	Attributes	Observance and detail oriented
	Autoucs	Service minded
		Change adaptation
		Personality: trustworthy, leadership
		Memories about work related issues

Thai Convention and Meeting Operation Planners



Level of	Competency	Competency Units
Performances	Components	
	Knowledge	None
		Strategic Questioning
	Cl-illa	Negotiation Skills
Differing	SKIIIS	Problem solving, unplanned situation
		Planning skills: anticipative of potential problems
	Attributes	Neatness and meticulosity
		Goal Oriented Attitude
	Knowledge	None
Ideal	01.11	Communication: Tactical and integrated with social acumen
	SKIIIS	Conflict Management: Systematic and integrative
	Attributes	None

From Table 5, it can be seen that at the minimum acceptable level, convention and meeting operation planners must possess the knowledge about the product of their own organizations, knowledge about their customers, general affairs, and suppliers. However, one cannot make optimal use of these knowledge items for professional purposes without transferable skills such as thinking, communication skills, cost calculation and teamwork skills as well as attributes such as integrity and optimism. Given the fact that knowledge takes shorter time to develop either through formal training programs or on the job basis as compared to skills and attributes which are usually ascribed or require long time to develop (Duad, Ismail et al. 2010; Bhatawdekar and Bhatawdekar 2012), employers and job supervisors should pay more attention to skills and attributes than technical knowledge and skills when screening candidates for the positions. Inexperienced candidates with higher scores in transferrable and high level of the desired attributes, at the threshold level, is believed to perform much better than those with low scores in soft competencies after being trained with technical knowledge and skills.

Employers should make sure that the candidate screening process is flexible and extensive enough to allow transferrable and attributes to be appraised and observed such as role playing case studies and situationbased exercises (Hamimi Abdul Razak, Kamaruddin et al. 2012) together with commercially available aptitude tests for certain skills (Stevens and Campion 1999; Weber, Finley et al. 2009).

For job supervisors, project assignment decision is quite important to ensure that their delegated responsibilities would be effectively fulfilled, there should be guidelines that help them make decisions which operation planners under their supervisions should be responsible for important projects. From Table V, it can be seen that transferrable skills that support team management, problem solving, and goal achievement. For convention and meeting MICE sub-industry, higher order soft competencies tend to underlie high performance. Project assignment decisionshould be based on how one ask the questions, negotiate with team members and third parties, their abilities to solve problems, and planning skills.

Promotion decision is another area that concerns human resource management. After being promoted, operation planners need to assume broader scope of responsibilities and technical skills and knowledge become less and less important)Konigova, Urbancova et al. 2012(. Ideal competencies should be used as the guideline for promotion decisions in meeting and convention organizations. As appeared in Table V, tactical communication skills that are integrated with social skill and social acumen. Besides, they also need conflict management skills to settle conflicts within the team in the most systematic and integrative way.

From the above discussion, the following recommendations for human resource management practice in meeting and convention MICE sub-industry;

• Candidate screening process should be based on transferable skills and attributes that support threshold competencies

- New staff development for newly hired convention and meeting operation planners should focus on technical knowledge and skills for meeting and convention sub industry
- Mentor system and on-the job training program should be seriously adopted with pre-specified learning outcomes
- Projects with complexities or of high importance should be assigned to those with differing competencies
- Promotion decisions should be made using ideal competencies as guidelines

CONCLUSIONS AND FUTURE WORKS

To strengthen the competitiveness of convention and meeting sector in Thailand through human capital amid a fast changing external environments, this study was conducted to explore the competency set that underlie three levels of performance. Among the three components of competency, knowledge is the easiest part to develop in employees and depend on skills and attributes to master such knowledge. Candidate screening for meeting and operation planner in Thailand should focus on transferable skills and basic attributes such as integrity, goal oriented attitudes, thinking and communication skills more. The guidelines were given not only for candidate recruitment but also new staff development, project assignment, and promotion decisions.

Future works should be conducted at the organization level to ensure the alignment of the competencies identified and organization specific conditions as well as their respective competitive strategies. Besides, longitudinal approach to the study should also be conducted to verify the effectiveness of this competency-based human resource management approach in increasing productivity and competitiveness of the whole sector.

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TOURISM BUSINESSES IMPACT ON THE ECONOMIC DEVELOPMENT

OF THE REPUBLIC OF ARMENIA

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ABSTRACT

This paper aims at analyzing the impact of tourism on economic development and also the importance of tourism for international trade (import and export) for one of former Soviet Union countries - Armenia.The aim of this paper is to find out the position and benefits of tourism in relation to other activities (agriculture, manufacturing and mining), attempts to analyze Armenian tourism sector interdependency and importance for the economy as a whole by employing Input–Output (I-O) analysis methodology, particularly used calculation of indices "Index of the Power of Dispersion" (IPD) and "Index of the Sensitivity of Dispersion" (ISD) and finally to test whether tourism has impact on Armenian economic development.

It is observed from the analysis that the service sector (with tourism in) can bring new opportunities to Armenian economic development, thus, providing the integration of Armenian economy to the global economy. Major finding is that the tourism of Armenia plays a key role in international trade (visitor export contribution to total export is very big compared with other countries) and economic development and, therefore, more attention should be paid to it.

Key words: Armenia, economic development, I-O analysis, tourism

INTRODUCTION

1.1 Tourism

Over the last two decades, tourism has played an increasingly important role in the economic development of many countries. Tourism spending generates direct, indirect and induced effects (direct: the spending of tourists in tourist destinations, example; in restaurants: food, beverages, etc., indirect: payments made to suppliers: food, beverages etc., induced: the profit generated from the indirect effect spending) .Well known that tourism has an interrelation with various sectors in the economy and that fact making its development extremely beneficial to the economic development strategies of countries.

In 2011, it contributed 9% of global GDP valued over US\$6 trillion and accounted for 255 million jobs. The visitor export increase by 3% which accordingly generated US\$1.2 trillion, (The Authority on World Travel & Tourism (2012)). Consequently, it is not surprising to imagine that tourism can be a viable exportoriented economic growth strategy especially for developing countries in their quest for economic development, job creation and poverty reduction.

For estimating the role of tourism in whole economy in this study multiple analysis are employed. Those are: a) identification of sectors with power to influence to the whole economy and generate changes and sectors with sensitivity from the changes in the economy as a whole, based on Input–Output table analysis methodology by calculation of indexes: Index of Power of Dispersion (IPD) and Index of Sensitivity of Dispersion (ISD), b) analysis of industries import dependency by calculation of coefficients: import dependence and self-dependence, c) analysis of trade flows (export, import) by sectors, by linking sectors characteristics with trade flows, we can conclude which sectors are effective for international trade, d) analysis of tourism related recent data.

1.2 The Economy of the Republic of Armenia



Armenia is a newly independent country. It gained its independence in September 1991, when the Soviet Union collapsed. Area of Armenia is 29.8 thousand square km, population - 3 million, currency - Dram (AMD).

After the independence of Armenia, it faced numerous financial as well as social system reconstruction problems (lack of institutions). In the era of the Soviet Union, Armenia had an economy which was oriented by central planning, with one ideology.

The first important step was to create new economic and political policies for national security and monetary reform. The reform (which was needed) caused high inflation in all Soviet Union member countries; including Armenia. Armenia needed many years for reconstructing the old social system and economic stability. Armenia has shown some economic growth, but, unfortunately, it still faces financial and trade deficit.

Year	GDP: market prices	GDP :basic prices
2000	1031338.3	937101.6
2001	1175876.8	1062218.5
2002	1362471.7	1230597.2
2003	1624642.7	1476938.4
2004	1907945.4	1748061
2005	2242880.9	2050010.5
2006	2656189.8	2430780.5
2007	3149283.4	2833735.3
2008	3568227.6	3162945.3
2009	3141651	2809097.1
2010	3460202.7	3071077.2
2011	3777945.6	3365621.8
2012	3997630.8	3539495

 Table 1

 Gross Domestic Product at market prices, Million Drams

Source National Statistical Service of the Republic of Armenia (NSS)

Table 1 shows that GDP grew steadily till 2009, after 2009 it decreased, which was caused by the Global Financial Crisis (GFC). Fortunately, it showed signs of growth starting from 2010

 Table 2

 Foreign Exchange Rate in drams/Average official exchange rate of 1 US dollar

Year	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
	539.5	555.1	573.4	578.8	533.5	457.7	416	342.1	306	363.3	373.7	372.5	401.8	409.6

Source National Statistical Service of the Republic of Armenia (NSS)

In table 2, data of exchange rate are shown, from which we can see that dram (currency of Armenia) was appreciated till 2008 and began to be depreciated the following year.

1.3 Location

Armenia is situated in the South Caucasus where the Alps-Himalayan system of the mountains is located. It occupies the northern and eastern part of the Armenian highlands and this country has no exit to the sea. The northern side is adjacent to Georgia, north-eastern and south-western parts share the border with Azerbaijan. The border with Turkey lies to west, the east of the country border with Nagorno-Karabakh and with Iran in the south.



1.4 Armenian Tourism Sector Outlook

As mentioned earlier Armenia is a newly independent country in transition. Because of being one of the Former Soviet Union countries, Armenia as a tourism destination not well known in the world. The decline of economy as well influenced in the tourism sector of Armenia. Fortunately tourism development recently took a place in Armenia also.

Tourism and tourism infrastructure development are among the first priority sectors in the country's economic development (industrial development strategy) strategy. The contribution of tourism in GDP is still low: 2.1% in 2011; but the sector is now one of the most dynamic and promising sectors of the economy (Competitive Armenian Private Sector (CAPS) (2012)).. Armenia recorded a sustainable growth in the number of tourist arrivals, 62% of which is from the Armenian diaspora and hosted around 800,000 tourists in 2011, i.e. almost a quarter of its population. Main countries of incoming tourists are European countries (France, Germany, UK, etc.), Russia and CIS, USA and Iran (CAPS 2012).

Armenia is one of the oldest societies in the history, approximately 2100 BC and also has a unique style of old churches (Armenia was the first country which adopted Christianity) and khachqars (stones on which crosses are carved). Armenia has 10 sites registered in the UNESCO World Heritage list, also the world famous "National Geographic Traveler" Magazine included Armenia in the top 3 countries in the category of "Active and Extreme Rest", as a result of the international voting (CAPS).

As a mountainous country Armenia has a favorable nature, especially for the following types of tourism: hiking and mountain climbing and skiing. It is also reasonable to promote and attract tourists from all over the world, ecotourism due to the mountainous nature of the country. Ecotourism growth will lead the rural regions to tourism business development (Armenian regions are less developed than the capital) which in turn will increase the standard of living of the rural dwellers.

MEETHODOLOGY

2.1 Theoretical Background

Input-Output (I-O) analysis is a method of tabulating an economic system in matrix form (I-O table). The input-output analysis methodology: analysis of whole economy, production structure and interdependency among sectors. The output of one sector used as the input for another sector production process and vice versa The use of the I-O analysis to estimate intersectoral interdependency and the role of each sector in the whole economy is the useful tool because of its ability to provide accurate and detailed information.

The importance of the Input-Output table analysis is;

- Input-Output tables provide information for analyzing linkages between activities.
- The tables also provide the underlying core database useful for a range of economic models (Paul Gretton (2013)).

The Input-Output analysis was credited to Wassily Leontief in the1930's and for his development of this model he was awarded Noble Prize in Economics. His model is used to analyze the relationships among sectors in economy.

The early studies of I-O table analysis of measuring linkages to identify the key sectors of the economy (Backward and Forward linkages and they are also known as Hirschman linkages) was Hirschman's (Albert O. Hirshman,(1958)) "Strategy of Economic Development" and it can be viewed as the first attempt to measure the pattern of industrial interdependence. In Rasmussen's (1956) doctoral thesis of "Inter-Sectoral Relations", he developed the analysis of industries, identifying key sectors with indices "Index of the Power of Dispersion" (IPD) and "Index of the Sensitivity of Dispersion" (ISD).

Sectors with strong indices are termed as key sectors, and play an important role in the development strategy of the country.

In the last seven decades, many economists have focused on the demand and supply effects in the economy and identified industries that had the maximal effects on the whole economy.

2.2 Analytical Tools

For the purpose of this research, *I-O model of an open economy will be used for analyzing the whole economy intersectoral dependency.*

The open economy I-O model (with handling import and export)

For the <u>n</u> sectors we have a set of <u>n</u> equations

$$\begin{pmatrix} X_1 = x_{11} + x_{12} + \dots + x_{1n} + F_1 + E_1 - M_1 \\ X_2 = x_{21} + x_{22} + \dots + x_{2n} + F_2 + E_2 - M_2 \\ \dots \\ X_n = x_{n1} + x_{n2} + \dots + x_{nn} + F_n + E_n - M_n \end{pmatrix}$$
(1)

Where: X -is the total output of each sector

 x_{ij} -is the intermediate input of sector *i* to *j*

 F_i -is the final demand of sector i

 E_{i-} is the export of sector i

 M_{i} - is the import of sector i

 a_{ii}

-defined as the input coefficient and measured follows.

$$a_{ij} = \frac{X_{ij}}{X_j} \tag{2}$$

Rewriting equation (1) in matrix terms and replacing with equation (2)

$$\sum_{j} a_{ij} X_{j} + F_{i} + E_{i} - M_{i} = X_{i}$$
(3)

Where:

$$A = \begin{bmatrix} a_{11}a_{12}\dots a_{1n} \\ a_{21}a_{22}\dots a_{2n} \\ \dots \\ a_{n1}a_{n2}\dots a_{nn} \end{bmatrix} \qquad \qquad X = \begin{bmatrix} x_1 \\ x_2 \\ \dots \\ x_n \end{bmatrix} \qquad \qquad F = \begin{bmatrix} F_1 \\ F_2 \\ \dots \\ F_n \end{bmatrix} \qquad \qquad E = \begin{bmatrix} E_1 \\ E_2 \\ \dots \\ E_n \end{bmatrix} \qquad \qquad M = \begin{bmatrix} M_1 \\ M_2 \\ \dots \\ M_n \end{bmatrix}$$

Introduced "m_i" represents the ratio of imports in sector in the domestic demand of "*i*" or ratios of dependence on imports; while $(1-m_i)$ represents self-sufficiency ratios.



$$m_{i} = \frac{M_{i}}{\sum_{j} a_{ij} X_{j} + F_{i}} \Leftrightarrow M_{i} = m_{i} (\sum_{j} a_{ij} X_{j} + F_{i})$$

$$\hat{M} = \begin{bmatrix} m_{1} \dots \dots \dots m_{n} \end{bmatrix}$$
(4)

Import coefficient diagonal matrix has an import coefficient (m_i) as the diagonal element and zero as the non-diagonal element.

On the intersectoral distribution of the import, the import coefficient matrix elements can be the useful explanation of the sectoral dependency on import.

In some earlier studies (Mustafa K. Mujeri and Mohammad (1994) referred to Acharya and Hazari (1971)) regarding information to intersectoral distribution of imports, the import coefficient matrix derive from the assumption of the existence of a proportionality relationship between import and gross domestic product.

The calculation of import coefficient (equation 4), includes also final demand, which will show the exact role of the import in the economy as a whole.

Arranging equation (3) using equation (4), we can obtain X.

$$X_{i} - (1 - m_{i})\sum_{j} a_{ij}X_{j} = (1 - m_{i})F_{i} + E$$

$$[I - (I - \hat{M})A]X = (I - \hat{M})F + E$$

$$X = \left[I - (I - \hat{M})A\right]^{-1}\left[(I - \hat{M})F + E\right]$$

$$[I - (I - \hat{M})A]^{-1}$$

$$(5)$$

Where *I* is an $n \times n$ identity matrix and known as inverse matrix (type of inverse matrix included import coefficient matrix) (in the studies related to I-O analysis, usually used simple form of I-O analysis methodology, with simple (I-A)⁻¹ inverse matrix, Leontief inverse matrix).

Each element of B (b_{ij}) is called an inter-dependence coefficient, which shows the changes (effect: direct and indirect) of the output of sector i when sector j's final demand changes by one unit.

Index of the Power of Dispersion (IPD)

The figure in each column in the inverse matrix coefficient table indicates the production required directly and indirectly at each row sector when the final demand for the column sector (that is, demand for domestic production) increases by one unit. The total (sum of column) indicates the scale of production repercussions on entire industries, caused by one unit of final demand for the column sector.

The vertical sum of every column sector of the inverse matrix coefficients is divided by the mean value of the entire sum of column to produce a ratio. This ratio indicates the relative magnitudes of production repercussions; that is, which sector's final demand can exert the greatest production repercussions on entire industries. This is called the "Index of the Power of Dispersion" and can be calculated as follows:

$$IPD = \frac{b_{*j}}{\overline{B}}$$
(6)
where: $b_{*j} = \sum_{i=1}^{n} b_{ij}; \overline{B} = \frac{1}{n} \sum_{i=1}^{n} \sum_{j=1}^{n} b_{ij}$

Index of the Sensitivity of Dispersion (ISD)

The figure for each row in the inverse matrix coefficient table indicates the supplies required directly and indirectly at each row sector when one unit of the final demand for the column sector at the top of the table occurs.

The ratio produced by dividing the total (horizontal sum) by the mean value of the entire sum of row will indicate the relative influences of one unit of final demand for a row sector, which can exert the greatest production repercussions on entire industries. This is called the "Index of the Sensitivity of Dispersion," which can be calculated as follow (Sirasago Tetsuya, 2011):

$$ISD = \frac{b_{i*}}{\overline{B}}$$

$$where: b_{i*} = \sum_{j=1}^{n} b_{ij}; \overline{B} = \frac{1}{n} \sum_{i=1}^{n} \sum_{j=1}^{n} b_{ij}$$
(7)

RESULT

In the study the I-O table of 2002 (version: own corrections) conducted by World Bank research (developed by Miles K. Light, EkaterineVashakmadze, and ArtsviKhatchatryan, GoharGyulumyan) was used. It was also submitted to GTAP (Global Trade Analysis Project)

	I-O Sectors Classification
Abbr.	Sectors
	Agriculture
G R N	Wheat, potatoes, legumes
VFR	Vegetables, fruits, grapes
VO L	Vegetable oils and fats
MIL	Dairy products
ОМТ	Beef, pork, poultry
O C R	Other crops
	Industry
MIN	Mining and Quarrying
FOD	Food processing & beverages
ТВС	Tobacco products
LMF	Light manufacturing and textiles
MTL	Metals and metal products
C R P	Chemicals rubbers and plastics
M N M	Mineral products and precious stones
МСН	Equipment, motor vehicles and optical
O M F	Other manufacturing
UTL	Electricity gas and water supply
	Services and Other
CON	Construction
T R D	Retail & wholesale trade, catering
GOV	Governance, Defense, and public expend.
T R N	Transport and communications
O S R	Other services
DW E	Housing and dwellings
B N K	Banking lending and insurance

Table 3.1

3.1. "Index of the power of dispersion" IPD

Examining the calculated result, analysis of the *"Index of the power of dispersion" (IPD))*, it becomes clear that highest rank of the IPD included the following sectors:

1) "Food processing & beverages" (FOD) sector : Armenia is known for the brandy and wine production (Ararat factory) as well as for fruits, dry fruits and sweets production, unfortunately, it was mainly known in Formal Soviet Union. The sector has the highest value of IPD: 1.22ranked 1,

2) "Tobacco products" (TBC) sector: ranked 2, IPD: 1.18 (with Grand Tobacco main producer),

3) "Mineral products and precious stones" (MNM) sector with IPD value of 1.16 (ranked 3).

The latter mainly represents the jewelry-cutting business in Armenia. These sectors exert great production repercussions to the entire economy, which means that the increase in final demand for the products of above mentioned industries will disperse to the whole economy by the value of *"Index of the power of dispersion"*.

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Service-related sectors generally had lower production repercussions on the entire industries

3.2 "Index of the sensitivity of dispersion" ISD

"Other Services" (OSR) had the highest value of ISD, which was 1.6 (ranked 1). This means that the unit increase in final demand of the whole economy will increase the production of "Other Services" sector by 1.6 (considering GDP growth: with the slightest percentage change, sectors with high ISD will grow anyway).

The sectors with high ISD can be considered as promising sectors of the country's economic development.

Table 3.2

Value of inc	lices: "Index	of Power of a	dispersion" ar	nd "Index of S	ensitivity of dispersion"
	Abbr.	IPD	Rank	ISD	Rank
	GRN	1.04	14	1.02	3
	VFR	1.06	10	0.99	13
	VOL	0.3	23	0.07	23
(OCR	1.08	8	1.11	11
]	MIL	1.12	6	0.98	14
(OMT	1.07	9	1.08	12
]	MIN	1.14	5	0.8	18
]	FOD	1.22	1	1.15	7
,	ТВС	1.18	2	0.78	20
]	LMF	1.16	4	0.91	16
(CRP	0.85	21	1.19	4
]	MNM	1.16	3	0.62	22
]	MTL	1.09	7	1.18	6
]	МСН	0.96	16	0.8	19
	OMF	0.9	19	1.12	10
1	UTL	0.91	18	1.19	5
(CON	0.94	17	0.83	17
,	TRN	1.06	11	1.14	8
,	TRD	1.05	12	1.54	2
1	BNK	0.88	20	1.13	9
	GOV	1.05	13	0.98	15
	OSR	0.8	22	1.6	1
]	DWE	0.99	15	0.78	21

Source: Calculated from I-O table



	Total output	EXPORT	IMPORT	Balance	Rank of Balance	Export/ Import
GRN	167.7	0.3	50.82	-50.52	19	0.01
VFR	209.3	5.6	24.27	-18.67	16	0.23
VOL	1.3	0	16.8	-16.8	15	0
OCR	139	5	19.55	-14.55	13	0.26
MIL	278.4	0.5	7.02	-6.52	10	0.07
OMT	109.3	0.1	21.45	-21.35	17	0
MIN	88	42.1	23.93	18.17	2	1.76
FOD	355.5	51.2	44.94	6.26	5	1.14
TBC	30.2	3.6	28.75	-25.15	18	0.13
LMF	60	29.6	40.16	-10.56	11	0.74
CRP	104.4	8.4	85.12	-76.72	22	0.1
MNM	311.7	259.2	228.88	30.32	1	1.13
MTL	118.3	44.8	57.02	-12.22	12	0.79
MCH	112.5	56.3	160.31	-104.01	23	0.35
OMF	74.7	5.1	55.67	-50.57	20	0.09
UTL	145.1	5.7	21.35	-15.65	14	0.27
CON	518.2	6.2	3.07	3.13	6	2.02
TRN	247.3	82	141.13	-59.13	21	0.58
TRD	427.4	0	0	0	7	0
BNK	87	6.7	11.3	-4.6	9	0.59
GOV	364.8	79	70.27	8.73	4	1.12
OSR	221.2	9.9	0.86	9.04	3	11.51
DWE	91.6	0	0	0	8	0

Table 3.3 Analyses of Export Import (US\$ million)

Source: Calculated from I-O table

Table 3.3 shows that in the whole economy only few sectors record positive trade balance. The top three sectors are: "Mineral products and precious stones" (rank 1), "Mining and Quarrying" (rank 2), "Other services" (rank 3).

It is notable that "Other services" sector has the highest value of Export/ Import ratio (11.51), which is important to take into account for the export-oriented economic development strategy

3.3. Analysis of Import Dependency, Calculation of Coefficients: Import Dependence and Self-dependence

On the bases of polices for economic growth through increasing the total output or increasing net export of the country it was useful to examine sectors using various combinations of ratios, linkages and coefficients. Two of the useful coefficients the import dependency and self-dependency coefficients.

Sectors	ABBR	Dependence on imports:m _i	Self-dependence or self- sufficiency:1-m _i	
Wheat, potatoes, legumes	GRN	0.23	0.77	
Vegetables, fruits, grapes	VFR	0.1	0.9	
Vegetable oils and fats	VOL	9.38	-8.38	
Other crops	OCR	0.1	0.9	
Dairy products	MIL	0.02	0.98	
Beef, pork, poultry	OMT	0.14	0.86	
Mining and Quarrying	MIN	0.42	0.58	
Food processing & beverages	FOD	0.09	0.91	
Tobacco products	TBC	0.91	0.09	
Light manufacturing and textiles	LMF	0.66	0.34	
Chemicals rubbers and plastics	CRP	0.47	0.53	
Mineral products and precious stones	MNM	1.74	-0.74	
Metals and metal products	MTL	0.37	0.63	
Equipment, motor vehicles and optical	MCH	0.97	0.03	
Other manufacturing	OMF	0.46	0.54	
Electricity, gas and water supply	UTL	0.1	0.9	
Construction	CON	0.01	0.99	
Transport and communications	TRN	0.44	0.56	
Retail & wholesale trade, catering	TRD	0	1	
Banking lending and insurance	BNK	0.09	0.91	
Governance, Defense, and public expand	GOV	0.18	0.82	
Other services	OSR	0	1	
Housing and dwellings	DWE	0	1	

 Table 3.4.

 Coefficients of import-dependency and self-dependency

Source: own calculated from I-O table

Table 3.4 shows the result of calculated coefficients from which we can see the sectors with high selfdependency. Those sectors' production process is not dependent on the import, which means that all inputs used in production process are supplied by domestic suppliers. From the calculated coefficients it was noticed that "Other services" sector had the highest value of "*Self-dependence*" coefficient (the value is 1). Among sectors in the whole economy with positive trade balance (Table 3.3), "Other services" has the highest value of "*Self-dependence*" coefficient.

To state that tourism sector of Armenia is playing an important role in the country's economic development recent data related to the tourism sector have been analyzed.



Source National Statistical Service of the Republic of Armenia (NSS)

Figure 3.1 shows the structural changes of GDP: Tertiary Sector (Service Sector with tourism in) share to GDP started showing a gradual increase from 2005 and decrease from 2009, (GFC); though stagnated it still has the biggest share of GDP.



Figure 3.2

Source National Statistical Service of the Republic of Armenia (NSS)

The figure shows that the number of beds/days given within a year increased by 1.5 times, just in 7 years, although with the negative influence of the GFC, the number of beds given within a year was cut down in 2009 and again started to increase from 2010.



Source National Statistical Service of the Republic of Armenia (NSS)

Figure 3.3 shows that in 7 years the number of hotels has doubled (for such a small country as Armenia it is a quite big number), which means that investors are interested in investing in the Armenian hotel business (tourism sector).

In recent years, not only new hotels have been constructed, but also many hotels (which are already famous in Armenia as well in the Former Soviet Union countries) were rehabilitated to suite international standards.

200012.74147.6825.5335.935200119.45970.81341.5746.827200223.14485.11944.8717.110200332.522114.15549.4638.218200452.403183.19395.3018.322200548.761176.7299.12411.671200655.436204.858117.50212.523200753.753185.689107.53820.183200853.323216.388104.72226.313200961.975244.631123.48824.485201073.589282.865154.61428.594201179.127299.759163.84127.664201285.844321.819176.97128.245201389.959338.613182.29129.561		Travel &Tourism Direct Contribution to GDP.	Travel & Tourism Total Contribution to GDP	Visitor Exports.	Capital Investment
200119.45970.81341.5746.827200223.14485.11944.8717.110200332.522114.15549.4638.218200452.403183.19395.3018.322200548.761176.7299.12411.671200655.436204.858117.50212.523200753.753185.689107.53820.183200853.323216.388104.72226.313200961.975244.631123.48824.485201073.589282.865154.61428.594201179.127299.759163.84127.664201285.844321.819176.97128.245201389.959338.613182.29129.561	2000	12.741	47.68	25.533	5.935
200223.14485.11944.8717.110200332.522114.15549.4638.218200452.403183.19395.3018.322200548.761176.7299.12411.671200655.436204.858117.50212.523200753.753185.689107.53820.183200853.323216.388104.72226.313200961.975244.631123.48824.485201073.589282.865154.61428.594201179.127299.759163.84127.664201285.844321.819176.97128.245201389.959338.613182.29129.561	2001	19.459	70.813	41.574	6.827
200332.522114.15549.4638.218200452.403183.19395.3018.322200548.761176.7299.12411.671200655.436204.858117.50212.523200753.753185.689107.53820.183200853.323216.388104.72226.313200961.975244.631123.48824.485201073.589282.865154.61428.594201179.127299.759163.84127.664201285.844321.819176.97128.245201389.959338.613182.29129.561	2002	23.144	85.119	44.871	7.110
200452.403183.19395.3018.322200548.761176.7299.12411.671200655.436204.858117.50212.523200753.753185.689107.53820.183200853.323216.388104.72226.313200961.975244.631123.48824.485201073.589282.865154.61428.594201179.127299.759163.84127.664201285.844321.819176.97128.245201389.959338.613182.29129.561	2003	32.522	114.155	49.463	8.218
200548.761176.7299.12411.671200655.436204.858117.50212.523200753.753185.689107.53820.183200853.323216.388104.72226.313200961.975244.631123.48824.485201073.589282.865154.61428.594201179.127299.759163.84127.664201285.844321.819176.97128.245201389.959338.613182.29129.561	2004	52.403	183.193	95.301	8.322
200655.436204.858117.50212.523200753.753185.689107.53820.183200853.323216.388104.72226.313200961.975244.631123.48824.485201073.589282.865154.61428.594201179.127299.759163.84127.664201285.844321.819176.97128.245201389.959338.613182.29129.561	2005	48.761	176.72	99.124	11.671
200753.753185.689107.53820.183200853.323216.388104.72226.313200961.975244.631123.48824.485201073.589282.865154.61428.594201179.127299.759163.84127.664201285.844321.819176.97128.245201389.959338.613182.29129.561	2006	55.436	204.858	117.502	12.523
200853.323216.388104.72226.313200961.975244.631123.48824.485201073.589282.865154.61428.594201179.127299.759163.84127.664201285.844321.819176.97128.245201389.959338.613182.29129.561	2007	53.753	185.689	107.538	20.183
200961.975244.631123.48824.485201073.589282.865154.61428.594201179.127299.759163.84127.664201285.844321.819176.97128.245201389.959338.613182.29129.561	2008	53.323	216.388	104.722	26.313
201073.589282.865154.61428.594201179.127299.759163.84127.664201285.844321.819176.97128.245201389.959338.613182.29129.561	2009	61.975	244.631	123.488	24.485
201179.127299.759163.84127.664201285.844321.819176.97128.245201389.959338.613182.29129.561	2010	73.589	282.865	154.614	28.594
201285.844321.819176.97128.245201389.959338.613182.29129.561	2011	79.127	299.759	163.841	27.664
2013 89.959 338.613 182.291 29.561	2012	85.844	321.819	176.971	28.245
	2013	89.959	338.613	182.291	29.561

Table 3.5Data of Tourism Sector (LCU: local currency units, bn.)

Source: World Travel and Tourism Council (WTTC)

Table 3.5 shows that the contribution of tourism to GDP is gradually increasing, even GFC didn't have strong influence (the value of GDP, export, etc. were decreased, the local currency depreciated).

Average Annual Growth Rate (AAGR) of tourism's direct contribution to GDP is 17.8%, which again

shows that the tourism sector through the years has been recording stabile growth. It is also important to mention that the AAGR of visitor export is 18.8%, this fact also shows that the growth of tourism surely will record direct, indirect and induced big effects in the economy (tourism products mainly produced domestically).

It is also important for the export-oriented growth strategy, especially in this case: the producer of tourist products gain twice because of omitted transportation cost (as mentioned earlier Armenia is a landlocked country and transportation cost is very high).

Table 3.5

Visitor ExportsContribution to Total Exports				
Visitor Exports Contribution to Total Exports	2013,% share			
Belarus	2.2			
Romania	3			
Iran	3.1			
Russian Federation	3.4			
Europe	5.3			
World	5.4			
Ukraine	7.1			
Armenia	16.6			

Source: World Travel and Tourism Council (WTTC)

According to data (World Travel and Tourism Council)Visitor ExportsContribution to Total Exports in 2013 Armenia recorded 16.6%, which in respect and comparison with other countries export share to total export is bigger twice or even three times.

CONCLUSION AND DUTURE WORK

The study observed that Armenian tourism has all required factors, namely; rich history, topography with beautiful mountains, rivers, lake, old churches with its own style of construction which will be attractive not only to Christians but also to everyone interested in unique architectures.

In the service sector of Armenia, more attention is given to the Information Technologies (IT). IT has a big portion in the service sector and has high profitability. Although tourism has a small percentage of GDP, it has constant growth which will yield more and more profit and impact on economic development.

In the I-O table of Armenia, unfortunately, tourism is not shown as a separate sector. To state the hypothesis and show that tourism has significant impact on economic development of Armenia and plays important role in the country's economy I analyzed data related to tourism for recent years. In spite of the fact that tourism share to GDP is still very small, the big volume of tourist arrivals and constant growth of direct and total contribution to GDP, tourism sector has recently shown big prospects of becoming more and more important for the country's economic development. Especially it should be taken into account that visitor export share to total export is very high, which means double profit in case of Armenia (landlocked country).

As Armenia is not well known in the world attention should be paid to wide advertisement, distribution of information in order to put the country on the world map of tourist attractions, to make tourism business more favorable and to attract not only tourists, but also new investors.

In the near future, I will delve into the various components and sectors which make up the tourism sector and seek the major contributing agents.

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DEVELOPING CULTURAL TOURISM IN BORDER PROVINC : A CASE STUDY ON BUENG KAN PROVINCE, THAILAND

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ABSTRACT

This articles aims to study tourists' opinions and tourists' demands for cultural tourism and guidelines to developing cultural tourism in Bueng Kan Province, Thailand. This is a new Thai – Lao border province with the Mekong River as a natural boundary. The researchers applied mix method. The results show that most tourists appreciate memories from the cultural tourism trip in Bueng Kan Province and would like to learn more about the way of life of the local community. Regarding the demand for cultural tourism, overall, tourists' demands for cultural tourism in Bueng Kan Province is at the high level. The guidelines to develop cultural tourism in Bueng Kan Province, Thailand that were proposed included 1) improvement of the infrastructure 2) creating routes and activities based on local culture 3) establishing a tourists center of information 4) supporting homestay at the cultural tourism destination.

Keywords: Border province, Cultural tourism, Tourists' opinions, Tourists' demands

INTRODUCTION

Culture is an important part of the tourism product, considered to include family patterns, folklore, social customs, monuments, historical structures and landmarks (Weiler & Hall, 1992). Cultural tourism bring tourists chance to experience the unique of culture, heritage and to contact with host population in destination (Wall & Mathieson, 2006). It is the reason for experiencing and learning about different culture has grown and become prevalent among tourists nowadays (Boyd, 2002).

Bueng Kan Province in northeastern Thailand is the newest border between Thai and Laos provinces with the Mekong River forming a natural border (Bueng Kan Provincial Office, 2012). In terms of a border area, Bueng Kan Province has a unique culture to attract tourists as Moufakkir & Kelly (2010) stated; tourism potential can be realized in border areas. Factors such as history, heritage values, natural and environmental resources shared by neighboring states join together with great symbolism to bring opportunities to feel new experiences for tourists. That is why cultural tourism has been emerging and plays an important role in the tourism development strategy in Bueng Kan Province.

In term of tourism development, Hennessey et al. (2008) states that culture is one of the factors that can improve the competitiveness of a tourism destination. Cultural assets are crucial in attracting tourists to a specific destination, while tourism brings new and fresh resources to the cultural sector, spotting new entrepreneurial opportunities (Alberti & Giusti, 2012). Furthermore, cultural tourism exists because tourists want either to experience living places and cultures other than their own, or to gain access to foreign cultures, different in time and space, through artifacts housed away from their original locations, often in museums (Prentice, 2001). In cultural tourism management, the issues concern what specific travel behaviors make cultural tourists distinct from other travelers or how large the demand for cultural tourism is, and what elements of culture attract tourists to approach an answer in which the planner or organization can create a different image of the cultural tourism destination (Hennessey et al., 2008).

Therefore, with regards to Cultural tourism in Bueng Kan Province, these research questions were raised 1) What are the tourists' opinions and tourists' demand on Cultural tourism in Bueng Kan Province, Thailand and What guidelines should be implemented to develop cultural tourism in Bueng Kan Province, Thailand.

LITERATURE REVIEW

CULTURAL TOURISM

Culture is an important part of the tourism product and is one of the factors that can improve the competitiveness of a tourism destination (Hennessey et al., 2008). Cultural tourism is the movement of persons



to cultural attractions away from their normal place of residence with the intention to gather new information and experiences to satisfy their cultural needs (Richard, 1996). Ivanovic (2008) states that cultural tourism can be identified in two main cultural motivations included education (element of formal and informal learning) and novelty (authenticity and uniqueness). During a cultural tourism trip, tourists travel and experience folklore, customs, natural landscapes, and historical landmarks as well as being involved in other activities such as nature, adventure, sports, festivals, crafts and sightseeing (MacDonald and Joliffe 2002).

In destination, local culture provides and contributes to building a sense of local identity and solidarity. It seems to be a basis for tourism development. Cultural tourism effort to promote the local identity, regional languages, and minority cultures and focuses on preservation or promotion local culture, as well (Brennan et al., 2009). Cultural tourism also provides opportunities for visitors to learn about another area's history and way of life (Hennessey et al., 2008). Moreover, Hughes & Allen (2005) regarded cultural tourism as a subset of ecotourism which concerns small groups of tourists seeking to know about and sustain the natural environment, wishing to learn about the culture and the need to sustain local communities (Ceballos – Lascurain, 1987).

BACKGROUND OF CULTURAL TOURISM IN BUENG KAN PROVINCE

Bueng Kan Province located in northeastern Thailand, is the newest province in Thailand. It was separated from Nong Khai Province and established officially in 2011. This is also a border province between Thailand and Laos with the Mekong River forming the natural boundary. Nowadays, tourism is an important issue in the strategic development of provinces. Especially is cultural tourism considered as a prominent type of tourism in Bueng Kan Province (Bueng Kan Provincial Office, 2012).

Cultural tourism in Bueng Kan Province has rich and diversified cultural resources. In terms of border provinces, Bueng Kan Province has both Thai culture (Bueng Kan Provincial Office, 2012) and Isan culture which is named for Laos people living in Thailand and recognizes the uniqueness in each culture (Noseworthy, 2012). As a province on the Mekong River, the culture and legends of the people in Bueng Kan province are mostly related to the great Naga, a Mythical animal in Thai Buddhist culture (Tourism Authority of Thailand, n.d.). Prominently, Naga Fireballs, allegedly shot from the Mekong River, recently became the focus of a major festival that attracts many (mainly domestic) tourist pilgrims (Cohen, 2007). Apart from that, the Luangpisaijatiyarom temple and Ahhongsilawat temple are well-known temples in this area as sacred sites dealing with the great Naga. Besides that, the living culture of a Thai – Lao border province also brings tourists new experiences by strolling and shopping for local goods and enjoying local foods at the Thai-Lao Market (BangKok Post, 2012).

As Gelbman (2011) state a complex reality of living between two societies and cultures makes border areas become important attractions for tourists. Bueng Kan Province is becoming an emerging cultural tourism destination in Thailand.

THE COMPONENTS OF TOURISM DESTINATION

In any industry, a product is developed to meet the needs of potential customers. The development of the tourism industry has trigged the development of tourism products in which, the key questions raised are 'What makes a memorable and successful experience for tourism or what about general expectations versus niche tourism? (Xu, 2010).

In regards to tourism management, destination is not a single product. As the World Tourism Organization [UNWTO] (2007) states a local tourism destination is a physical space in which a tourist spends at least one overnight. It includes tourism products such as support services and attractions and tourist resources. It is consistent with what Buhalis (2000) states that destination is amalgam of tourism products and services, which facilities and services are designed to meet the needs of the tourists (Cooper et al., 1998). Buhalis (2000) suggested that the core of destinations is comprised of the six A_s framework includes: attractions, amenities, available packages, accessibility, activities and ancillary services. In terms of tourism management, accommodation management should be considered to attract tourists' to stay longer at destinations. Middleton (1994) states that accommodations are integrally related to the attractions of a destination and could enhance its appeal. Apart from that, local communities are the main stakeholders of tourism development, thus, attitudes of the local community should also be considered in tourism management. Lastly, to communicate destination information to a wider range of tourists, advertising seems to be a useful mechanic to inform, pursue and remind tourism products of the destination (Morrison, 2013).



RESEARCH OBJECTIVES

For this research, the following issues of study were specified

- To study tourists' opinions and tourists' demands for cultural tourism in Bueng Kan Province, Thailand.

- To study guidelines to improve cultural tourism in Bueng Kan Province, Thailand.

RESEARCH METHODOLOGY

To ensure the study was objective, the researchers employed quantitative research methods, qualitative research methods or a mixed method approach as shown below:

TO STUDY TOURIST' OPINIONS AND TOURISTS' DEMANDS ON CULTURAL TORUISM IN BUENG KAN PROVINCE, THAILAND.

For the quantitative data, the participants were tourists who travel to Bueng Kan Province, Thailand. The questionnaire consisted of three parts: 1) demographic information including sex, age, educational level, marital status and income; 2) tourists' opinions on cultural tourism in Bueng Kan Province; 3) tourists' demand for cultural tourism in Bueng Kan Province which was considered in seven aspects that included: attitudes, attractions, accessibility, accommodations, amenities, activities and advertising. The questionnaire used multiple choice questions in which respondents select one of the alternative possible answers and Likert scales with five options: strongly agree, agree, not sure, disagree and strongly disagree. The researcher interpreted the completed questionnaires by dividing the question scale into a 5 point scale, as shown in table 1:

Table 1.
Significance of points

Average Scores	Levels of Significant
1.00-1.80	Lowest
1.81-2.60	Low
2.61-3.41	Moderate
3.42-4.20	High
4.21-5.00	Highest

According to data from the Department of Tourism (2011) there were 137,455 tourists who traveled to Bueng Kan Province in 2011. Using Yamane's formula (1973), the researcher calculated the sampling size as 400. The statistical analysis of the data used the mean, standard deviation and Chi-square tests.

TO STUDY THE GUIDELINE TO IMPROVE CULTURAL TOURISM IN BUENG KAN PROVINCE, THAILAND.

For the qualitative data collection, a focus group discussion was organized. There were eight experts including academics, planners, tourism entrepreneurs and representatives of involved public organizations and local philosophers. The group discussed the appropriate guidelines for developing cultural tourism in Bueng Kan Province. Data analysis was performed using descriptive analysis.

RESEARCH AREA

Bueng Kan Province became a new province, the 77^{th} in Thailand (shown in figure 1), officially in 2011. It is located on the Thai – Lao border, 751 kilometers from Bangkok. Bueng Kan Province has an area of 4 305.746 square kilometer and a population of about 411,789 people. In here, most of population is Buddhist. Nowadays, this province is an emerging cultural destination with diversity of tourism resources such as Buddhism religious temples, local life living along the Mekong River, local foods and the belief on the Serpent – Naga.





RESEARCH RESULT

TOURISTS' OPINIONS AND TOURIST' DEMANDS FOR CULTURAL TOURISM IN BUENG KAN PROVINCE, THAILAND.

TOURISTS' OPINIONS ON CULTURAL TOURISM IN BUENG KAN PROVINCE, THAILAND.

With regards to cultural tourism in Bueng Kan Province, 41.00 % of tourists find out tourism information on Bueng Kan Province via tourist websites. An average of 41.8% of tourists believe that prominence of cultural tourism is cross-cultural between Thai – Lao. 41.00% of tourists are interested in cultural destinations dealing with faith and beliefs of the local community and 28.00% of tourists had an impression in the cultural significance of the tourist destination in Bueng Kan Province. On identity of cultural destinations, 46.20% of tourists refer to cultural destinations dealing with faith and beliefs of the local community and 37.00% of tourists would like to experience the traditional culture and authenticity of a destination. An average of 42.20 % of tourists would like to enjoy traditional cultural activities with local people and those that believe that these activities will lend support to the identity of cultural tourism in Bueng Kan Province. Finally, on improving cultural tourism in Bueng Kan Province, 38.00% of the tourists mention learning activities to enhance knowledge on the way of life of the local community.

TOURISTS' DEMANDS ON CULTURAL TOURISM IN BUENG KAN PROVINCE, THAILAND.

Items	\overline{x}	S.D.	Interpretation
Attitudes			
Local communities have positive thinking about tourists	4.21	.57	highest
Warm welcome from local community	4.32	.64	highest
Establish a connection between local community and tourists	4.09	.65	high
Communities retain local traditional living culture	4.20	.72	high
Attractions			-
Expectations of experience from cultural destination	4.48	.60	highest
Integrity and authenticity of cultural destination	4.54	.74	highest
Interpret living culture in Bueng Kan Province	4.02	.75	high
Create memories of destination images	4.07	.65	high

 Table 2.

 The results of tourists' demands for cultural tourism in Bueng Kan Province, Thailand.

Accessibility			
Access tourism destination conveniently and easily	4.48	.61	highest
Improving road conditions	4.39	.68	highest
Parking zones	4.31	.67	highest
Clearly labeled sign posts of cultural destination	4.22	.58	highest
Safe paths to the destination in Bueng Kan Province	4.45	.52	Highest

Table 2.

The results of tourists' demands for cultural tourism in Bueng Kan province, Thailand (Continued).

Items	\overline{x}	S.D.	Interpretation
Accommodations			
Diversity in accommodations such as tents/ homestay	3.82	.64	high
Decorate accommodations to interpret local cultures at	3.61	.70	high
destination			
Facilities in accommodation	3.85	.65	high
Consider quantity of accommodations and quantity of tourists	4.05	.70	high
Fair and suitable pricing	4.09	.65	high
Activities			
Enhanced learning of local traditional culture	3.84	.67	high
Training in preparing local traditional foods	3.79	.56	high
Sightseeing at cultural destinations with interesting landscapes	3.86	.79	high
Experiences with storytelling and beliefs in the local living		.76	high
culture of local community			
Amenities			
Public utilities (electricity / water / telephone / internet)	4.22	.69	highest
Ability of local guides	3.97	.65	high
Vehicles for sightseeing at tourism destination	4.16	.64	high
Restroom Management System	4.32	.61	highest
Advertising			
Center of tourism information	3.89	.70	high
Reliability and updating of tourist information	4.28	.65	highest
Convenient and easy access to tourism information	3.81	.70	high
Official website on cultural tourism in Bueng Kan Province	3.78	.87	high
Total	4.11	.13	high

Table 2 shows the tourists' demands for cultural tourism in Bung Kan Province, Thailand. Each aspect of these finding is interpreted below:

For attitudes, local communities have positive thinking about tourists is at the highest level (average = 4.21, S.D. = .57). Warm welcome from local community is at the highest level (average = 4.32, S.D. = .64). Establish a connection between local community and tourists is at the high level (average = 4.09, S.D. = .65). Communities retain local traditional living culture is at the high level (average = 4.20, S.D. = .72).

For attractions, expectations of experience from cultural destination is at the highest level (average = 4.48, S.D. = .60). Integrity and authenticity of cultural destination is at the highest level (average = 4.54, S.D. = .74). Interpret living culture in Bueng Kan Province is at the high level (average = 4.02, S.D. = .75). Create memories of destination images is at the high level (average = 4.07, S.D. = .65).

For accessibility, access tourism destination conveniently and easily is at the highest level (average = 4.48, S.D. = .61). Improving road condition is at the highest level (average = 4.39, S.D. = .68). Parking zones is at the highest level (average = 4.31, S.D. = .67). Clearly labeled sign posts of cultural destination is at the highest level (average = 4.22, S.D. = .58). Safe paths to the destination in Bueng Kan Province is at the highest level (average = 4.45, S.D. = .52).

For accommodations, diversity in accommodations such as tents/ homestay is at the high level (average = 3.81, S.D. = .64). Decorate accommodations to interpret local cultures at destination is at the high level (average = 3.61, S.D. = .70). Facilities in accommodation is at the high level (average = 3.85, S.D. = .65).

Consider quantity of accommodations and quantity of tourists is at the high level (average = 4.05, S.D. = .70). Fair and suitable pricing is at the high level (average = 4.09, S.D. = .65).

For activities, enhanced learning of local traditional culture is at the high level (average = 3.84, S.D. = .67). Training in preparing local traditional foods is at the high level (average = 3.97, S.D. = .56). Sightseeing at cultural destination with interesting landscapes is at the high level (average = 3.86, S.D. = .79). Experiences with storytelling and beliefs in the local living culture of the local community is at the high level (average = 4.11, S.D. = .76).

For amenities, public utilities (electricity / water / telephone / internet) is at the highest level (average = 4.22, S.D. = .69). Restroom management system is at the highest level (average = 4.32, S.D. = .61). Ability of local guides is at the high level (average = 3.97, S.D. = .65). Vehicles for sightseeing at tourism destination is at the high level (average = 4.16, S.D. = .64).

On advertising, reliability and updating of tourist information is at the highest level (average = 4.28, S.D. = .65). Center of tourism information is at the high level (average = 3.89, S.D. = .70). Convenient and easy access to tourism information is at the high level (average = 3.81, S.D. = .70). Official website on cultural tourism in Bueng Kan Province is at the high level (average = 3.78, S.D. = .87).

Overall, tourists' demands for Cultural tourism in Bueng Kan Province is at the high level (average = 4.11, S.D. = .13), with each aspect from the highest level to the lowest level shown in table 3.

 Table 3.

 Summary of tourists' demands on seven aspects of Cultural tourism in Bueng Kan Province

Items	$\overline{\mathbf{r}}$	S.D.	
	\mathcal{A}		Interpre
			tation
Attractions	4.28	0.34	highest
Accessibility	4.37	0.30	highest
Attitudes	4.20	0.33	high
Accommodations	3.88	0.35	high
Activities	3.91	0.37	high
Amenities	4.17	0.34	high
Advertising	3.94	0.37	high
Total	4.11	0.13	high

Table 3 shows that tourists' demands for Cultural tourism in Bueng Kan Provinc in terms of attractions is at the highest level (average = 4.28, S.D. = .34) and accessibility is at the highest level (average = 4.37, S.D. = .30), while attitudes (average = 4.20, S.D. = .33), accommodations (average = 4.88, S.D. = .35), activities (average = 3.91, S.D. = .37), amenities (average = 4.17, S.D. = .34), and advertising (average = 3.94, S.D. = .37) are all at the high level.

GUIDELINES TO DEVELOP CULTURAL TOURISM IN BUENG KAN PROVINCE, THAILAND.

Focus group discussion was organized. Based on the results of tourists' opinions and tourists' demand for cultural tourism in Bueng Kan Province, eight experts who included academics, tourism entrepreneurs, and representatives of involved public organizations and local philosophers proposed guidelines to improve the potential of cultural tourism in Bueng Kan Province, as detailed below:

IMPROVEMENT OF THE INFRASTRUCTURE

Infrastructure base of a country is a determinant of the attractiveness of a tourism destination. Firstly, the transport infrastructure is a significant factor in the destination's development. Conditional roads, clear signposts and public vehicles will support the increasing tourists' flow. These are the first steps in Cultural tourism management in Bueng Kan Province. Secondly, public utilities (water, electricity, internet, telephone) are issues in tourism management. Involved public organizations should provide budgetary support to improve basis infrastructures on roads and public utilities. It not only adds potential to the cultural tourism destination but also improves the quality of the host community's living standard.


CREATING ROUTES AND ACTIVITIES BASED ON LOCAL CULTURE

Bueng Kan Province has diverse of cultural resource. These are Buddhism temples, local traditional festival, local life living and the belief of local residents. There are main attribute to attract tourists arrive in here. Department of Tourism and Sports and tourism entrepreneurs should have collaboration to create cultural routes and tourists' activities based on local culture. On cultural tourism related to local food, tourists can receive training in preparing local foods such as papaya salad, Isan chili paste, or sightseeing at border markets along the Mekong River where they can understand daily living of the host communities in the border province. For Cultural tourism dealing with faith and beliefs, tourists can pay homage to sacred sites or Buddha statues and join in local festivals i.e. the Fireball Rocket Festival and enjoy storytelling in the local community.

ESTABLISHING A TOURISTS CENTER OF INFORMATION

For convenient and easy access to cultural tourism information, provincial government and Department of Tourism and Sports in Bueng Kan Province should consider to establish a tourist information center. This center would provide information about the cultural destination, cultural activities, accommodations and other related services. This will be helpful to tourists in saving costs and in getting credible information. An official Cultural tourism website should be created. Nowadays, the Internet is a convenient way to reach a wider range of tourists, especially international tourists. This website would be managed by the tourist center of information and would continuously have up-to-date information.

Apart from that, forms of information play a role in determining destination image. Thus, brochures or cultural tourism guidebooks should be published by additional channels to reach tourists. Besides the tourist center of information, the published materials should be placed in travel agencies, hotels and bus stations to facilitate tourists during travelling.

SUPPORTING HOMESATY AT THE CULTURAL TOURISM DESTINATION

Cultural tourism brings tourists opportunities to experience the host community's lifestyle and enhances the awareness of the difference in culture at each destination. With the Mekong River as a natural boundary between Thailand and Laos, Bueng Kan Province has an advantage location to establish homestay along the Mekong River.

The tourism activities were organized in community sites to study lifestyle, culture and manufacture of locality with Homestay is an interesting activity in cultural tourism. Establishing and management by local community, homestay is an alternative way to support relationships and increase positive thinking between tourists and the host community. During staying in Homestay, tourists will have firsthand experience with local daily activities such as boat and fishing along the Mekong River, cross to Laos market and making food from local ingredients.

Moreover, in terms of the newest province in Thailand, provincial government should promote and improve homestay to incorporate the Homestay Standard in Thailand. It would create a reliable image for cultural tourism development in this province.

CONCLUSION

This research aims to study tourists' opinions and tourists' demands for cultural tourism in Bueng Kan Province, Thailand to develop guidelines to improve cultural tourism in Bueng Kan Province, Thailand. The mix method research was applied. The results show that tourists are interested in cultural tourism in Bueng Kan Province, especially cultural tourism destinations dealing with the faith and beliefs of the local community. They also appreciated memories of their cultural tourism trip in Bueng Kan Province and would like to learn more about the way of life of the local community.

Regarding the demand for cultural tourism, tourists' demands for cultural tourism in Bueng Kan Province is at the high level (average = 4.11, S.D. = .13), attractions is at the highest level (average = 4.28, S.D. = .34) and accessibility is at the highest level (average = 4.37, S.D. = .30), while attitudes (average = 4.20, S.D. = .33), accommodations (average = 4.88, S.D. = .35), activities (average = 3.91, S.D. = .37), amenities (average = 4.17, S.D. = .34) and advertising (average = 3.94, S.D. = .37) are all at the high level.

Finally, the guidelines to improve cultural tourism in Bueng Kan Province, Thailand that were proposed included 1) improvement of the infrastructure 2) creating routes and activities based on local culture 3) establishing a tourists center of information 4) supporting homestay at the cultural tourism destination.

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AGRO-TOURISM AND COMMUNITY ENTERPRISE TOURISM CAPABILITY INCREASING DEVELOPMENT BY INTEGRATION BASE ON CHAINAT PROVINCE STRATEGIC

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ABSTRACT

The purposes of this research were 1) to study the potentiality in developing the agro-tourism and community enterprise, 2) to study strategic plan in developing ability range of the agro-tourism and 3) to study product processing, product standard, the strength of group, and synthetize the supporting trend in the agro-tourism and community enterprise by using the apply research, interview and observation with local leaders and community officers. The group evaluation operated within 4 districts and 7 sub-district areas with 140 people in 13 community enterprises and 8 agro-tourism groups. The total number of the target group was 21groups. The results of this research were: the potentiality in developing ability range: they were a new theory for agricultural training by Payoong- Kwan farm and plantation demonstration by Puaangchat pomelo farm, Klin, Udom pomelo's garden and farmers' school. Moreover, the group of community enterprises found that Chao-Praya Dam Fish sauce, herbal shampoo, Chainat ceramics, pottery, beads and straw puppet, stirred pomelo skin and rice cracker were capable to demonstrate how to produce and choose the products.

Strategic plan for developing the ability in Agro-Tourism: the developing in strategic plans were 1) Quality of Products, 2) form of products, 3) the packaging design, 4) Intellectual ability and productive technology, 5) Raw material production, 6) Networks and 7) Learning center and 8) Marketing.

Agricultural and Community Production Process: The community enterprise had developed the products according to the standard of community products. The agricultural production tends to produce the products following the new theory. Every group was certified the standard of agricultural products. The standard of community enterprise in the advanced group: fish sauce, herbal shampoo, pottery and beads groups are reached the criterion. Furthermore, Chainat ceramics, pomelo skin and sweet rice cracker groups were in the middle level while the rest of products are in the lower level.

The guidelines for promoting tourism activities: 1) develop facilities, 2) set up the product distribution center, 3) develop the strength of the business groups and networks, 4) develop learning center, 5) develop accommodations, 6) create accessible route, 7) sufficiency economy agro tourism 8) blessing spirit for rice harvest day and 9) sufficiency economy day.

Keywords: Agro-tourism; Community Enterprise; Capability Increasing; Chainat Province Strategic

INTRODUCTION

The research was created on strategic plan of Chainat province within second strategic on creating opportunity and income distribution to developing activity on economic strategy. The marketing, logistic system, tourism and services development. The researcher appreciated to increasing agriculture productivity, chance and distribution income in Chainat province and led research results to analyze the approach of developing tourism on elements for developing capabilities of tourism. There are Agro-tourism and community enterprise be promote tourism routes linking between Chainat and others.

Objective

1) to study the potentiality in developing the agro-tourism and community enterprise, 2) to study strategic plan in developing ability range of the agro-tourism and

3) to study product processing, product standard, the strength of group, and synthetize the supporting trend in the agro-tourism and community enterprise

LITERATURE REVIEW

Collier and Harraway (1997)Tourism industry has 4 compositions: (1) Transportation (2) Accommodation (3) Attractions Activities and Ancillary Services (4) Sales. And summarized in 3 A as follow **Accessibility, Attraction and Amenities**. Richard Tapper (2004) educated in tourism logistic 12 topics such as Customers, Marketing & Sales, Tour operating, Catering, food & beverages, Laundry, Food Production, Waste recycling & disposal Energy & water supplies Infrastructure, services & resources of destinations, Furniture & crafts, Cultural, social & sports events, Excursions & attractions, Ground transport, Ground operations. But he said that Tour operator has to think about 4 factors: accommodation, Transport Ground handlers, excursions and activities, Food and craft. For the rural tourism is one way for farmers to increase their cash flow is to take advantage of opportunities available in rural tourism. Rural tourism is described by Fairburn (1994) as follows: "Rural tourism is a form of special-interest tourism which derives its appeal from the contrast between the rural activities or attractions New Zealand operators make available to tourists, and the tourist's day-to-day urban life". Rural tourism can take many forms including farm stays, eco-tourism (birds and other wildlife), organic farming, adventure tourism, garden tours, horse trekking, skiing, rafting and guided walks. Fairburn (1994) explains that successful rural tourism operations require careful planning, hard work and personal skills which may need developing in some farming people.

Chainat provincial office strategies were opportunities promotion and income distribution in 5 categories (1) tourism promotion (2) community product quality development (3) marketing and logistic development (4) management efficiency development (5) occupation and investment expansion (Chainat provincial office, 2007)

METHODOLOGY

This research was qualitative research with This 8 agro-tourism and 13 community enterprises (40 populations) by interview, focus group and evaluates Agro-tourism and community enterprise groups.

RESULT

This research revealed that:

1) Integrated development of tourism capability in terms of Agro-tourism

was found that Phayoong-Khwan garden has trained in new Agro-Theory. Phuangchat pomelo garden, Klin pomelo garden, Udom pomelo garden and Farmer School can develop to be the tourism attraction, demonstrating plant attendance, producing biochemical and herbicides. In addition there were young plant demonstrations, using new technologies and can buy their products. Eggplant group, Whan and Wanna vegetable mix garden are low capability and could not be tourism attraction.

Agriculture	Agro-Touris		total 100			
group	Tourist	Agro-tourism management		Attraction	Tourism	marks
	sufficient	The host	Marketing	10	service	
	30 marks	30 marks	10 marks	marks	20 marks	
Payoong-	25.33	26.66	5	8.66	19	
Kwan farm						84.65
Udom	18	20.33	2.6	6.97	16.66	64.56
Klin	15.66	19.33	2.6	7.21	17	61.8
Wanna	8.6	3.33	1.3	2.65	12.66	28.54
Rice farmer	14.66	20	2.3	6.54	16.33	
school						59.83
Whan	9	2.66	1.6	2.65	11	26.91
Puangchat	19.33	22.66	4	8.24	19.33	73.56
Eggplant	8.33	5.66	1.6	3.76	13.66	33.01

Table 1Capability evaluating in 4 compositions.

2) Integrated development of tourism capability in terms of Community

Enterprise was found the group of fish sauce in Chaowpraya Dam brand, shampoo, Chainat ceramic pottery, bead, imitation bird, pomelo skin paddle, Khao-Than and mattress, they will develop. Tourist can join in the production process activities and shopping products. In other group, group of rolled banana, Nok-kaew chili sauce, herbs bean and grilled fish couldn't be the tourism attraction.

community enterprises	$\overline{\mathbf{X}}$	S.D.	Level
Herbal shampoo	2.66	0.558621	high
pottery	2.56	0.6789106	high
beads	2.45	0.2944701	high
Chainat ceramics	2.41	0.624969	high
fish sauce	2.38	0.41028445	high
rice cracker	2.21	0.5447872	medium
imitation bird	2.06	0.9113587	medium
pomelo skin	2.03	0.8384441	medium
mattress	1.93	0.7849153	medium
Nok-kaew chili sauce	1.45	0.4833117	low
herbs bean	1.37	0.5447992	low
rolled banana	1.31	0.4371093	low
grilled fish	1.17	0.3580807	low

Table 2 community enterprises evaluating

3) Strategic plan for developing the ability in Agro-Tourism:

(1) Product quality development for be accepted in market and be safe to consume and order the products.

- (2) Variety of product development for opportunity in customer's choosing and purchasing products.
- (3) Product designs development for be attraction to purchaser.
- (4)Knowledge and technology for production process development to increase production capability.
- (5) Raw material development in area and decreasing the cost of good manufacturing statement.
- (6) Chain development for exchanging Knowledge and products.
- (7) The development to be center of learning, training, observe activities, propagandize and inherit.



(8) Marketing development, customer accession and advertising.

4) Agriculture and community production process.

The community enterprises had has process of product development on product standard criterion. Food and drug administration have certified on official number, the community product standard certificate and ultimately. It was considered to be one of the best products in community. (One Tumbon One Product: OTOP) The other products process of agriculture focuses on using biochemical instead of chemical substance. It is a new theory and the model of agriculture (there are certificate guarantee in every groups.)

5) The standard of community enterprise in the advanced group:

The evaluation of Community Enterprise; Chaopraya Dam fish sauce brand, herb shampoo, ceramic pottery, group of bead were high level. Chainat ceramic, skin paddle, group of Khao-Than were medium level of fortitude and last, group of mattress, group of grilled fish, group of rolled banana, group of Nok-kaew chili sauce were lowest level.

CONCLISION

There were 2 ways for developing the ability in Agro-Tourism. That was sufficiency economic, planting techniques, propagation, and developing biochemical, that divided to plant nutrients food and herbicides that can reduce using chemical. Tourists could participate in activities. For example, maintenance demonstration, planting, dressing and knowledge of

sufficiency economic (Localism in Thailand), in other the enterprise community there is development housing, products, tools and packaging Mow up food standard and classified as learning centers. Sell products to tourists or people, in conformity with the strategy of Chainat province. Optimization of agricultural production, creating opportunities and income

distribution development of learning organization, promote and develop to be the great city and good governance management.

Policy Guideline

The guidelines for promoting tourism activities: Tourism activities in terms of agriculture can observe activity, plant training and keeping their garden and field base on new theory, biochemical producing demonstration, tourism in community enterprise, visiting production process and choosing product for our present.

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AN INNOVATIVE PRACTICE FOR THE STRATEGIC MANAGEMENT OF TOURISM NETWORKS : DYNAMIC SUPPLY CHAIN ASSEMBLY

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ABSTRACT

Very little work has studied the strategy of supply chains assembly or of the roles played by central organisation management in these networks. This research analyses how the central assembler of a tourism network manages to respond to the current challenge of developing reactive, modular assemblies. We put forward a case study carried out in the French travel industry. The article proposes the concept of dynamic assembly and then suggests new perspectives for the strategic management of tourism supply chains. **Key words**: Central Assembler, Dynamic Supply Chain, Travel Industry

INTRODUCTION

From a theoretical point of view, the tourism industry can be described as various supply chains assembled from larger networks [Tapper, 2001]. This notion of assembly is omnipresent, particularly in the travel industry, with travel companies proposing packages (tour operators, 'holiday villages' etc.) These assemblies go from design and sales to accommodation, catering, transport and entertainment, and include all administrative aspects as well as risk management [Bode and al, 2011; Norrman and Janasson, 2004]. The products offered to travellers are generally presented as different kinds of packages. In recent years, travel habits have greatly evolved, and this has produced real challenges in terms of reactivity (control and reduction of lead times) and flexibility (control of capacity and resources, development of modularity). However, academic research has only very recently begun to examine the specific concept of Tourism Supply Chain Management [Zhang et al. 2009]. These authors stress that 'TSCM' deals essentially with channels of distribution or certain parts of the supply chain in isolation. It is true that very little work has studied tourism supply chains assembled from existing networks. Moreover, the dynamic aspects of the logistical assembly of an overall service are not really taken into account. Yet Zhang et al. (2009) demonstrate that future research must consider tourism supply chains as 'dynamic systems' that 'evolve and change shape all the time' and again as 'integrated, modular products' (p. 32). Furthermore, research into logistic favour organisational or spatial proximity to solve the problems of supply chain management whereas strategic decisions concerning logistics nature are taken in terms of networks [Paché and Paraponaris, 2006]. However, most theoretical contributions to corporate strategy focus on local applications of certain techniques ('management of industrial waste in an industrial area' [Noireaux, 2005], 'strategic positioning of a service provider in the Eastern European Union' [Fassio, 2003], or restrict themselves to the general context of business [Fulconis et al, 2007]. This observation encourages the researcher to investigate the strategic challenges of Tourism Supply Chain Management for the companies that make up the supply chain. This is the case particularly for the deciders and managers (Tourism Offices and tour operators) who mainly need to develop their capacity to react quickly and offer flexible, modular tourism products. Lambert et al. (1998) highlight the opportunities for research into networks as the most likely interorganisational systems to be used for supply chain management.

Academic research defines a network as 'a coordinated system of heterogeneous actors, developing transactions based on cooperative relationships, in order to pursue a shared objective together' [Voisin et *al.*, 2004, 10]. Among other networks may be distinguished company networks (several independent, autonomous companies



sharing resources and/or competencies within a system of exchange) and companies in a network (decentralised organisations with relatively autonomous decision centres). [Baudry, 2005; Mariotti, 2005]. Tourism Supply Chains resulting from these networks are often included in 'dynamic centred networks' [Buhalis and Law, 2001; Page, 2003]. This type of network can be described as a 'star network' insofar as it is made up of a central company, the driver, around which specialised sub-contractors or co-contractors gravitate [Assens, 2003]. We differentiate between networks (relatively stable and with the possibility of being activated) and supply chains (relatively 'dynamic') that are activated and deactivated from within the network [Fabbe-Costes, 2005, 2007]. Thus, a focal, organisation can activate, depending on the situation, different supply chains from the same network. The central actor in a star network is called the 'pivot' [Miles and Snow, 1992; Fréry, 1998; Paché and Paraponaris, 2006]. The literature identifies different functions that can be attributed to the pivot. However, this transactional approach to the roles of the pivot does not really take into account all the different dynamic aspects of assembling supply chains, for example the modularity of the services proposed or the temporary nature of the supply chains assembled. This research presents in an innovative way the dynamic, combinatory dimension of tourism supply chain assembly. The aim of this research is to improve understanding of how the pivot manages to fulfil his new role as an assembler in the current context.

In the first part of the article we present the concepts of Tourism Supply Chain Management and of dynamic assembly so as to stress the interest of bringing them together for the strategic management of tourism networks. In the second section we will bring our theoretical reflections to bear on a case study carried out in the French travel industry. Finally, on the basis of these results, we will present new perspectives for the strategic management of tourism networks and supply chains.

1. 'Tourism Supply Chain Management' and 'Dynamic Assembly': Towards Strategic Management of Tourism Networks

In response to the growing need for reactivity and flexibility in the tourism industry, the dynamic dimension of the management of tourism networks and supply chains needs to be taken more into account. The strategic concept of dynamic assembly linked to that of Tourism Supply Chain Management makes possible a perspective of multiple logistics strategies.

1.1 The Concepts of 'Tourism Supply Chain' and 'Tourism Supply Chain Management'

Tapper (2001] defined the tourism supply chain by stressing that the main difference between the tourism supply chain and those in other sectors lies in the fact that tourists travel in a 'product' most of whose components are services (e.g. transport, accommodation, catering, local services etc.) Thus, the quality of a holiday for the consumer depends on the performance of all the different links in the tourism supply chain. Zhang et al. (2009) describe four particular features of the tourism sector:

- tourism is an industry that demands high levels of coordination in which the different products/services are assembled into packages,

- tourism products are complex by nature, they are heterogeneous and made up of many components consisting of different services,

- the tourism industry faces the challenge of high but unreliable demand,

- the tourism industry has an extremely dynamic organisational structure, with high levels of competition between the service providers. This dynamic structure enables the actors to change trading partners depending on their needs (replacement capacity).

Zhang et al. (2009) underline the fact that these characteristics are not sufficiently taken into account in the scientific literature on 'dynamic' management of tourism supply chains. On the basis of these observations this article proposes a conceptual framework for the strategic management of tourism networks. This new framework assimilates the dynamic aspect of the notion of assembly.

1.2. Le Concept of 'Dynamic Assembly'

The problem of assembling tourism supply chains involves the different roles played by the pivot in a centred network and the nature of this network: stable or dynamic [Miles et al., 1992]. Research usually groups all the different functions for which the pivot of the centred network is responsible into three categories: Design, Coordination and Control [Miles et al., 1992]. Fréry (1997) formalised this functional distribution with his '3C' model:

- Design (in French 'Conception'): that is selection of the members of the network and the choice of strategic orientation for the whole,

- Coordination: that is limitation of the costs inherent in the hierarchy by maintaining market coordination mechanisms,

- Control: that is the discouragement of opportunistic behaviour that might disturb the efficiency of the whole.

Transactional networks are not the only type of network. There are, for example, 'orchestrated networks' coordinating different complementary resources or skills, with less domination by the central pivot [Voisin et al., 2004]. Indeed, the central assembler can have relatively fixed, static roles (designing the network, selecting the contributors), and more dynamic roles (activating/deactivating resources, coordinator). This dynamic approach to the work appears more pronounced today in a more and more dematerialised economy with, in particular, the phenomenon of services disintermediation (for example, in the travel industry, producers and distributors regularly change roles).

Moreover, we observe that the three 'historical' dimensions are not able to include a number of new functions, revealed by authors who have worked more recently on the characteristics of the central assembler, such as:

- 'Creator and assembler of modules and modular interfaces' [Asan et al, 2004; Araujo, 2006; Spring and Araujo, 2009],

- 'Manager of virtual firms (network companies, [Mariotti, 2005]) and of ephemeral supply chains' [Fabbe-Costes, 2005, 2007].

Thus, the three dimensional system does not take into account new responsibilities of the pivot linked to modularity and, more globally, to his ability to assemble/disassemble. The ability of the pivot to assemble, but also disassemble gives the general idea of temporary assemblies, of an ability to combine, that evolves as needs change within a resolutely dynamic environment. However, like the '3C' model, a three-dimensional view only offers a very static approach to the roles of the pivot. The present authors therefore add an extra dimension, the dynamic ability to combine, and therefore a '4th C' (combination), which particularly takes into account the new, inescapable influence of Internet and information systems on assembly. The combination dimension is therefore based on two fundamental components:

- Ability to manage the modularity and compatibility of services (management of norms and standards, management of interfaces, integration, etc.)

- Optional ability to activate/deactivate compatible resources identified during the design phase. This dual ability, together with its optional, temporary character ('temporary supply chain' logic) sets it apart from the other dimensions, and particularly from the more static design dimension ('stable network' logic). This '4th C' is justifiable insofar as it specifically underlines the multiple kinds of supply chain assemblies, particularly by taking into account the different timescales of assembly (duration and frequency). Furthermore, it also includes the notions of:

- 'dynamic network' [Miles and Snow, 1986, 1992; Paché and Paraponaris, 2006],

- 'dynamic capacity' that the literature defines as the ability to integrate, construct and reconfigure internal and external skills so as to respond to rapid changes in the environment [Eisenhardt and Martin, 2000],

- 'dynamic flexibility', in other words the ability to transform supply chains within acceptable time limits, to permanently adapt a strategy to the environment and to innovate [Fabbe-Costes, 2007].

Thus a strategic ability to respond effectively to unfavourable events and to solve concealed problems or changes in the environment is critical both for competitiveness and for long-term performance. This fourth dimension, combination, will normally be positioned between design and coordination. Thus we propose to (re)define the four dimensions of the pivot's functions:

- Conception (design) consists in identifying and selecting resources that may be combined together.

- The new dimension, combination, involves activating compatible resources that were identified in the design phase.

- Coordination involves managing the network and controlling physical and information flows within the active supply chain (or chains).

- Control includes both an ex ante view, evaluating capacity and availability, and an ex post view, monitoring performance.

Our research proposal is that the four dimensions characterising dynamic assembly are present in the tourism industry. Taking this as our starting point, we attempt to understand how the central assembler manages to include dynamic, combinatory aspects in the assembly of tourism supply chains. In order to answer this question empirically, we based our analysis on the working practices of professionals using their skills [Avenier and Schmitt, 2007].

1.3. Tourism Supply Chain Management and Logistics Strategy in the Travel Industry

The travel industry has been compared by many authors to a 'value chain' that they describe as a 'travel chain' [Tinard, 1994]. The complexity of the travel chain (traditionally: suppliers, producers/assemblers, distributors, destination managers, consumers) had led to a veritable industrialisation of the production and distribution processes. However industry has undergone profound changes, from using a standardised, mass tourism model (based on supply) to mass, industrial-scale customisation, with the help of Internet, which has revolutionised the production and distribution of holidays ('online' and 'pure player' agencies). The travel industry can be seen as a Tourism Supply Chain. The industry used an ensemble of heterogeneous actors, linked together in a multiservice chain that offers travellers an overall service. The 'travel product' thus appears as the result of the assembly of a multiple supply chain that can be more or less complex and heterogeneous

This Tourism Supply Chain includes design, sales, accommodation, catering, transport and entertainment. It involves administrative aspects and the strategic management of disturbances. The result of this assembly takes the form of different 'packages', some based on very rigid, standardised structures (the 'traditional' package), whilst others are much more flexible (the 'dynamic package' and the 'à la carte' holiday).

In order to compare our conceptual approach to dynamic assembly with operational reality on the ground, we have collected and analysed primary and secondary empirical data from a case study.

2. The Case study and it results

The research is based on an empirical study carried out 2006 and 2011, itself based on the analysis of a series of interviews and observations carried out with around 20 actors in the travel industry in France, in addition to the analysis of professional and academic documents. The primary and secondary data was coded by dividing up the four dimensions of the concept of dynamic assembly (design, combination, coordination, control) into a series of 25 observable, measurable indicators.

2.1. Empirical Approach to Dynamic Assembly in the Travel Industry

This research analyses the reality of dynamic assembly in the travel industry by mobilising the four dimensions of design, combination, coordination and control, with results that were nonetheless qualified.

Central assemblers have the necessary skill to construct the organisational structure in which they will activate multiservice supply chains. Indeed, the central assembler (historically the tour-operator, but more and more any skilled person not working through an intermediary) is in charge of mobilising potential service providers from a mainly existing network. The construction of this travel supply chain can consist either of integrated organisational structures (e.g.: duopoly structure for tour-operators such as TUI and Thomas Cook Travel), or ever wider reticular networks (e.g.: network of AFAT travel and alliances such as AS Voyages). The central assembler plays the role of 'relational facilitator' (Syltour Voyage), within a relatively stable and long-lasting network. Finally, the impact of technology and Internet is important for the way in which the travel supply chain

is constructed. It influences, for example, multichannel sales policies. Consequently the design dimension is genuinely mobilised by the central assembler. Within this dimension we analyse his ability to establish the structural foundations and general design of the organisational structure as well as his ability to define the desired level of integration.

In the combination dimension, the central assembler's ability to combine different services according to needs is present in the following two elements:

-the existence of international norms or standards both in the field of technology and in that of quality (ISO, HACCP, JAR, IOSA). The existence of standards makes it possible to position oneself with regard to required levels of services, to increase safety levels and to remain consistent ('In tourism, norms are everywhere', South Grenoble Tourism Office). These standards or norms are applied by mastering/managing both technological and relational interfaces.

-The resolve to give consumers ever more choice (which is a feature of most of the actors we observed). This desire raises the issue of stock management because of the obvious challenges of availability and flexible assembly ('With us it's like at Carrefour, you have to manage the stock' Marmara). But without systematically proposing à la carte or completely personalised and flexible products, the different actors all recognise that it is possible to include more or fewer services on top of basic components combined according to the needs and possibilities of assembly ('we're in a genuinely industrial way of thinking, with nomenclatures' Marsans).

Nonetheless, with regard to the central assembler's ability to really activate multiple resources, our findings are more nuanced. This ability is guided by action, by the activation/deactivation of resources, and thus highlights the dynamic character of the 'combination' dimension. The data collected shows the importance with which the actors consider controlling factors such as availability, reactivity, flexibility and traceability. These factors are mobilised more and more in real time by the intensive use of information systems and Internet on mobile phones ('the key resource is the right information at the right time' VDM).

The principal information they are looking for is service availability. This central question of availability can be linked to the practice of Yield Management (transports and accommodation) which makes it possible to modify prices according to demand. Although self-assembly is becoming a generalised practice and customers are becoming more and more 'experts', they still look for expert advice from a professional when assembling complex products. This professional distinguishes himself both for the quality of his advice and for his dynamic ability to activate selected compatible resources. It is noticeable nonetheless that assembly remains dynamic above all before consumption by the customer in situ. It is for the moment difficult to modify a service while it is being provided, by the emergence of 'm-tourism' (the mobile telephone extension of e-tourism, or electronic tourism, which refers to tourism industry activity on Internet), with its numerous applications linked to mobility and nomadism, will probably change the order of things. Consequently, the combination dimension demonstrates essentially the central assembler's control of a large part of the information in real time, enabling him to offer overall combinations that are adapted to the customer's needs.

The coordination dimension can be divided up into two types of skills: on the one hand there is the central assembler's ability to manage the organisational structure and on the other hand the ability to manage the different types of flow. Concerning management of the travel supply chain, the active role of the central assembler appears in the way he delegates coordination due to questions of distance. The pivot organises upstream and then delegates the effective management of the service to a local actor, the DMC (Destination Management Company, e.g. VDM, Kuoni). Here then, coordination corresponds to management of the actors at two levels:

- Overall management of the actors at the level of the resource network (management of relations with service providers and of the different distribution channels),

- Management of local actors at the moment when the travel supply chain is activated (management of relations with the DMC, management of unknown factors).

Concerning flow management, the central assembler, thanks to the technological tools available, is able to manage dynamically most of the flows necessary for assembly of an overall holiday service ('the key to success: good logistics' VDM). The data collected for this research reveals three types of flow for the central assembler to coordinate:

- Information flows in real time, essential for the management of availability and capacity,
- Physical flows,
- Financial flows.

The ability to manage flows is one of the key skills of logistics management along with that of managing interfaces. Some travel industry companies have perfectly understood the strategic importance of setting up a genuine structure to manage all the different logistical flows (e.g.: Club Med has created a central department for supply chain management).

The final dimension of the concept of dynamic assembly takes the form of ex ante control of the capacity and resources to be used, followed by ex post control to evaluate the different services provided. Concerning the ex ante control, the findings of this research show the importance of anticipating need by evaluating the capacities or resources necessary for the provision of the service.

In the case of assembler who has chosen volume and price domination (e.g.: Marmara, Marsans), the reservation of capacity in advance is a real constraint, because 'it's a classic stock management issue' (Marsans).

In the case of assemblers who opt for specialisation and customisation (e.g.: VDM, Kuoni), it is more a question of estimating the potential capacity that can be activated, with the major risk of a lack of availability when there is a demand ('It's much harder with à la carte, customised holidays, because we don't know in advance what the holidaymakers' accommodation choices will be' VDM). Controlling the information in real time is essential here, because it gives an overall, instantaneous view.

Concerning control downstream, the central assembler carries out most of the service evaluation once the trip is over, based on customer satisfaction. He therefore assesses overall performance on the basis of the quality perceived by clients. In most cases, the dashboards are limited, being resolutely brief, with few detailed, aggregated or general indicators. The specific evaluation of the ability to assemble dynamic, multiservice, supply chains (ad hoc indicators measuring, for example, reactivity, flexibility/modularity, availability and traceability in real time, the mobility of resources and their degree of activation/deactivation) is hardly used in fact. Consequently, we consider that the control dimension is only partially mastered, particularly at the ex post stage.

However, these findings do confirm the existence and mobilisation, to different degrees, of the four dimensions of dynamic assembly. It is therefore justifiable to consider that the theoretical construction presented in this research has meaning in the context of the travel industry, and that it explains the principles of the dynamic assembly of tourism supply chains.

CONCLUSION

The concept of dynamic assembly applied to the case of tourism supply chains provides new perspectives for strategic logistics management. This novel concept makes it possible to take more into account current issues of flexibility and reactivity, with the possibility of assembling/disassembling different resources depending on changing needs. This requires on the part of deciders and managers (tourism offices and tour operators) the ability to react rapidly and to offer flexible, modular tourism products.

Risk management in the supply chain becomes a strategic question, given the fact that companies all over the world are more and more exposed to disturbances that weaken the supply chain and its associated operations. Through the intermediary of sociological, political, cultural and economic changes, mentalities and consumer habits are evolving very fast, both among the local population and tourists from further afield.

In the face of these changes, those in charge of the tourism network have to adapt 'dynamic' corporate strategies with innovative solutions. In this context, the concept of dynamic supply chain assembly is an innovative practice for the strategic management of tourism networks, proposing, among other things, new models for partnerships between the different players.

Although the tourism industry involves the assembly of different supply chains using existing networks, theoretical research has hardly studied the different ways these assemblies are constructed, and in particular their dynamic, combinatory dimension. However, by taking these aspects into account the different actors in the tourism industry can more easily solve the issues of flexibility and reactivity that they face. The objective of this research was to demonstrate the link existing between the concept of Tourism Supply Chain and that of dynamic assembly so as to highlight the possible benefits of combining them for the strategic management of tourism networks. The research therefore applied the conceptual model of dynamic assembly to the travel industry. The findings of this research lead to the following two conclusions:

-The travel industry mobilised different tourism supply chains constructed from relatively stable networks, in which the problem of assembling resources is essential.

-These assemblies require more or less flexible, modular and dynamic mechanisms, together with the specific assembling skills of the pivot in the different centred networks of actors. Such skills can only be mobilised for the dynamic assembly of supply chains if four dimensions are mastered: design, combination, coordination, and control of the organisational structures in place.

From a theoretical point of view, the results of this research make it possible to include a new assembly skill to the traditional responsibilities of the pivot, by adding an extra dimension, that of combination, for the creation and monitoring of multi-actor networks and supply chains.

From a managerial point of view, this research contributes to the differentiated management of tourism supply chains by timescale (duration and frequency) by taking into account the specific strategic management of temporary or 'ephemeral' supply chains. This skill is also a form of innovative practice for the strategic management of reticular organisations

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DO FIRM RESOURCES INFLUENCE COST AND SERVICE PERFORMANCE? A CASE OF THIRD PARTY LOGISTICS IN MALAYSIA

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ABSTRACT

Abstract: At the heels of Market Based View (MBV) of industry analysis is the Resource Base View (RBV) at the onset of 1990s. Strategists sought new paradigms to recover from the corporate turbulence in the 1980s. This study was undertaken during the time of global economic uncertainty and relates to the performance of third party logistics service providers (3PL). It deploys the RBV and studies two resources which are functional involvement and capability of IT. These resources are regressed against cost and service performance using the partial least squares technique. The results show only capability of IT significantly influences both cost and service performance. It is not so with functional involvement. This research contributes to the positive identification that capability of IT is still an indispensable resource in economic uncertainty and it directly influences performance.

Keywords: Firm Performance, RBV, Third Party Logistics

INTRODUCTION

The global economy has been fraught with uncertainties since 2007. This lives up to the phrase "change is the constant". World trade has been hit with increasing challenges. Both services and goods are affected. Manufacturing countries in particular would be the most hit and create ripples along the logistical supply chain.

In March 2013, Malaysia's total trade grew by 1.6% reaching a value of RM114.94 billion compared with March 2012. Trade with France increased RM1.52 billion; the People's Republic of China increased RM1.04 billion; India increased RM693.5 million; the United States of America increased RM580.4 million; the Republic of Korea increased RM482.2 million and Thailand increased RM271.1 million with all these countries as major contributors to the positive growth of Malaysian trade (Malaysia External Trade Statistics, 2013). The growth was made possible through the strategic location of Port Klang in Malaysia situated along the Straits of Malacca which is the world's busiest shipping lane.

The Malaysian economy was expected to grow 5.4 percent in 2013 (Kumar, 2013) although at a slower rate compared to the previous year. This is because the persistent uncertainties and challenging external environment continued into 2013 (Alias et al., 2012; Ho, 2013). Any adverse conditions would cause acute drop in the demand for machinery, capital goods and durables (Tan, 23rd Sept 2013). This drop in demand would hit the GDPs (gross domestic product) of exporting countries (Burns & Van Rensburg, 2012; Kok, 22nd Aug 2013). The economic uncertainties have also hit services in Malaysia. Services which were the fastest growing sector at 7.0 percent in 2011 dropped to 6.4 percent in 2012 though it led manufacturing.

The aim of the Malaysian Third Industrial Master Plan (IMP3) 2006-2020 is also to position the service sector as a major source of growth in addition to manufacturing with eight non-Government service sub-sectors targeted for development. The eight non-Government service sub-sectors targeted for greater development and promotion were (1) business and professional services, (2) distributive trade, (3) construction, (4) education and training, (5) healthcare and services, (6) tourism services, (7) ICT (information and communications

technologies) services, and (8) integrated logistics services. These eight non-Government services were targeted to grow at 7.5 percent annually and contribute 59.7 percent to GDP in 2020 (Ministry of International Trade and Industry (MITI), 2006). This could explain why the Malaysian service sector is larger than before and a growing component of its expanding economy accounting for 54.6 percent of the country's GDP in 2012 (Malaysia, 2013). The service sector breached the 50 percent contribution to GDP in 2001 and attained 53 percent in 2007 and beyond (MITI, 27th Mar 2012, and Malaysia, 2013)

Services as the new growth engine brought significant contribution of 54.6 percent in 2012 to the Malaysian GDP (Malaysia, 2013). The services growth from the development of an efficient logistics sector is capable of transporting manufactured products to international markets quickly and inexpensively (MITI, 2006; Sohail et al., 2006; Alejandro et al., 2010). Substantial investments made in roads and improvements resulting in well-maintained highways to support efficient overland shipping. The country also participated in a proposed 5,500-kilometer trans-Asia railway linking Singapore, Malaysia, Thailand, Cambodia, Burma, Laos, Vietnam and China (Alejandro et al., 2010). A strong emphasis was also put on the development of transport infrastructure namely ports, airports, road, and rail under its various development plans ("Significant contribution by transport sector towards Malaysia's economic strong growth in 2nd quart", 19th Aug 2010). New capacities and facilities in ports and airports in order to position the country as a regional hub for logistics ("Malaysia identifies logistics industry as among sector that need to be beefed up", 13th Jan 2010). New capacities and facilities which are the seamless and efficient maritime cargo transportation infrastructures and services are found in the government Strategic Plan 2008-2015 to enhance Malaysia's competitiveness in order to cultivate the ability to handle bigger volumes of trade ("Significant contribution by transport sector towards Malaysia's economic strong growth in 2nd quart", 19th Aug 2010).

The aforesaid development was necessary to keep pace with the increasing demand of international trade and the logistics industry needed further development to provide a source of growth to the national economy (MITI, 2006). Logistics is the backbone of global trade (Armstrong, 2006). It is identified as a service sector requiring beefing up because trade remains an important lifeline for Malaysia. Logistics also gave Malaysia its competitive edge (Kang, 24th Nov 2008) and is a source of competitiveness (Malaysia, 10th June 2010). The logistics service providers (LSP) have been instrumental in developing a network to serve the country comprehensively and efficiently in all the major modes (road, rail, air and sea) (MITI, 2006).

In spite of the development of logistics, Malaysia finds itself placed 29th on the Logistics Performance Index (LPI) scores obtaining only 79.8% as compared to Singapore, the best performer in the world (Arvis et al., 2012). This poor performance could be due to the relatively higher logistics costs which greatly constrained the competitiveness of the Malaysia economy. The logistics costs of Malaysia relative to its GDP (13%) is higher than Singapore (8%) (Liu, 2012). This has put pressure on logistics providers to balance the conflicting challenge of low cost and better service to remain competitive in managing the complex international and domestic supply chain (MITI, 2006).

This paper focuses on the RBV. It states the internal resources of a firm are capable of making firms competitive giving performance and value. This is competing on internal resources. This theory was expounded by pioneers of RBV such as Barney (1986a, 1991), Grant (1991), Penrose (1959), Peteraf (1993) and Wernerfelt (1984). The reason for utilizing the RBV is because Grant (1991) pointed out that a firm's resources and capabilities take on greater importance when the external environment is in a state of flux. This is because a fluid market would have upset market positions of firms. In fact, Makhija (2003) explained that "when the market undergoes significant change a firm's current market position is less relevant to future performance than if the market structure is stable. In such a situation, the determinants of future firm performance and value can be more fully attributed to firm resources." Since this study was conducted during a time of economic uncertainties, the study of the role of resources is validly supported by Grant (1991)

The literature related to this study is presented in the next section. It contains the theoretical background of the RBV perspectives followed by the development of conceptual framework and hypotheses. Subsequently, research methodology and data analysis are described, followed by discussion of the findings. Finally, it gives a conclusion, limitations and future research directions.

LITERATURE REVIEW

The RBV theory forms the basis of this research. RBV first qualifies the resource capabilities with the four attributes of valuable, rareness, non-substitutability and inimitability. The two resources of functional involvement and capability of IT are then qualified with the four attributes of RBV. The hypothetical relationships between the resources and firm performance are supported by past research and the RBV theory and form the conceptual framework of this study.

RBV

In literature, RBV is referred to as "Resource-based Theory" (RBT) or "Resource-based Perspective" (RBP) (Walter, 2008). The application and operationalization of RBV were used to investigate the competitiveness of logistics service providers on the basis of capabilities (Liu et al., 2010). Therefore RBV of the firm has been one of the most prominent theoretical perspectives used in strategic management literature (Wernerfelt, 1984; Barney, 1991; Olavarrieta & Ellinger, 1997; Eisenhardt & Martin, 2000; Helfat & Raubitschek, 2000; Bharadwaj, 2000; Teng & Cummings, 2002; Newbert, 2007; Liu et al., 2010). The importance of RBV comes about from proposing valuable and unique resources or capabilities (Wernerfelt, 1984) such as firm-specific assets and information that can ultimately lead to superior performance or gain competitive advantage to the firm (Barney, 1991; Barney et al., 2001; Teng & Cummings, 2002). Those resources would mean anything which is thought of as a strength in a firm (Barney, 1991; Wernerfelt, 1984; Priem & Butler, 2001) ultimately leading to the achievement and improvement of its financial performance.

Technology is included in this study because they are parts of the inside-out process which will be vital analysis in the application of RBV (Day, 1994). Technology enables information sharing in inventory management and distribution (Sanders & Premus, 2005). Therefore, the emergence of information technology plays an important enabling role in the logistics sector (Lai et al., 2005). Information technology (IT) refers to the hardware, database, software, and other devices that support an information system (IS) (Lewis & Talalayevsky, 2000).

The RBV of a firm's capability is not represented solely by its group of resources. Instead a firm's capability is the complex pattern of coordination between people and its resources, and the regular and predictable interactions of its people including the sequence of coordinated actions by individuals Another definition of a firm's capability is its abilities in utilizing, integrating and reconfiguring resources (internal and external) to become its functional competencies to match the requirements of a changing environmentin order to achieve strategic goals (Teng & Cummings, 2002). In making decisions and implementing strategies, a firm's competencies is emphasized and invariably relates to its organization's functional skills such as manufacturing, finance, marketing, research and development (Hitt et al., 2009). Since functional involvement and capability of technology are organizational process capabilities, both variables would justifiably fit into the capability requirement of RBV. Therefore these two capability variables are included in the conceptual framework of this thesis.

Resources and capabilities should meet the four empirical indicators of valuable, rareness, nonsubstitutability and inimitability to give competitive advantage to the firm (Barney, 1991). Only by meeting the four indicators would the firm's resources or capabilities be considered to contribute to attaining competitive advantage to achieve performance (Newbert, 2008). However, not all resources meet the abovementioned four indicators (Michalisin et al., 1997). In order to ensure cross-functional involvement and the capability of technology meet the preceding four empirical indicators, a further literature review and analysis to justify their inclusion in the study follows.



Valuable

Resources are considered valuable (the first criteria to use RBV) when they enable a firm to implement strategies that improve performance (Barney, 1991). An ultimate qualification of valuable resource lies in the inability of competitors to duplicate resources (Smith, 2008). The resource has unique abilities and is imperfectly mobile and therefore non-tradable (Grant, 1991). The resource is more valuable if it can stay within the firm as the resources are considered specialized to firm-specific needs and less valuable to other users (Peteraf, 1993). A firm valuable resource is valuable also because of its distinctive competence (Olavarrieta & Ellinger, 1997). A firm's ability to perform cross-functional involvement is considered its organizational capability.

Similarly, valuable resources will also enable a firm to conceive or implement strategies to improve its efficiency and effectiveness (Barney, 1991). The application of IT is considered valuable as it offers a great opportunity to improve logistical efficiency, effectiveness and flexibility (Chiu, 1995; Sum et al., 2001). IT is used to capture, store and transmit information for greater efficiency and visibility in handling movement of physical goods within the firm (Lai et al., 2005). The information repositories embedded in IT are considered valuable and inimitable when kept secret or remained proprietary and organized in a structured form (Piccoli & Ives, 2005) to delay copying. Therefore capability of IT is a valuable resource enabling a firm to conceive competitive advantages to improve its efficiency, effectiveness and flexibility.

Rareness

A firm can develop sustained competitive advantage only by creating value in a way of rareness (the second criteria to use RBV) of a resource that is not controlled by the competitors and essential for survival (Barney, 1995). Rareness is defined as a function of the number of firms in a competitive arena possessing a resource (Michalisin et al., 1997). As Nevo and Wade (2010) noted, rarity is a measure of the relative unavailability of an organizational resource to current and potential rivals. The advantages when particular resources are combined are reflected in Newbert (2007). It is the ability to combine resources that contributes significantly to the firm's competitive advantage and performance. Therefore those studies tended to agree the combination of functional area resources (capabilities) will become a specific resource and be considered as rare and unique to the successful performance of a firm.

Another rareness resource is technology such as information processing system that is deeply embedded in a firm's formal and informal decision making process providing the potential of continual competitive advantage (Barney, 1991). This is also reflected in Mata et al. (1995) similarly citing managerial IT skills as rare and firm specific in the industry. Conversely, it can be argued that the resource is not considered rare if it is possessed by a large number of competing or potential competitors that have the capability to exploit the resource in the same way (Barney, 1991).

Non-substitutability

Non-substitutability (the third criteria to use RBV) is defined as a resource that has no strategic equivalents or no other or potentially competing firms that can implement the same strategies (Wernerfelt, 1984; Dierickx & Cool, 1989; Barney, 1991; Michalisin et al., 1997). As such, substitutability is the cost involved in re-creating the specific combination of resources that will enable the firm to compete in the same product market (Black & Boal, 1994). Central to the view of non-substitutability are the activities coming from the cross-functional experiences and knowhow of employees accumulated over time from their respective functional areas. This cross-functional resource can contribute more in achieving competitive advantage and achieving firm performance.

Barney (1991) argued that a highly experienced management team can be a substitute for an information processing system embedded in a firm's informal and formal decision-making processes as the

experienced manager is able to process a large amount of information quickly and share the information efficiently without using the information processing system. However, the nature of business today demands firms to interact with their customers and business partners using technology because providing service instantaneously across international borders will be critical for survival (Chapman et al., 2003). This capability of IT is unique and non-substitutable to a firm.

Inimitability

To distinguish a company from its competitors in the eyes of customers, a firm will have to identify and develop a resource or organizational capability that is hard to imitate - the fourth criteria to use RBV (Stalk et al., 1992). Inimitability is defined as a function of the rareness of organizational resources and a lack of strategic substitutes, and these functions would characterize the RBV (Michalisin et al., 1997). Barney (1991; 1995) and Wade & Hulland (2004) require a combination of the three resource characteristics of unique historical conditions, causal ambiguity and social complexity to qualify the resource as being inimitable. The first characteristic of unique historical conditions occurs when a firm is able to obtain or exploit a valuable and rare resource in implementing a value-creating strategy that will not be duplicated by other firms due to its unique history that directs the firm to the right track (Barney, 1991; 1995). The second characteristic of inimitability resource of causal ambiguity occurs when an imitating firm does not know the actions they should take to duplicate the strategies. Such duplication is difficult for the imitating firm because of its poor understanding of the resource linkages found within the competing firm that sustains competitive advantage (Barney, 1991). The ambiguity may also be attributed to the uncertainty about how or which resource leads to sustained competitive advantage (Wade & Hulland, 2004). The third characteristic of inimitability resource is social complexity; a phenomena beyond the ability of firms to systematically manage and influence and thus is hard to be duplicated by their competing or potential competitors (Barney, 1991). Social complexity occurs when involving human assets comprising interpersonal relationships, corporate culture, and collection of routines, skills and employee knowhow across the functional areas. Cross functional involvement and capability of IT fulfils the requirements of the inimitability as described above.

Conceptual framework

In this research, development of operations strategies through environmental analysis is borrowed from the works of Porter (2008) and Huo *et al.* (2008). Figure 1 is the conceptual framework of this research based on the theoretical foundation consisting of RBV theories.



Figure 1: Conceptual Framework

Hypothesis Development

The resource-based view (RBV) of competitive advantage links a firm's internal characteristics to performance (Barney, 1991). The link between internal characteristics and performance is also found in Spanos and Lioukas (2001) claiming that the firm's available stock of resource is critical for achieving high performance. In addition, the utilization of assets and capabilities contributes to performance outcomes that can be manipulated into unique configurations to drive product or service differences (Teece et al., 1997). Some early logistics studies also suggested that logistics performance can be explained by the firm's resources including physical resources, technology resources and managerial competencies (Myers et al., 2004; Bienstock et al., 2008). Among the firm's resources, Reimann (1982) found managerial competencies an excellent predictor of future growth and performance. Adner & Helfat (2003) claimed no significant relationship exists between resource and performance. However, it was done using variance decomposition that neglected the effect of managerial competencies on decision making and firm performance. Similarly Ketchen et al. (2007) argued that resources and performance not directly related to the simple resources-performance link obviously lacks face validity. These latter debatable arguments have now instigated this research to test the validity of resource-performance relationship to refute or to support Adner & Helfat (2003) and Ketchen et al. (2007).

We will now delve into a specific discussion of functional involvement contributing to performance. Reimann (1982) highlighted the key role of organizational competencies in dealing with the environment as determined by the organization's top decision makers. Many scholars have long viewed the individual manager and decision-maker as the ultimate source of firm level outcomes (Malter & Dickson, 2001). This seems to contrast with Denison et al., (1996) who claimed previous studies found inter-coordination is required to integrate expertise from different functions particularly during the decision process and this will lead to better performance. The internal collaboration from different functions and information sharing permits a wider yet focussed attention to more resources (human and financial) and business operations allowing more informed decisions to reduce risks (Stank et al., 2001). According to Panayides, 2004, functional involvement is the coordination of the different departments in formulating a strategy and is found to be an important influence on profitability. This seems to contradict with Huo et al. (2008) and Shang (2009) who argued functional involvement does not impact directly on profitability but can impact indirectly on financial performance through service performance. Stank et al. (2001) also found functional involvement influencing logistics service performance constituting delivery speed, dependability, responsiveness, flexibility and overall customer satisfaction. Similarly, functional departments such as finance, marketing, human resources or real estate within a firm should have its functional activities and competencies pulled together to improve performance (Kersten et al., 2007). These views except for Panayides (2004) support the functional involvement-performance relationship. Therefore the hypotheses are:

H1a. There is a positive relationship between functional involvement and cost performance.

H1b. There is a positive relationship between functional involvement service performance.

As businesses grow, services become increasingly important in competition (Zhao et al., 2002). Therefore the breadth of services offered by 3PL will also expand to stay afloat in the competitive market (Piplani et al., 2004). The expanded services lead 3PL to better position itself in the industry by improving its service capability to satisfy the customers' needs for various logistics services and achieving better service performance (Lai, 2004). Following this logic, service capability is defined as the ability of 3PL to create and deploy resources to satisfy the logistics needs of their customers in pursuit of better service performance (Lai, 2004). With the aid of technology, it becomes possible to enhance the service performance by providing more value-added services (Zhao et al., 2002). Technology-enabled logistics services and value added logistics services (differentiation) are service capabilities that are positively related to service performance (Lai, 2004). Technology-enabled logistics service as information systems management (Lai, 2004). Therefore, 3PL will increasingly adopt IS to better manage their business (Piplani et al., 2004). In this regard, LSP is increasingly focusing their efforts on the development of IS and software tools (Feng & Yuan, 2006) to improve the following capabilities: (1) provide information for customer to track and



trace shipments, (2) automate processes such as invoicing, custom documentation and reporting, and (3) integrate with customers' IS (Lai, 2004).

A potential framework to support the conceptual proposal of technology capability on firm performance is RBV theory which links the performance of an organization to resources and capability that are considered valuable, rare, and difficult to imitate and substitute (Barney, 1986; 1991; Bharadwaj, 2000). Several studies also have provided the evidence capability of IT is positively linked to firm performance (Bharadwaj, 2000; Kearns & Lederer, 2003) and shown to have the potential of providing a significant competitive advantage to the firms (Kathuria et al., 1999; Hu & Plant, 2001). By establishing the link between capability of IT and firm performance, Bharadwaj (2000) suggested firms should do much more than merely invest in IT. The logic behind is LSPs could easily duplicate investment in physical resources (like warehouse and EDI linkage), the resource per se will not by themselves lead to improved performance (Lai, 2004). Therefore, technology (information system) resources must be built and cultivated over time (Nevo & Wade, 2010). Empirical evidence shows several technology resources can provide organizational performance gains (Tanriverdi, 2005; Rai et al., 2006). Nonetheless, the achievement of the performance also depends on the firm's ability to effectively leverage its IT investments by developing a strong IT capability which can result in improved firm performance (Santhanam & Hartono, 2003; Lai, 2004). The improvement of firm performance includes cost, service, quality, delivery, new product introduction time (Sanders & Premus, 2005) and the dependability of the schedule (Brah & Lim, 2006). Such improvement brought by technology can be used to explain why researchers and practitioners have pinpointed the contribution of IT to business performance (Kohli & Grover, 2008).

The importance of technology in supporting logistics functions is also founded in Closs et al. (1997), and they claimed capability of IT significantly influences the overall competencies of logistics performance specifically on timeliness, standardization and flexibility. The growth of technology allows many significant opportunities for keeping inventory levels low, speeding up communication between customers and their suppliers, cost reduction and service improvements (Lancioni et al., 2000). In light of this, the rapid advancement of information and communication technologies (ICT) are found to drive the growth of logistics concepts by shortening lead times and quickening response to customer demand (Titone, 1996; Feeny, 2001). Therefore, most leading logistics companies are then able to provide very good logistics support by applying technology (Zhao et al., 2002). These development stresses ICT be promoted as a means to enhance logistics competitiveness for performance (Feng & Yuan, 2006). Furthermore, with the use of technology, system errors have become less frequent compared to human errors. Hence this reduces the need to conduct frequent checks leading to an improvement in operations efficiency (Brah & Lim, 2006). This evidence is reflected in Brah and Lim (2006) that the majority (80%) of the respondents consider technology affects operations costs and results in an increase of their revenue within the range of 10%. Therefore, technology has an effect on operational performance of an organization (Brah & Lim, 2006). This leads to the next group of sub-hypothesis:

H2a. There is a positive relationship between capability of technology and cost performance.

H2b. There is a positive relationship between capability of technology and service performance.

RESEARCH METHODOLOGY

Given the uncertainty of global trade since 2009 (Burns and Rensburg, 2012), the firms which have survived in the past three years would have chosen the right strategy and likely continue to perform and survive in the next two years. Therefore, using data collected through cross-sectional mail survey methodology is appropriate to capture the results of the strategic decision making of 3PL in the most recent two years. Each questionnaire was accompanied with a self-addressed stamped envelope and a cover letter describing the purpose of this research and assurance of confidentiality.



Pre-Test

The pre-test took four weeks with the participation of five academic experts and ten managers in the field. Five academic experts (professors from higher institutions of learning in Malaysia) in the field of logistics and operations management were consulted for the face validity of the measurement indicators used in this research. This was followed by face-to-face discussion with ten managers in 3PL firms to assess the extent of applicability of the construct in the logistics context. Consequently, a refined final questionnaire was developed for this research.

Data collection and survey procedure

3PL is a broader term that is frequently used to cover businesses in freight forwarding or contract logistics (Vasiliauskas and Jakubauskas, 2007). Therefore, 3PL is used interchangeably with freight forwarders to describe the service offerings or logistics activities. Taking this cue on interchange-ability, freight forwarding companies in Malaysia will be regarded as 3PL. This brings into focus the Federation of Malaysian Freight Forwarders (FMFF). In 2000, the Ministry of Transport endorsed and recognized FMFF as the national association to represent the Malaysian logistics industry (http://www.fmff.net/). FMFF gives a sampling frame of 1307 freight forwarding companies with the breakdown illustrated in Table 1.

Table 1:		
Sampling of 3PL companies in Malaysia		
Association	Numbers of	
	members	
Selangor Freight Forwarders and Logistics Association (SFFLA)	532	
Johor Freight Forwarders Association (JOFFA)	241	
Penang Freight Forwarders Association (PFFA)	121	
Sarawak Forwarding Agencies Association (SFFLA)	73	
Kota Kinabalu Forwarding Agents Association (KKFAA)	52	
Labuan Freight Forwarders Association (LFFA)	10	
Airfreight Forwarding Agents	142	
Seafreight Forwarding Agents		
Total	1307	

Source: Malaysia Logistics Directory 2011/2012

A total of 1307 sets of questionnaire were mailed to top/middle management officers of 3PL companies listed in the FMFF. As a further step to ensure the appropriateness of the respondents, the first question in Section I of the questionnaire asked the respondents on the extent of their knowledge regarding their business strategy. If this item is rated lower than 3 on the five-point Likert scale (with 5 = very knowledgeable), the responses will be excluded from analysis.

Telephone calls were made to non-responding firms three weeks after the initial mailing. Based on information obtained through the telephone calls, 159 companies were excluded for various reasons. 118 sets of questionnaire were returned undelivered because the addressees are no longer employed. Four firms indicated their organizations are not 3PL and six completed questionnaires were received too late to be included in the data analysis. 31 respondents cited busyness and proprietary nature of questionnaire as reasons for not responding. Therefore, 1148 3PL providers is the effective sample size this round. Of the 1148 recipients, 163 returned the questionnaires fully completed and were used for analysis. This represents an effective response rate of approximately 14.2%.

FINDINGS AND DISCUSSIONS

Table 2

Summary of research findings							
Hypothesis		Beta	Std Error	t-	Decision		
				value			
H1a	$FI \rightarrow Low cost$	0.046	0.081	0.566	Not supported		
H1b	$FI \rightarrow Diff$	-0.178	0.113	1.570	Not supported		
H2a	$IT \rightarrow Low cost$	0.283*	0.073	3.893	Supported		
H2b	$\text{IT} \rightarrow \text{Diff}$	0.587*	0.101	5.806	Supported		

The model was analysed path analysis. Table 2 shows the results of the findings.

p < 0.05 (t > 1.65)

There is no statistical support to establish the relationship, H1a, between functional involvement and cost performance. This finding is consistent with previous studies of Sum et al., (2001), Huo et al., (2008), and Wang et al., (2010). They explained functional involvement requires additional resources, such as time, people, and meeting facilities, all of which lead to increased costs and poorer cost performance. Similarly, H1b is rejected because it has a negative relationship with service performance. This result contrasts with results from work done by Huo et al. (2008) and Wang et al. (2010) in Hong Kong and China respectively. According to Song et al. (2002), different countries would have their own unique strength in operations management and cost controlling mechanisms. This could explain the contradictory results of this study when compared to Hong Kong and China. The results of this study could be also due to the divergent emphases by the various constituents of the functional team in 3PL. For example, marketing may attempt to pursue differentiation to satisfy customer needs, but finance, logistics or operations may attempt to seek lowest cost position (Nayyar, 1993). In that situation, functional involvement would not improve the level of customer service directly.

The results support H2a and H2b. Capability of IT would drive cost performance (H2a) and service performance (H2b). Clearly, the impact of capability of IT on cost performance is direct. This result is consistent with the study in other nations (Lai et al., 2005) citing IT as one of the main enablers for improvements in service and efficiency for many 3PLs in Hong Kong. Dess & Davis (1984), Porter (1996) and Liu & Lyons (2011) also provided evidence to support the positive influence of capability of IT on firm performance. According to Lai et al. (2005), there is a need for 3PL to continue deploying better and more effective IT tools to satisfy the escalating expectations of customers for service. In terms of efficiency, IT has eliminated much of the labour cost associated with filling out of BOL (Bill of Lading), freight bill, manifest, waybill or purchase order (Coyle et al., 2000). In this sense, 3PL will be able to achieve cost performance and service performance if they have enhanced capability of IT. Therefore, there is danger for a company which does not improve technology; it would be left behind in accuracy and efficiency (Ellram et al., 1999; Sauvage, 2003). Clearly, capability of IT rather than functional involvement is an important resource that could drive operational performance in this study.

CONCLUSIONS AND FUTURE WORK

This study was conducted in the midst of an uncertain global economic environment. The results show 3PL firms would have to deploy capability of IT to achieve both cost and service performance. The findings from this research would also help the Malaysian government formulate policies to further assist the development of logistics industry in Malaysia especially in encouraging the adoption of IT and upgrading the capability of IT. Human resource training could be done both locally and overseas to enhance the usage of IT. 3PL firms could also upgrade its system network to link up with logistics service providers worldwide for better connectivity and improved services.

It is interesting to note 3PL firms can achieve both cost and service performance. This is consistent with the theory of cumulative capability.



The following limitations of this study are worth noting. First, this study may limit the extent to which the findings can be generalised to other context different from Malaysia, such as Western countries. Second, discussions in this study are based on self-reporting survey having only one respondent from each firm in answering the set of questionnaire. Although some efforts were made to avoid the common method variance using different Likert scales in the questionnaire, the result of this study should still be interpreted cautiously because of the biasness. Future research could add the social desirability scale on top of the deployment of different Likert scales in the questionnaire to re-examine the hypothesized relationship by including 3PL of other countries.

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PRICE ELASTICITY ON A FERR ROUTE, TOURIST FLOWS AND THEIR IMPACTS ON AN ISLAND ECONOMY

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ABSTRACT

The peripheral and remote regions, such as islands, often suffer from low productivity, high unemployment rate, out-migration of young people, and aging population. The local and regional policy makers often take tourism strategies as a way for regional development. However, tourism in some peripheral areas in the Nordic countries is highly seasonal. During the summer months tourists rush into the islands for enjoying beautiful beaches and nature on the islands, as well as sand and sunshine. In the rest months, it is difficult to attract tourists. It is also rather costly for tourists to visit the islands through the ferry connections.

In this paper we present a recent project carried out for mapping the regional structure with a special focus on commuting and tourist flows from and to the Baltic island, Bornholm. The project involves also a national traffic model with an estimation of price elasticity on traffic flows. Upon the assumption of different scenarios of price changes that affect the changes in traffic and tourist flows, we further estimated the economic impacts of the changes in tourist flows on the local economy.

The analysis involved two Danish economic models that are supposed to work together. One model is the Danish inter-regional macroeconomic model, which includes social accounting matrices at the municipal level and regionalised national accounts. The model functions both as mapping and as forecasting of the regional economic development; and as a tool for conducting an economic impact analysis by scenario settings. Another model is the Danish National Transport Model that is applied for computing a price elasticity for traffic flows.

Besides the presentation of the models, section 2 presents the facts regarding economic structure and growth, commuting, trade and tourism patterns at Bornholm. Section 3 presents the Danish National Transport Model and the assumptions for calculating the price elasticity of the ferry link to Bornholm. After presenting the relationship between the two models, in section 4 we show the regional impacts from the changes in tourism flows caused by reducing ferry prices. The result is that reductions in transportation costs, especially during the off-tourist seasons, will give welfare changes for remote island economies. The paper further discusses the relationships between regional policies towards favourable transport subsidies from government, regional tourism policies and regional development. This seems to be a myth for any government's policy towards less-developed peripheral regions. That is it is expensive to keep residents remaining in the peripheral regions, on the other hand, we face the fact that young people continue out-migration, local population becomes aging, and labour market is in the shortage for labour forces.

Keywords: Tourism in peripheral regions, price elasticity on traffic flows, national transport model, regional impact of tourist flows, and island economy.

INTRODUCTION

Bornholm is a Danish island located at the Baltic Sea, which attracts a large number of tourists in the summer. Bornholm is an island with 40,000 residents, however, with a great potential in many different areas. The local industry is one of the driving forces behind the island's development. Among the major businesses on the island are agriculture and food production, construction sectors, tourism and various manufacturing industries. Companies at Bornholm find that there are particular transport-related challenges associated with doing business on the island. The transport sector can contribute towards improving the framework conditions

for both personal and freight transport. A good transport system is an important prerequisite for the local businesses to create the island future economic growth and to maintain its competitiveness.

The traffic flows to and from the island are characterized by large seasonal fluctuations due to the seasonality of tourism. This traffic analysis was financed by the Ministry of Transport with the purpose of investigation on the price elasticity of the ferry to/from Bornholm, changes in tourist flows caused by the price effect and the economic impact of changes by tourist flows.

The purpose of the analysis is 1) to extend the existing knowledge on traffic and tourist flows and their relationship with ferry prices; 2) to gain a more solid basis for an assessment of future traffic demand; 3) to calculate the price elasticity of commuters and tourists; 4) to estimate the economic consequences of changes in tourist flows.

To serve the goal of this project, two economic models are involved in the analysis. One model is the Danish inter-regional macroeconomic model, named LINE model; the other is the Danish National Traffic Model, abbreviated NTM. At present the two models are applied separately, but in the long run the models could be more integrated into each other. We have constructed a special version of traffic model in the LINE model system for this project. The effort is made for the purpose of strengthening the basis for forecasting the relevant variables and analysing the impact of the changes in traffic flows on the local economy. The results from forecasts are presented in section 2.

The National Traffic Model (NTM) is applied for estimating the effects from price changes on traffic flows on the ferry route between Copenhagen via Sweden to Bornholm. The concept of price elasticity and the assumption for estimation for the ferry prices are presented in section 3.

Transport is an integrated part of tourism, as no travel and transport means there is no tourism. Page pointed out that "transport is a fundamental requirement for tourism to occur. It is the pivotal element which connects the tourists with destination, unifying the origin – destination elements and thereby is a dynamic element in the tourism system" (Page, 2004). Several researches show the importance of transport infrastructure in determining the tourism attractiveness of destinations (Prideaux, 2000; Ferri, 2004; Khadaroo and Seetanah, 2008). Khadaroo and Seetanah find that transport infrastructure is a significant determinant of tourism inflows into a destination (Khadaroo and Seetanah, 2008). Ferri's results show a positive influence on domestic tourism going to the regions where a new motorway was built. He found that there is also a positive impact on foreign tourism to some regions, but not for all regions (Ferri, 2004).

Transportation to and from the island of Bornholm is vitally important both for freight and personal transport.

1. Forecasting of commuters and tourist flows to Bornholm

The Danish inter-regional macroeconomic model, LINE is applied for forecasting commuters and tourist flows to Bornholm. The framework of the LINE model system is presented in section 4. It gives a brief presentation of data sources in constructing the model, the main economic indicators for Bornholm, and with a special focus on presenting the commuting and tourism flows to and from Bornholm.

2.1 Data sources applied in the construction of the model

The data sources for constructing SAM-K and LINE model include 1) personal register data for years 1996-2011; 2) national accounts data for years 1996-2009; 3) regional production accounts for years 1996-2011; 4) Statistics Denmark's population and taxes percentage for all the years; 5) Annual Danish Aggregate Model (ADAM) databank and forecast; 6) tourism data from Visit Denmark 1996-2012; 7) ferry traffic data. These data sources are the basis for constructing SAM-K database from 1996-2012, thereafter, following ADAM forecast, the LINE model forecasts Danish regional economies from 2012-2020, and in 5 years interval from 2020-2035.

Forecasting in the LINE model is based on the latest ADAM forecast (i.e. version in July 2013). The ADAM forecast was adapted to the latest economic prognosis from the Ministry of Economy and Interior and the Economic Survey in May 2013, and also the export market growth figures from the IMF "Economic Outlook" from April 2013 and the quarterly financial accounts from the National Bank (published April 4, 2013). The population forecasting follows Statistics Denmark's trend forecasting.

The LINE model breaks down the national forecast into a forecasting for the municipalities of Denmark. The model follows the production growth trends by economic sectors of national development in ADAM, but it will optimize the economics of each municipality with developments in the various sectors. It means that the economy is growing relatively faster in the municipalities where a large share of production is in the faster growth sectors. On the other hand, a municipality that has a high proportion of its output in a sector with little or no growth experiences a low level of growth.

2.2 Forecast of basic economic indicators and population for Bornholm

Figure 1 shows growth rate in gross value added (GVA) in the fixed prices during the forecasted years. If we compare GVA growth rates between Bornholm and the national average in Denmark, it shows growth rates in all the years (from 2012 to 2020, and 2025, 2030, 2035) at Bornholm are much lower than the national average. From the figure we see that there has been a decline in GVA at Bornholm in 2012 and 2013. Growth is positive from 2014 by 0.01 percent, but 1.1 percentage points lower than the growth in the national average.

Figure 2 shows the trends in population at Bornholm compared with the total population in Denmark during 2012-2035. It is clear seen that population at Bornholm exhibits a negative growth trend while the total population in Denmark is moderately increasing. This certainly reflects a general urbanization trend where people, especially the young people, move towards the cities. It appears, for instance, that large cities like Copenhagen and Aarhus experience a stronger population growth than the national average, as opposed to negative population growth in outlying areas such as Bornholm. It should be mentioned here that the decline in population brings about a decline in the labour force at Bornholm; at the same time due to the out-migration of young people, the percentage of the retired population is much higher at Bornholm than the national average. This presents a serious problem for Bornholm: Bornholm needs more productive activities in both private and public sectors but it is experiencing a decreasing labour force and the society is dominated by the retired population.



Figure 1 Yearly growth rates in gross value added in fixed prices



2.3 Forecast of commuters and tourists to Bornholm

Here are approximately 1.5 million yearly ferry passengers travelling to /from Bornholm, and 95% of these passengers travel at the route between Ystad (Sweden) and Bornholm. These passengers include 1) commuters who either live at Bornholm but work outside Bornholm, or live outside Bornholm but work at Bornholm. They need to cross the sea to go to work every day or once/twice a week; 2) Danish same-day visitors either for leisure or business; 2) Danish business or leisure tourists who take some nights-stay at Bornholm; 4) Swedish / Norwegian same-day visitors; 5) foreign overnight tourists; 6) local residents who are travelling for different purposes, for example, for visiting families and friends in other regions of Denmark; for tourists abroad; for shopping, experience or visiting doctors in the other regions, etc.

Forecasting from the LINE model shows that the number of commuters from/to Bornholm is increasing. Table 1 shows number of commuters from Bornholm. It is seen that the total number of commuters is increased during 2012-2030 with a yearly average growth rate of 0.68%. Most of the commuters work in the regions of Zealand or Fyn.

Number of Commuters from Bornholm						
Number of commuters from Bornholm to:201220202030						
Denmark ¹ or foreign countries	1,021	1,084	1,146			
Sjælland ² og Fyn	729	797	846			
Municipality of Copenhagen	271	247	239			

Table 1 Number of Commuters from Bornholm

1) Excluding Bornholm

2) Including municipality of Copenhagen

Table 2 shows number of commuters to Bornholm. It is seen that total number of commuters to Bornholm is also increased during 2012-2030, the yearly average growth rate is 1.5%. Most of commuters come from the regions of Zealand or Fyn.

Tumber of Community to Dominionin					
Number of commuters to Bornholm from:	2012	2020	2030		
Denmark ¹ or foreign countries	506	569	642		
Sjælland ² og Fyn	421	464	515		
Municipality of Copenhagen	149	137	148		

Table 2 Number of Commuters to Bornholm

1) Excluding Bornholm

2) Including municipality of Copenhagen

A large part of passengers are tourists, most of them travel to Bornholm for enjoying their summer holidays at Bornholm. Table 3 presents number of tourists by bed nights at Bornholm that is broken down by nationalities and types of accommodation. From the table it is seen that Danish tourists account for large shares of total tourists in hotels (65%), camping (63%), youth hostel (88.7%), and holiday apartment (85%). In summer cottages, Danish tourists account for only 36.6% and they account for only 23% of yacht tourists at Bornholm.

In table 3 we have only shown the number of tourist nights in the registered forms of accommodation. The non-registered forms are including the visiting families and friends, staying in smaller farms or for the festivals and overnight in own or borrowed summer cottages, etc. The tourists stayed in these non-registered forms use also ferry as transportation to the island. However, due to the lack of data, there is no trustful data available and hence they are not included in the table.

Table 3
Number of tourist nights broken down by nationalities and types of accommodation in 2012

	Denmark	Germany	Sweden	Norway	Others	SUM
Hotel - leisure	135.770	32.102	27.245	13.687	6.911	215.716
Hotel - business	27.102	2.979	2.338	855	1.315	34.588
Camping	123.713	47.197	8.158	4.625	12.112	195.805
Hostel	37.536	1.309	1.813	598	1.077	42.333
Holiday centre	108.674	4.896	6.763	4.103	3.077	127.513
Summer cottages ¹	214.217	310.872	14.077	19.826	25.360	584.352
Yachts	8.278	15.415	5.491	367	6.524	36.075
I alt	655.290	414.770	65.885	44.061	56.376	1.236.382

Data source: Visit Denmark.

¹ Summer cottage is rented summer houses.

Tourism at Bornholm shows a highly seasonal pattern. Tourists typically visit Bornholm in the summer months during June – August. The months of April-May and September-October are normally called 'shoulder seasons', and there have mostly Danish tourist arrivals, whereas foreign tourists show more sensitive to seasonality, as shown in Figure 3.





The LINE model based on the ADAM model (the national economic forecasting model) is broken down into regional municipalities. The forecasting of the foreign tourists is following the trends forecast from ADAM, then distributed into regions by the regional shares. The forecasting of the Danish tourists follows the economic trends of Denmark, as tourism consumption in Denmark is a part of Denmark's private consumption. Figure 4 shows a forecast of the number of tourists in Denmark, separating foreign and Danish tourists. The general trends are expected to be growing in the long-run from 2013-2035. The regional policies have also targeted to promote more tourists into the destinations in different parts of Denmark. It is especially critical for the peripheral regions where tourism plays an important role when other sectors face critical challenge in development.



Figure 4 Forecast of number of tourist nights 2012 - 2035

2. National Traffic Model (NTM) and price elasticity of ferry link to the island Bornholm

2.1 Description of the National Traffic Model (NTM)

The National Traffic Model (NTM) is a transport model with the objective of evaluating and assessing the impacts of different transport policies. Such a policy might be an investment in infrastructure such as the

Fehmarn Belt Bridge between Denmark and Germany, or assessment of pricing policies such as the one investigated in the present paper. The NTM is funded by the State approved by the Danish Parliament and the NTM is developed and administered at the Technological University of Denmark (DTU).

The National Traffic Model (NTM), which is a static comparative model, combines a wide variety of data which can be used for assessing the impact of different changes in the infrastructure in Denmark. The model has been estimated on the basis of *The Danish National Travel Survey* conducted by the Technological University of Denmark. Data from *The Danish National Travel Survey* comes from interviews conducted each day around the year. During these interviews Danish residents in the age span of 10-84 are asked about their travel activities on the previous day.

There are also other data inputs in the NTM. These are:

- Demographic and economic data from the *Statistics Denmark*. The demographic data has information about age, education, employment status and employment geography, household affiliation amongst other.
- The economic data include information about the historical gross domestic product, general employment situation divided into sectors and price development. A key input is the price development of gas and fuel.
- Traffic matrices for all modes (walk, bike, car, car passenger, air) used for pivoting of the model.
- Network data for assigning traffic onto the network. This includes a road, public transport network and an air network. The ferry-network are an integrated part of the road or public network.

From these data the demand for traffic can be estimated. Based on the econometric model, the price elasticity for different transport modes and different traffic links are estimated.

2.2 Assumption and calculation for price elasticity of a ferry link to Bornholm

The price elasticity for transportation is a measure which illustrates how many percent the demand for transportation will increase when the price of transportation decreases with one percent. The formula of the own-price elasticity of demand is therefore: $E_p = \frac{dQ_d}{dP} * \frac{P}{Q_d} = \frac{dQ_d}{Q_d} / \frac{dP}{P}$, where Q_d is the quantity of transportation demanded, and P is the price of transportation. In order to estimate the elasticity due to this formula it is necessary to estimate a demand function.

The demand model underlying NTM is of the nested-logit type and the elasticity, which is calculated by simulating the model for different price levels. The nested-logit model is derived from the multinomial model and is used because it relaxes the assumption of irrelevant alternatives which would induce cross elasticities to be the same between all pairs of alternatives. From the nested logit model it is possible to calculate a series of elasticity from different price levels.

There are more than 15 different trip purposes in the NTM, however, for the purpose of this project, the price elasticities are aggregated for three different trip purposes with the available data from the SAM-K and the LINE model. These are:

- 1) Commuting and business trips
- 2) Recreational daytrips
- 3) Recreational overnight trips

There are several ferry links to Bornholm, for example, the ferry link between the Swedish harbour Ystad and Rønne at Bornholm, the ferry link between Køge (in Sjælland, Denmark) and Bornholm. There are also routes between the Germany or Poland and Bornholm. Before presenting the elasticity, some assumptions have to be made regarding the specific context of ferries to Bornholm. They are:
- The price reduction on the major ferry-route (Rønne-Ystad) affects the minor ferry route (Rønne-Køge). The relative reduction will therefore be the same on the two routes. The more theoretical assumption underlying this, is that domestic ferry-transportation is a fully competitive market.
- The price reduction does not affect the prices of flying to and from Bornholm, nor does it affect the routes between Germany or Poland and Bornholm.
- Price elasticity for public transportation is assumed the same as for car drivers. This is due to problems regarding how to determine the cost for public transportation.

In the model it is drawn a distinction between gross and net commuting, because gross commuting is defined as "the number of persons whose place of residence is at Bornholm but whose employment is not at Bornholm (or vice versa)". However a person does not commute every day because of weekends, holidays and the possibility of working at home. Furthermore Bornholm is home to a military barrack. The conscripts at the barrack will not always have their reported address on Bornholm, and thus be defined as commuters. Due to these matters a calculation from gross to net commuters is necessary. However when estimating the growth over time in commuting then the growth rates from gross commuting is applied.

3.3 The results and implication

From the NTM three scenarios with price reduction of 20, 40, and 60 percent have been calculated on the ferry route Rønne-Ystad. These are shown below.

Elasticities aue to price reauctions								
		20% price	20% price reduction		40% price reduction		60% price reduction	
Purpose	Cars	cars	Elasticity	cars	Elasticity	cars	Elasticity	
Commuting and								
business (1)	166.5	203.7	1.118	208.7	0.646	213.2	0.467	
Recreational –								
Daytrips (2)	96.8	104.1	0.378	108.9	0.318	114.7	0.308	
Recreational								
Overnight (3)	151.2	165.5	0.470	177.9	0.449	191.1	0.439	

Table 4Elasticities due to price reductions

As is clearly seen, the price reductions will increase the passenger flows for all purposes, which was also expected. This is seen that the elasticity is positive for all purposes. The interesting difference then becomes the magnitude of the elasticity. If an elasticity is above one then a lowering of the price will yield a response larger than one percent. In the context of profit maximization this would mean that it would be profitable to lower the price because the increase in demand outweighs the decrease in price. If the elasticity is larger than one the demand is elastic and if it is lower than one, it is inelastic.

With the exception of commuting and business travel at a 20 percent price reduction, all elasticities are smaller than one, implying that the demand-price elasticity is in-elastic, for the most of them. One percent decrease in transportation cost, will not be met by an equivalent 1 percent increase in transportation flows. Again with the one exception of commuting and business travel at a 20 percent price reduction.

From the table it is also apparent, that the elasticity is lower for recreational stays than for business and commuting. This seems to imply that commuters and business tourists are more price-responsive. It also seems like tourists on day-trips are less responsive than overnight-tourists. This is somewhat surprising because transportation costs is a larger part of the expense for day-tourists. Another explanation is that many day-trip tourists go to Bornholm with airplane and therefore is not a part of this model because we assumed that flight traffic would not be affected.



From the table it is also apparent that the marginal effect of the price reduction is smaller as the change is doubled and tripled. This is in accordance with expectations, because generally the price-sensitivity of a good will be declining in price-changes. The initial price reduction thus have the largest effect on traffic demand.

The results of the calculations of elasticities give a rise to the following changes in passenger flows on the competitive routes to the island of Bornholm, as shown in Table 5.

Туре	Purpose	Ferry (20%)	Ferry (40%)	Ferry (60%)
		- Increase in perce	ent -	
Net – inbound commuting	1	22.36%	25.84%	28.02%
Net – outbound commuting	1	22.36%	25.84%	28.02%
DK one-day-tourists	2	7.56%	12.72%	18.48%
DK overnight tourists	3	9.40%	17.96%	26.34%
Foreign one-day-tourists	2	7.56%	12.72%	18.48%
Foreign overnight tourists	3	9.40%	17.96%	26.34%
DK Business overnight – arr.	1	22.36%	25.84%	28.02%
Foreign Business overnight – arr.	1	22.36%	25.84%	28.02%
DK Business one-day	1	22.36%	25.84%	28.02%
Foreign Business one-day	1	22.36%	25.84%	28.02%
Total trips		10.38%	18.39%	26.16%

Table 5Changes in passenger flows by percentage price reductions compared to the basis scenario

From the table we once again observe, that the marginal effect of the price reduction is smaller as the change is increased. Again, the initial price reduction has the marginally greatest effect. However in real term changes then lowering the price with 60 percent will cause more people to use transportation via the ferry than lowering the price with 20 or 40 percent.

The own price elasticity shows that price sensitivity is largest for business tourists and commuters. The price sensitivity is significantly lower for recreational tourists and smallest price sensitivity is for one-day recreational tourists.

3. Economic and employment consequences of changes in price and tourist flows on the island

3.1 The Danish inter-regional macroeconomic model

The Danish inter-regional macroeconomic model, called the LINE model, is applied in this analysis. The LINE model is a regional model at a municipality level, which contains relationships of commuting, shopping, trading and tourism flows between municipalities. The data structure is based on national accounts, regional production accounts, registered census data and other surveyed data (Madsen and Jensen-Butler, 2004; Madsen, 2009; Madsen and Zhang, 2010).

The model structure can be seen as a diagram, containing a horizontal dimension and a vertical dimension (as shown in the diagram in appendix). The horizontal dimension is spatial, divided into three locations: place of production (P), place of residence (R) and place of commodity market (S). Production activity is related to the place of production. Factor rewards and income to institutions are related to place of residence, and demand for commodities is assigned to place of commodity market. The vertical dimension is a social accounting matrix (SAM), divided into four main categories: 1) the sectors (J) relating to productive activities; 2) factors of production (G), which describes the age, sex and education status of labour force both at the place of production and the place of residence; 3) household (H) at place of residence, which relates to private consumption; and

finally 4) commodities (V) at place of demand, which relates the commodities demanded both at the place of demand and the place of production .

The LINE is designed with two circuits: a real circuit and a cost-price circuit. The real circuit reflects a straightforward Keynesian-demand model. Let us assume that there is a need for product X at the place of demand. The businesses at the place of production start to produce this product. The production requires both intermediate inputs (such as machinery and raw materials) and labour. Intermediate inputs are obtained through the commodities trading relationship within one's own region or with other regions, including import. Labour is employed either from one's own region or other regions. Production generates factor incomes in basic prices, including the portion of income used to pay commuting costs. This factor income is transformed from sectors to sex, age and educational groups and from place of production to the place of residence through a commuting model.

Employment follows the same path. Employment and unemployment are determined at the place of residence. In addition to other adjustments, commuting transport costs and taxes are deducted from factor income and transfers added, giving disposable income, which by definition is related to the place of residence.

Disposable income is the basis for determining private consumption in market prices and at the place of residence. Private consumption by different household types is divided into three types of private consumption: local consumption, domestic tourism consumption and international tourism consumption. When consumers stays in one region but go shopping in other regions, the inter-regional shopping model is established. The same phenomenon holds for the tourism model, where tourists travel to a tourist destination (place of demand) or international tourists come from abroad.

Private consumption, together with intermediate consumption, public consumption and investments, constitute the total local demand for commodities. By adding commodity taxes and trade margins, basic prices are transformed into market prices. Local demand is met by local production and imports from other regions or abroad. Through a trade model, exports to other regions and production for the region itself are determined. Gross output by commodity is determined by adding export abroad. Through a reverse make matrix, the cycle returns to the place of production by sector. Coming back to our assumption for product X, when the total demand for product X is determined at the place of commodity market (SV in the diagram), it will return to the place of production (PV and PJ in the diagram).

Economic activity in the real circuit is affected by changes in prices and wages: wages and productivity affect the price of local production, which through relative changes in local competitiveness affects exports and imports, which in turn affect private consumption through changes in real disposable income.

The cost-price circuit reflects the relationship between the economic volume and cost-price changes. For example, the cost for production, such as intermediate consumption becomes costly; it can either reduce the value-added part (i.e. less inputs from labour) to keep the same production value, or to increase the prices of products. The changes will influence the model effects on the economy. When the productive sectors produce the same value by using less labour inputs, this reflects an increase in productivity. The long-term effects of higher productivity have potential to increase competitiveness in the export markets; then it will in turn increase the national income in general. On the other hand, if we keep the same value-added level, when increase in intermediate inputs, the prices of products will also increase; or in the other word, the productivity is reduced. The effects of high prices on domestic produced products will reduce the competitiveness in the world market, hence reduction in exports. The changes will affect the household income and employment, then further affect all the economic sectors which are the supply chain in the economy. The cost-price circuit demonstrates the linkage in the LINE model between the producers and household, and between the commodity market and factor market (e.g. labour market). The inter-relationship between the actors and markets decides the magnitudes of multiplier effects in the economy.



The model is solved sequentially, starting with the real circle (PJ), then moving through equations and ending with equations in the cost price circle, followed by a new round of sequential steps until the model converges.

4.2 Assumption and inputs to the model

The baseline for the tourist flows is 2015 as shown in table 6. It is assumed that the passengers, especially the tourist flows will react to the changes in ferry price. The price elasticity given in Table 5 is applied here to estimate the volume changes in tourist flows. The assumption for the effects of price deduction is set up as two scenarios: one is the ferry price reduction at 20%, and the other is the ferry price reduction at 40%.

The calculation for changes in tourist flows is made by the baseline in 2015 multiplied with the price elasticity of each type of tourists. The results are shown in table 7 and 8 respectively. These are also the inputs for the model calculation for regional economic consequences of changes in tourist flows.

Table 6
Forecast of number of tourist bed nights by nationality of Denmark, Sweden and Norway
(Baseline in 2015)

Overnight forms	Danish tourists	SWE tourists	NOR tourists	SUM= SWE+NOR
Hotel - leisure	146,795	31,268	18,537	49,805
Camping	150,163	8,727	5,119	13,847
Vandrerhjem	40,593	2,247	724	2,971
Holiday center	121,999	4,825	7,110	11,935
Summer cottage	286,024	20,959	28,543	49,502
Overnight, total	745,573	68,026	60,033	128,060
Same-day tourists	24,317	2,637	0	2,637

Note: ¹ summer cottage is included only the rented summer house bed nights.

Increase in number of overnights by tourists and day visitors by lowering price with 20%				
	Ferry (20%)	Ferry (20%)	Ferry (20%)	
Overnight forms	Danish tourists	SWE tourists	NOR tourists	
Hotel - leisure	13,799	2,939	1,742	
Camping	14,115	820	481	
Vandrerhjem	3,816	211	68	
Holiday center	11,468	454	668	
Summer cottage	26,886	1,970	2,683	
Overnight, total	70,084	6,395	5,643	
Same-day tourists	1,839	200	-	

Table 7 Increase in number of overnights by tourists and day visitors by lowering price with 20%

		1 1 01	
	Ferry (40%)	Ferry (40%)	Ferry (40%)
Overnight forms	Danish tourists	SWE tourists	NOR tourists
Hotel - leisure	26,364	5,616	3,329
Camping	26,969	1,567	919
Vandrerhjem	7,290	404	130
Holiday center	21,911	867	1,277
Summer cottage	51,370	3,764	5,126
Overnight, total	133,904	12,218	10,782
Same-day tourists	3,093	335	-

 Table 8

 Increase in number of overnights by tourists and day visitors by lowering price with 40%

It is necessary to make some assumptions before we make scenario analysis.

Point of departure for the analysis is the reduced ferry price for the ferry link between Rønne-Ystad, therefore, the analysis includes Danish leisure overnight tourists, Danish same-day visitors and Swedish and Norwegian night tourists and Swedish same-day visitors to Bornholm, as they the possible passengers in this ferry link.

We only consider the commercial overnights forms of tourists in the calculation. This is because we do not have truthful data sources for non-commercial forms, for example, visitors who are visiting families and friends, tourists who use their own summer cottages, etc.

We take 2015 forecasted number of tourists as baseline. It is not realistic when we calculate the economic effects based on 2012 data. From the model forecasts (see Zhang and Willadsen, 2014), we obtained the forecasted tourism data for 2015.

We apply the price elasticity from Rich's report (Rich, 2013). The scenarios are based on price reductions at 20% and 40%. There is also a calculation of the price elasticities for a reduction of 60%, but this seems not a realistic price reduction.

4.3 Model results and implication

The special version of the LINE model for transport and traffic flows has been constructed for the project. The model is replicated in the way there will be convergent when making scenario analysis. A scenario analysis means that the model is given an external change in one of exogenous variables, in this case, the number of bed nights by different types of tourists. The changes in number of bed nights will give changes in the tourism revenue at Bornholm, which will give a rise in the consumption and production at both Bornholm and other regions, hence the increase in all the other economic variables, such as employment, gross value added, disposable income and local private consumption, as well as the governmental incomes.

Scenario 1-20% deduction of ferry prices:

When the ferry price is reduced by 20%, there will be an increase of 70,084 bed nights by Danish overnight tourists and 1,839 same-day visitors. At the same time it will be seen an increase of 12,038 Swedish and Norwegian bed nights and 200 same-day Swedish visitors. The increase in number of tourists gives an increase in tourism revenue at Bornholm. The increased revenue is estimated to be 45.4 million Danish kr. from the increase in Danish tourists and 15.2 million Danish kr. from the increase in foreign tourists. The total increase is then 60.6 million Danish kr. (see table 9).



				(Mil. Kr.)
Overnight forms	Danish tourists	Swedish tourists	Norwegian tourists	Foreign tourism
Overnight tourism	45.40	8.88	5.97	14.85
Same-day visitors	0.01	0.31	0.00	0.31
SUM:	45.41	9.18	5.97	15.16

 Table 9

 Tourism expenditure at Bornholm for scenario of deduction of ferry price at 20%

A (1 1)

The increase in tourism revenue causes local economic growth. It is estimated by the model calculation that direct employment effect is 35 full-time equivalent jobs at Bornholm and 11 in other regions of Denmark. If we take into account the derived effects from the increased tourism revenue, there is generated 44 jobs at Bornholm and 28 in other regions of Denmark. A total of 72 jobs in Denmark (see Table 10).

In the same manor, it is estimated that direct gross value added effect at Bornholm is 12.8 million Danish kr. and 5.8 million in other regions of Denmark. The total direct effects of gross value added for Denmark is 18.6 million kr. When adding up the derived effects into the direct effect, it gives Bornholm 17.1 million kr. in gross value added and the total effect for Denmark is 33.2 million kr.

Governmental revenue from personal income taxes is estimated to be 4.7 million kr. at Bornholm and 9.1 million kr. for Denmark as a whole. Governmental revenue from value-added taxes, commodity taxes and company taxes is estimated to be 14.9 million kr. at Bornholm and 17.9 million kr. for Denmark. In total, governmental revenue, sums up to be 19.5 million kr. at Bornholm and 27 million kr. in Denmark (see table 10).

	Bornholm	Rest of Denmark	Denmark
		Number of jobs	
Employment (direct effects)	35	11	46
Employment (derived effects)	9	17	26
Total employment generated	44	28	72
		mil. kr.	
Gross value-added (direct)	12.8	5.8	18.6
Gross value-added (derived)	4.3	10.3	14.6
Total gross value-added generated	17.1	16.1	33.2
		mil. kr.	
Total personal income taxes	4.7	4.5	9.1
Value-added taxes and other taxes	14.9	3.0	17.9
Total taxes generated	19.5	7.5	27.0

 Table 10

 Economic impact of ferry price (-20%) and increased tourists at Bornholm

Scenario 1-40% deduction of ferry prices:

When the ferry price is reduced by 40%, there will be an increase of 133,904 bed nights by Danish overnights tourists and 3,093 same-day visitors. At the same time there will be seen an increase of 23,000 Swedish and Norwegian bed nights and 335 same-day Swedish visitors. The increase in the number of tourists give a rise to an increase in tourism revenue at Bornholm. This increase is estimated to be 86.7 million kr. from the increase in Danish tourists and 28.9 million kr. from the increase in foreign tourists. Totally the effect is up to 115.6 million kr. (see table 11).

Overnight forms	Danish tourists	Swedish tourists	Norwegian tourists	Foreign tourism
Overnight tourism	86.70	16.96	11.41	28.37
Same-day visitors	0.02	0.51	0.00	0.51
SUM:	86.71	17.47	11.41	28.88

 Table 11

 Tourism expenditure at Bornholm for scenario of deduction of ferry price at 40%

(Mil kr)

This increase in tourism revenue also causes local economic growth. It is estimated by the model calculation that direct employment effect is 68 full-time equivalent jobs at Bornholm and 20 full-time equivalent jobs in other regions of Denmark. In the same way, if we take the derived effect into account, there is generated 84 jobs at Bornholm and 53 jobs in other regions of Denmark. In total it is generated 137 jobs in Denmark.

Using the same method, it is estimated that direct gross value added effect is 24.4 million kr. at Bornholm and 11 million kr. to the rest of Denmark. The total effects is an increase in gross value added of 32.6 million kr. at Bornholm. For the whole of Denmark the increase in gross value added is 62.6 million Danish kr.

The increase in governmental revenue from personal income taxes is estimated to be 8.9 million kr. at Bornholm and to be 17.2 million kr. for Denmark as whole. The increase in governmental revenue from value-added taxes, commodity taxes and company taxes is 28.4 million kr. at Bornholm and 34.1 million kr. for Denmark as whole.

The increase in governmental revenue sums up to be 37.3 million kr. in total at Bornholm and 51.4 million kr. in total in the whole of Denmark (see table 12).

	Bornholm	Rest of Denmark	Denmark
		Number of jobs	5
Employment (direct effects)	68	20	88
Employment (derived effects)	16	33	49
Total employment generated	84	53	137
		mil. kr.	
Gross value-added (direct)	24.4	11	35.4
Gross value-added (derived)	8.2	19	27.2
Total gross value-added generated	32.6	30	62.6
		mil. kr.	
Total personal income taxes	8.9	8.4	17.2
Value-added taxes and other taxes	28.4	5.7	34.1
Total taxes generated	37.3	14.1	51.4

Table 12 conomic impact of ferry price (-40%) and increased tourists at Bornholm

These are the results obtained directly from the model calculation. We have many variables in the model, we present herewith only the importance variables that give us expression of changes in the island economy when increase in tourism flows due to the reduction of ferry prices.

CONCLUSION

This paper demonstrates there is a connection amongst transport, tourism and local economy. Using a case from a peripheral island in Denmark, it is shown that the economic and demographical situation at the island is critical. The economic growth at Bornholm is clearly much lower than the national average, the population becomes aging, the economy is facing declining due to lack of labour force and less competitive in the markets.

The government and regional policy makers are in the process of taking consideration of alternatives for the regional development for peripheral regions. Can transport subsidies from government to the ferry prices help the local economic development? What is a price - demand elasticity for such a ferry linkage? How large the effects will be for the local economy?

The paper presents our investigation on the relationship between the ferry prices and traffic demand. By using the interregional macroeconomic model, the future demand for the traffic flows between the Swedish harbour (Ystad) and Bornholm is estimated. The National Traffic Model is applied in the project to calculate the price elasticity of the different transport demand in the context. The elasticities are used to estimate the changes in traffic flows by different tourist groups. Finally, the changes in the tourism flows become the settings for the model scenario analysis. The economic consequences are then calculated through the LINE model frameworks.

The model has calculated on the basis of two tourism scenarios: changes in tourism flows due to ferry price deduction at 20% and ferry price deduction at 40%. Even if the economic consequences are very limited (less than 1 percent of employment and gross value added), the implication is far more profound in the regional economy. Firstly it shows only the tourism part of effects, it manifests the increase in tourism gives an economic effects on the island. The tourism industry is an importance part of island economy, it accounts more than 10% of local economy in term of employment. Secondly the deduction in ferry traffic prices will give effects on goods transport to and from Bornholm. The cheap transport price will lift the competitiveness of the business on the island. The many small and medium sized businesses on the island have difficulty to compete in both domestic and international markets due to higher transportation costs. Thirdly, the lower ferry prices will increase the number of commuters, both in - and out - commuters. When Bornholm is in the situation of lack of labour force, it will be easier for the people from other regions to fill in the jobs without migration. It might be also possible to let local residents remain on the island when they have got job in the mainland Denmark. Finally, the decision from the governmental subsidies to the ferry prices will certainly consider the amount of subsidies compared with the economic effects it obtains when implemented. However, the trend of out migration of young people from the island and aging population in the peripheral regions is inevitable. Regional policy should focus on maintaining a certain size of population and certain business activities on the islands and peripheral regions, in order to keep a sustainable environment, active human lives and a better natural balance in peripheral regions

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Appendix:

Diagram for explaining the LINE model structure



THE ACCESSIBILITY OF CULTURAL TOURISM IN SAKON NAKHON PROVINCE¹, THAILAND

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ABSTRACT

The purpose of this study is to observe the accessibility of cultural tourism in Sakon Nakhon province of Thailand. In this study, we used quantitative and qualitative methods by providing 800 questionnaires to Thais and foreign travelers, and we analyzed data using mean and standard deviation. From the results, we found that Thai tourists place the most importance upon high-level accessibility (Mean = 4.53) and foreign tourists consider high-level accessibility to be important (Mean = 4.42), Thai tourists are most comfortable if the tourist attractions are easy to access by road because most of them visit tourist attractions by private car (Mean = 4.61), the second priority is the availability of public transportationservices and connections thereby to tourist attractions (Mean = 4.55), and third in importance is having convenient facilities and guides people (Mean = 4.53); however, foreign tourists give primary importance to public transportation and its connection to tourist attractions. In addition, public transportation and its linkage to tourist attractions is a significant developmental issue for the province, and tourist facilities, such as toilets and facilities that are accessible to people with disabilities, need to improve.

Keywords: Accessibility; Cultural Tourism; Sakon Nakhon Province

INTRODUCTION

A tourist destination is basically a travel destination that attracts large numbers of travellers or tourists. In addition, a tourism destination includes economic, cultural, and social activities. Public institutions responsible for that destination establish a set of facilities and actions that ensure the best possible positioning in a highly competitive market when it comes to attracting tourists (Beerli & Martin, 2004). Cultural tourism enables travellers to learn about the history and heritage of others or about their contemporary ways of life or thought (McIntosh & Goeldner, 1994).

Cultural tourism is the subset of tourism concerned with a country or region's culture; specifically, it concerns the lifestyle of the people in those geographical areas, the history of the people, their art, architecture, religions, and other elements that help shape their ways of life (Mohammed, 2013). Thailand is a country that has many cultural capitals and is strong in tradition and culture, which leads to tourism business opportunities (UNESCO, 2006). In 2014, Thailand developed some elements of the 11th National Economic and Social Development Plan (NESDP). Some issues in this plan focus on the creative economy, and the following six development issues are covered: 1) cultural heritage, folklore, and natural diversity; 2) arts and cultural identity; 3) handcrafts; 4) entertainment media and the software industry; 5) creative product design and development; and 6) creative economy development (Panich & Maneenetr, 2013)

Sakon Nakhon province has a diversity of cultural heritages. In 2011, 449,337 Thai tourists visited Sakon Nakhon. Approximately 2,532 foreign tourists visited Sakon Nakhon (National Statistical Office of Thailand, 2011). Sakon Nakhon province is known for its geography and cultural values. The outstanding historical and cultural attractions in the Sakon Nakhon province consist of 1) local history and historical traces around the Nong Han lake, the 2nd largest lake in Thailand; 2) archaeological objects from the Tavaravade reign; 3) local buildings and architecture that were very unique for the Isan housing style mixed with French-Vietnamese styles; 4) arts, handcrafts, and sculptures related to local beliefs and cultures appearing around the province; and 5) attraction sites related to the famous forests (Fine Arts Department, 9th Regional Office, 1997). The popular tourist destinations in Sakon Nakhon are the museum of Archan Man Purithattha Thera, Phu Phan Rajanivet Palace, Phu Phan National Park, Freshwater Fish Aquarium, and Sakon Nakhon Cultural Centre.

As researchers have mentioned, Sakon Nakhon province is the most popular attraction for tourists; however, Sakon Nakhon still faces many problems. The fieldwork survey found that one of the main problems is the lack

of public necessities. For example, there is a lack of public transport connecting to touristic places and a lack of tourist infrastructure, such as toilets and walk ways for elderly people. So, the purpose of this study is to observe the accessibility of cultural tourism in the Sakon Nakhon province of Thailand. Researchers hope that the benefit of this paper will lead to government agencies and all stakeholders who are involved in tourism in Sakon Nakhon province giving more concern to solving the problems and improving the public needs. This will support tourists and the tourism business in increasing the economic growth in the province.

Objective

To observe the accessibility of cultural tourism in Sakon Nakhon province of Thailand

LITERATURE REVIEW

The development of cultural tourism as a generator of income and a recognised form of tourism has emerged as an objective of both heritage institutions and tourist operators across Thailand and around the world (Naipinit, et al., 2013a). Tourism impacts many dimensions of life for local residents, such as economic, social, cultural, and environmental aspects (Kim, Uysal & Sirgy, 2013). Transport has the potential to act as a gatekeeper to cultural contact, constraining or encouraging host-tourist interaction; transport also exerts substantial externality effects, as witnessed by increasing concern over the growth and impact of international air travel at a global level (Hall, 1999).

However, public transportation is an obstacle in many tourist places in Thailand; for example, Phuket Island faced a problem of traffic jams and a lack of public transportation (Sakolnakorn & Naipinit, 2011). Phuket Island needs to develop a mass transportation system, such as a sky train or subway, to solve the growing traffic jams, especially if it does not increase the number of traffic lanes or build new roads (Sakolnakorn, Naipinit & Kroeksakul, 2013). For increasing the potential for tourism, the government should improve roads (to make them in good condition) for connecting with provinces and to enable sightseeing in the rural areas (Naipinit, et al., 2013b).

As we mentioned above, transportation to support tourism is very important; the travel and tourism industry and the nation's transportation system have significant interdependent impacts on the Thailand economy. However, Thailand still lacks public transportation and it is necessary for all stakeholders to show concern for development and to revise the tourism policy to prioritise public transportation. This is because transportation and public utilities such as roads and highways give convenience to tourists in accessing tourist places. So, in this paper, researchers will give some ideas for tourism policymakers to support the local tourism industry to boost the economy in the region. This will benefit not only the tourism industry but also the local residents and all stakeholders.

METHODOLOGY

The location of this study is Sakon Nakhon province in the northeast of Thailand. We provided 800 questionnaires to 400 Thai tourists and 400 foreign tourists, and we calculated a sample size using Yamane (1973). The questionnaire used the Likert scale and offered five answers: strongly agree; agree; moderately agree; disagree; and strongly disagree. The closed questionnaire was interpreted by dividing the question scales into a 5-point scale as higher, high, moderate, low, and lowest (5.00 - 4.5, 4.49 - 3.50, 3.49 - 2.50, 2.49 - 1.50, and 1.49 - 1.00), and we analysed this data using mean and standard deviation.

RESULTS

From the study, we found that Thai tourists place the most importance upon high-level accessibility (Mean = 4.53) and foreign tourists also consider high-level accessibility to be important (Mean = 4.42), Thai tourists are most comfortable if the tourist attractions are easy to access by road, because most of them visit tourist attractions by private car (Mean = 4.61). The second priority is the availability of public transportation services and connections thereby to tourist attractions (Mean = 4.55), and the third priority is having convenient facilities and guide people (Mean = 4.53). However, foreign tourists give primary importance to public transportation and its connection to tourist attractions (Mean = 4.46) as shown in Table 1.

The accessibility of cultural tourism in Sakon Nakhon province		Level		
The accessionity of cultural tourism in Sakon Wakion province	Mean	S.D.	Level	
1) It is possible to access tourist places by private car.	4.53	0.60	High	
2) The tourism routes are linkages between tourist places.	4.48	0.62	High	
3) Have many tourism signs showing the name and the way to tourist places.	4.49	0.63	High	
4) It is easy to access tourism information of Sakon Nakhon province.	4.40	0.65	High	
5) Hotel and accommodations are easy and convenient to book.	4.46	0.62	High	
6) The public utilities are good, such as water supply, electrical systems, and high-speed internet.	4.59	0.57	Higher	
7) It is easy to access and find restaurants and grocery stores that are priced well and are clean.	4.57	0.81	Higher	
8) It is easy to find the hospital and health care.	4.61	0.60	Higher	
9) There are many tourist information centres.	4.41	0.66	High	

Table 1. The accessibility of cultural tourism in Sakon Nakhon province

From Table 1, we found that most respondents were satisfied with the necessity and utilities in tourist places of Sakon Nakhon province. It is easy to access to tourist places, information, and all activities; however, the public transport needs to be developed, because most tourists visited tourist places using private cares or rental cars, because in Sakon Nakhon province there is no public transportation to tourist sites; there are only a few airplane flights per week to Sakon Nakhon.

CONCLUSION

In Sakon Nakhon province, public transportation is not quite supportive of tourism in the case of the attractions that are located out of the town; these are convenient to travel to by car. This issue is very important: it is necessary that public transportation is developed to support tourism and also to benefit the local residents. Matei (2005) stated that public transportation would increase the opportunities for travellers who want to visit the attractions that are out of town.

To improve the accessibility of cultural tourism in Sakon Nakhon province, special buses and/or tram railways are needed to develop tourist places, especially in Sakon Nakhon province. Local train linkages between districts and tourist places also need to be developed. Train railways need to be developed to link to other provinces in the northeast region (currently, Sakon Nakhon does not have a train railway). In addition, public buses need development because current bus availability is not enough; buses are old and unsafe, and bus routes do not reach tourist places. So, the bus route from Sakon Nakhon city to other districts within Sakon Nakhon province should be developed, and the route should pass through most of the tourist places. The bus route between Sakon Nakhon and other provinces also needs development. In addition, Samat (2010) stated that road networks were developed to support the tourism industry.

Policy Guideline

1. Local government and the central government (Department of Land Transport) should revise the collaboration of the bus route between government agencies and transportation companies to revise and improve the bus route and to renovate the buses.

2. The State Railway of Thailand should extend the railway from Khon Kaen province to Sakon Nakhon province, and also link to Mukdahan province because Mukdahan is a border to Lao PDR.

3. Local train or tram railways within Sakon Nakhon province need to be developed, and the Local Administration Organization Office of Sakon Nakhon should be a host for investment.

4. A greater number of airplane flights per week to Sakon Nakhon is a requirement.

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TOWARDS EDUCATING NIGERIA ROAD USERS ON THE EFFECT OF TRAFFIC CODES IN LAGOS STATE 13

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ABSTRACT

Transportation is a derived demand. This is a well known phenomenon. Despite various transportation functions and importance, it still has its own fluxes/shortcoming by itself or the users. It should be in best interest of the road users, and the government, that these shortcomings be regulated and guided by some government agencies in charge of traffic codes. This code normally comes out from government gazette(s) to be used by the populace. The interpreter of the codes or regulators that to education the masses on road users/the pros and cons of the codes. The Executive Governor of Lagos State, His Excellency, Babatunde Raji Fashola S.A.N has modified the traffic codes and conducts in Lagos State and it's helping to control the adverse effect of the road users. Assistance from foreign intervention is not left out to support the executive governor's efforts. The paper would like to critically look at the function of transport, effect of traffic code education on the road users would assimilate the traffic education would be considered to the betterment of Lagos and Nigerian populace. **Keywords: Education, Traffic Management, Traffic Codes, Safety**

INTRODUCTION

Transportation is a derive demand that is it does not demands for its own sake. Due to its need/necessity many people, both locally, nationally and internationally demand for transportation. Lagos state Nigeria is not out of place. The rush of migration of people to settle in Lagos state Nigeria as the former capital of Nigeria and as a business centre has increases the population tremendously, this as invariably increased the demand of transportation system and other domestic, administrative and industrial needs. The rush in demand for transportation system as a means of conveying, people, goods materials and information has led to neglect of legal implication and violating of traffic codes, rules and regulation and this has led to various unforeseen circumstances, like hazards and accident.

Brief History of Lagos State and Understanding of Traffic Codes

Lagos State being former capital of Nigeria and viable business and administrative centre, has attracted many Nigerians from other states of Nigeria and other people from various countries. In Nigeria, Lagos state, amongst others is known as "mini London" because of the fact that many countries regard London as their "mentor" in upbringing. No dough about that.

Lagos state has a population put conservatively at 15, 000, 000. 00 persons. About 12, 000, 000. 00 of this population live in the city of Lagos making Lagos one of the largest metropolis in the world. Project on Workshop Practice (2011). States that, 'The city of Lagos has 224 vehicles per kilometer compare to a world average of 24 vehicle. The Nigerian Federal Road safety corps (FRSC) indicated a 20 percent increase in the rate of road accidents all across the country with Lagos accounting for the largest proportion.

Objective of the Research Work

The objective of this work is to educate/enlighten the Lagos state inhabitant on the importance of traffic code. Specifically to:

- Guild them against the punishment awaiting the offenders
 - Proceeding of International Conference on Tourism Transport & Technology ICTTT2014 at Brunel University, Uxbridge Campus, UB8 3PH, UK. 1-3 August, 2014

- Acquaint the inhabitant of the traffic code because a country where there is no law there will be no sin. Verse-a-vis.

- Abreast the inhabitants of the short-cut to traffic codes or law that is, is a short-cut to heaven.

Statement of Problem

The traffic problems in Lagos state Nigeria is majorly frequent accident on its roads. Despite educating and reenlightening of the inhabitants, the accident occurrence still remains re-occurring. Why? How? Where and when? These are the questions the research work, went out to gather information about and to analyze it for future prevention and safety. Majorly on curved roads, junctions and in the night moreso, not taking cognizance of the speed limit personal trait is not removed like bribery and corruption. Another problem is the proper execution and implementation of the traffic codes, rules and regulations

Delimitation

The work covers Lagos state roads as the most congested state in Nigeria and with the volume of vehicle mentioned above.

Traffic Codes and its Operation

It is high time that the Lagos State Nigeria inhabitants known as "Lagocians" understand the netygreety of traffic codes and how it operates on every citizenry in Lagos state. Accident is not friendly to human's life it is caused by human error and neglegence and due to these every road users must be conscious and take to cognizance the traffic codes, its operation and who executive its operation without or with bias. To educate on what to do if the traffic code executors are being bias on the execution.

Traffic code (also motor vehicle code) refers to the collection of local statutes, regulations, ordinances and rules that have been officially adopted and gazetted in any country to govern the orderly operation and interaction of motor vehicles, bicycles, pedestrians and others upon the public (and sometimes private) ways. The traffic code generally includes provisions relating to the establishment of authority and enforcement procedures, statement of the rules of the roads and other safety provisions.

Administrative regulations for driver licensing, vehicle ownership and regulations, insurance, vehicle safety inspections and parking violations may also be included though not always directly related to driving safety. Violations of traffic code i.e. a "moving violation" are often dealt with by forfeiting a fine in response to receiving a valid citation (getting ticket). Other violations, such as drunk driving or vehicular homicide are handled through the criminal courts, although there may also be civil and administrative cases that arise from the same violation (including payment of damages and loss of driving privileges). In some jurisdictions there is a separate code enforcement branch of government that handles illegal parking and other non-moving violation (e.g. noise and other emissions, illegal equipment. Elsewhere, there may be multiple overlapping police agencies patrolling for violations of state or Federal driving regulations.

In some countries each state has its own traffic codes although most of the rules of the road are similar for the purpose of uniformity, given that all states grant reciprocal driving privileges (and penalties) to each other's licensed driving. There is also a uniform vehicle code which has been proposed by a private non-profit group, based upon input by its members.

As with many such offerings some states adopt selected portions as written, or else with modifications and others create their own versions. Similarly most states have adopted relevant standards for signs and signals based upon the manual on uniform traffic control devices from ministry of transport or any other transport departments that are responsible for such. Many of the standard rules of the road involve consistent interpretation of the standard signs and signal, such as what to do when approaching a stop sign, or the driving requirement imposed by a double yellow line on the traffic laws are the laws which govern traffic and regulate



vehicle, while rules of the road are both the laws and the informal rules that may have developed overtime to facilitate the orderly and timely flow of traffic.

Organized traffic generally has well established priorities:

1) Organized traffic generally has well-established priorities lanes, right-of-way, and traffic control at intersections.

2) Traffic is formally organized in many jurisdictions, with marked lanes, junctions, intersections, interchanges, traffic signals, or signs. Traffic is often classified by type: heavy motor vehicle (e.g., car, truck); other vehicle (e.g., moped, bicycle); and pedestrian. Different classes may share speed limits and easement, or may be segregated. Some jurisdictions may have very detailed and complex rules of the road while others rely more on drivers' common sense and willingness to cooperate.

3) Organization typically produces a better combination of travel safety and efficiency. Events which disrupt the flow and may cause traffic to degenerate into a disorganized mess include: road construction, collisions and debris in the roadway. On particularly busy freeways, a minor disruption may persist in a phenomenon known as traffic waves. A complete breakdown of organization may result in traffic congestion and gridlock. Simulations of organized traffic frequently involve queuing theory, stochastic processes and equations of mathematical physics applied to traffic flow.

These traffic laws in Lagos state being monitored by the following authorities established by Lagos State Government.

1. Lagos state Traffic Management Agency (LASTMA): Lagos State Traffic Management Authority (LASTMA) was established on the 15th of July, 2000 to control and manage traffic proceedings in Lagos State.

Our Vision

To Develop a Culture of orderly monitoring, road usage regulation and management of traffic Operations State wide to ensure free traffic flow on Lagos roads.

Mission Statement

To make our road safe and reduce to the barest minimum Death, Injuries and Economic losses through road traffic accidents, Congestion and delay by saving man hour wasted on public highway and ensure a sustainable economic growth in the state.

2. The Federal Road Safety Commission (FRSC) though, this is a federal agency but still oversee the states roads traffic conducts

The Federal Road Safety Commission (FRSC) is charged with responsibilities for policymaking, organization and administration of road safety in Nigeria. Key to its operational success is its corps of marshals 0perating a three-tier system

a. First Tier (Regular marshals): These uniformed men and women are in the employment of the Federal Road Safety Commission. They perform all duties assigned to them by the Corps including, and most especially, the reduction of road traffic accidents in Nigeria. They are the strongest and most visible arm of the Corps and are called Regular Marshals.

b. Second Tier (Special Marshals): These are volunteers of proven integrity who have considerable interest and expertise in road safety. They do not wear uniforms but are empowered, like the Regular Marshals to arrest and prosecute traffic offenders, give lectures, offer research services and advise in their areas of professional competence. Called the Special Marshals, they primarily assist the regular marshals.

c. Third Tier (Road Safety Club): Youths in schools and colleges are organized into road safety clubs at the primary, secondary, tertiary and National Youth service Corps (one-year compulsory service after

university graduation) levels. Unlike the Regular and the Special Marshal, they do not patrol the highways. Rather, they are encouraged to imbibe road safety culture from an early age and demonstrate these in their school activities.

The Federal Road Safety Commission (FRSC) has further developed road safety educational curricula for various grade levels and is presently working with the Ministry of Education to make it a national programme.

3. Vehicle Inspection Officer (VIO): The <u>Vehicle Inspection Office Driver and Vehicle Licensing</u> <u>Administration (VIO-DVLA)</u> - Our primary aim is to standardize the drivers' license certification process and to maintain a database of certified drivers and vehicles in each State of the Federation for the enforcement of road traffic laws in Nigeria. This is the Vehicle Inspection Office Driver and Vehicle Licensing Administration (VIO-DVLA) of the 36 States and the Federal Capital Territory Abuja, Nigeria.

Functions/Duties

This is a vehicle inspection officer, that function among others are to:

- 1) Inspect the condition of the vehicle that hit the roads
- 2) Educates, organizing seminars for drivers
- 3) Training people on how to drive
- 4) To give driving licenses and other particulars

In February 1988, the Federal Government created the Federal Road Safety Commission with following functions:

- Making the highway safe for motorists and other road users.
- Recommending works and devices designed to eliminate or minimize accidents on the highways and advising the Federal and State Governments including the Federal Capital Territory Administration and relevant governmental agencies on the localities where such works and devices are required, and
- Educating motorists and members of the public on the importance of discipline on the highway.

In particular the Commission is charged with the responsibilities for:

- Preventing or minimizing accidents on the highway;
- Clearing obstructions on any part of the highways;
- Educating drivers, motorists and other members of the public generally on the proper use of the highways;
- Designing and producing the driver's license to be used by various categories of vehicle operators;
- Designing and producing vehicle number plates
- The standardization of highway traffic codes;
- Determining and enforcing speed limits for all categories of roads and vehicles and controlling the use of speed limiting devices;

With all these agencies we still record a lot of vital accident every day in Lagos state, why and how? The way out

LITERATURE

Traffic code would survive in any country if they are properly managed for example according to John. A. Cracknell (2000). Traffic management has limit in cities where traffic congestion and traffic growth are high. However, it should be borne in mind that:

1. Even if impacts of traffic management are short term, the benefits are real and worth while:

2. Traffic management should seek to improve conditions for "people" not "vehicle" and thus even in conditions of high traffic growth and congestion, traffic management measures such as bus priority and road safety have great relevance.

3. Alleviation of traffic congestion impacts arising constitution of major infrastructure works affecting the high way; and

4. Alleviation of adverse traffic impact arising from major land use development

5. Traffic management should not be a one-time :one short: policy but should be a continuous process, adjusted and to meet changing traffic conditions

6. Traffic management should seek to apply both supply side measures (concentrating on "people" capacity) and demand management measures.

It also emphasize on the scope of traffic management that a distinction must be drawn between "traffic engineering: and "traffic management". "Traffic engineering" is an integral part of traffic management but is largely confined to the application of physical measure to a road network and junctions usually to ensure an increase in traffic (as opposed to "people") capacity and/or to ensure safe operation. "Traffic management" embodies a wider concept and is concerned with the comprehensive management of the road based transport system and deals with policies and measures for the entire urban transport system including at least.

- Traffic circulation
- Public transport (based and paratransit) on-street operations
- Management and control of parking, servicing and access
- Demand management
- Enforcement of traffic regulations
- Road safety
- Pedestrians
- Bicycles and other non-motorized vehicle (NMV)
- Commercial vehicle management and
- Environment management (such as traffic calming)

Moresor, World Bank Traffic Projects (2000) stated that, Road safety is often stated as one of traffic management component of Bank project-for example, in Moscow and Mumbai (not yet approved), Dlraka (only recently approved), Seoul, Taegu, Bogota, Zimbabwe, Hanoi, Bangkok, etc. A number of project include component although these are often less than comprehensive and usually include either (i) attempts to establish an accident data recording system and/or (ii) a "black spot" program. However, as the "safety Review" notes, there has been little, if any, systematic evaluation of past Bank project components and thus no impact analysis is possible. As with other aspect of traffic management, there is a clear need for more rigorous:

- a. definition of safety objectives and targets at project appraisals:
- b. systematic safety programs; and
- c. monitoring of targets and indicators

Traffic Management Measure

Are highly city-specific depending on city size, level of development, level of traffic congestion, traffic characteristics, ability enforce etc. and measures which are successful in one city may not be appropriate or successful in another.

Discussions on Traffic Laws against Traffic Codes and Conducts in Lagos State

His Excellency, Governor Fashola who disclosed this in an exclusive interview with Business Day in his office on Thursday, said the law became operational the moment it was signed, as it is no suspended law. The

law which seeks to regulate and sanities the chaotic public transportation system in Lagos, Nigeria's economic hub was assented to by the governor on August 2, 2012.

Some aspects of the law include the criminalization of eating and making or receiving phone calls while on wheel, driving against traffic flow (one-way) and the barring of motorcycles from dual carriageways in Lagos. The new law prescribes a jail term of three years and fines ranging between N20, 000 and N30, 000 for offenders. Some officials of the state government, a day after the law was. Signed had said that the enforcement would not begin until the general public was fully sensitized, to avoid claims of ignorance.

But speaking to Business Day, Fashola said "Once a law has been signed without a deferred commencement day, it becomes the law. If you're apprehended violating it, you will get the appropriate sanctions that the law prescribes immediately. There is no suspended law. The law is in force." The governor explained however, that the commitment and focus of the state government in the meantime, was not on arrest of offenders, but to educate the people about their rights and liabilities with regard to the new law, as well as provide enough signage's and information.

"What we're concerned with is not how many people. but how many people we convert into compliance by the strength and the advocacy for the values of compliance. And that's what we want to focus on in the short term. In the medium term, some increased enforcement and in the long term, total, uncompromising zero-tolerance. By that time, we would have more people voluntarily complying; you'll see that it's the same thing as our environmental laws. We spent a lot of time advocating, although that did not mean it was not a crime to dump rubbish in the drain. It did not mean it was not an offence to build on the drainage. We just spent some time on advocacy on the danger of flooding. That's what we're going to do again. That's the government we are, communicating with our people," Fashola said.

He also debunked the insinuation that revenue generation was at the heart of his administration in fashioning out the law, saying rather, that it was meant to address disorderliness and create economic prosperity for all.

Let me make, one thing clear: No amount of fines that we get can deliver on the economic prosperity that is possible if the Lagos traffic works. So, it's a tunnel vision approach to think that this is about revenue generation. I've heard some of our political opponents say that this is all about revenue; they've been out of government for so long they don't even understand this is not a kobo-kobo business. It's about general prosperity, when people can travel seamlessly from one end of the state to the other, government makes more money than when they're locked down in traffic.

Then, why do I want to put my citizens in jail; I don't even have space. This is not about locking people; it's about changing habits and changing a way of life. We're moving on to a new plane, where a 30-minute journey is a 30-minute journey, not a five hour journey. When there's breakdown, we already have capacity to remove it. But don't compound difficulty by breaking the law, by driving against oncoming traffic," he said.

The governor further explained that the law would address the increasing insecurity of the citizens and their property with the regulation of the operations of commercial motorcycles (Okada) and buses, as they would now operate on specific routes assigned to them under the new regime. Business Day reports that the issue of robbery with motorcycles has become a recurring matter in major Nigerian cities, including Lagos.

If you go to my inaugural address at my re-election, this was all I spoke about: law and order. It's the only thing left. If we deviate from law and order, nothing will work. Nigerians have demonstrated that they can. Fashola also unfolded plans to deepen the knowledge of the enforcers of the law, particularly officers of the Lagos State Traffic Management Authority (LASTMA) in the use of modem technology in traffic management. According to him, there's a lot of technology currently in use, which LASTMA officials are

tapping into. He cited the example of Auto Inspector- hand-held devices which enable traffic officers track information about any car registered in Lagos and its owner

Suggested Solution and Recommendations

a. parking policy changes in traffic laws will often be necessary to ensure;

- Clear responsibilities
- Realistic charges and
- Realistic sanctions against offenders

Therefore parking components and parking control and management should receive full attention to avoid accident. Some form of "parking agency" is required to plan, operate and manage a parking policy, thus is rare in developing cities where:

- Packing is not treated in a comprehensive way and
- Responsibility are often divided between Police and the traffic agency

Advantages

Parking pressure will increase as vehicle ownership and use grows and at a minimum, an on-street parking policy is an essential element in a well-managed traffic system. On street parking, at least in central and congested areas, should be charged since:

- Charged parking can assist in managing demand

- Car drivers should pay the full cost of their journey parking is part of any journey made by car and free parking would be a car users.

b. Bus Priority: Specific city conditions influence heavily bus priority policy. In cities like Lagos state where traffic congestion exists and where buses play a major role, there is strong need for bus priority. To development cities, the acceptance that full and unrestrained car use cannot be accommodated has would lead to traffic management strategies which accept "people" and not "vehicle" and thus positively promote bus priority and place measures for buses at the top of the hierarchy of traffic actions. Developing cities are likely to have to abort the same policy as traffic congestion worsened. However, in developing cities, , bus priority can be difficult to implement for both technical and political reasons including:

- Where small para-transit vehicle predominate bus lanes are unlikely to be successful
- Where bus flows are exceptionally high and bus congestion is a problem

- Where bus systems are only just developing and buses are regarded as a second class mode, reallocation and local opposition to road space reallocation.

Advantages

Bus priority is one of the most effective traffic management techniques to improve efficiency and to assist demand management (by providing an alternative to car use). This system is fully operating in Lagos state Nigeria started by His Excellency governor Babatunde Raji Fashola (SAN) and other states in Nigeria is fully operating same. These impacts coupled with a high poverty impact and should ensure that bus priority is a fundamental element of any traffic strategy. Improvement in the acceptance of bus priority would be assisted by

a. Promotion to decision makes politicians to convince them of the advantages of bus priority.

b. Public consultation and dissemination of bus priority planning and design guidelines to cities with little experience in the area and

c. Commitment to enforcement of traffic management bus priority

Traffic Signals: Isolated junctions: Traffic signals are used to control traffic movements at conflict points (usually at isolated junctions but also at pedestrian crossing or vehicle merges) in order to maximize road capacity and to ensure safe operation. Traffic signals can also be used to assist the realization of traffic management strategy by given priority buser by assisting pedestrians and cyclists and by regulating traffic demand through managing traffic queuing. Traffic signs also must be capable of linking together in order to coordinate the operation of signals over route, a corridor or an area. Traffic signal should be optimized to deal with traffic flows as they changes over time. It should be the first task of a traffic management agency, to adjust signal timings to match traffic demand and even without dated and limited traffic signal control equipment; benefits can still be captured at little cost and with little effort. Meanwhile in developed cities, area wide coordination has been proved to provide significant benefits in term journey times, number to times traffic stop etc. most of these traffic signals are in operation but the State of mind of road users in Lagos State Nigeria are not in conformity with the signs.

Traffic Signals

Area Traffic Control (computerized area controlled traffic Signals systems)

In dense road networks with significant traffic flows. Junctions interact with each other and simple control of traffic signals at isolated junctions is not enough. Control systems are needed which enable

- The traffic interactions between junctions to be recognized otherwise accident may occur and/or
- Priority to be given to one category of system user (usually buses but also pedestrians).

Thus, Traffic signals need to be co-ordinate on a network wide basis; this is achieved through the use of some form of central computer control of traffic signals at junctions throughout the road network - termed "Area Traffic Control (ATC)". This can also be adopted in Lagos for accident safety.

Traffic Management for trucks – commercial Vehicles

Efficient urban road freight distribution is essential but must be carried out with minimum traffic and environmental impacts. An urban traffic management truck policy is part of traffic strategy and is likely to involve measures such as truck routes, designated loading areas, break bulk terminals (where appropriate) and "no go" areas for environmental protection. Specific measures to assist trucks, and to protect the environment and other road users are almost entirely absent from Bank projects. It is noted that (i) the road freight industry is a private sector operations and care is needed to avoid imposing truck restrictions – facilities which restrict operations to the extent that they are not commercially viable (such as truck terminals which are implemented by cities without recognition of commercial reality) and (ii) truck policy must extend well beyond traffic management to deal with truck loading limits, fuel for trucks, potential for transfer to other modes etc.

Pedestrian Facilities (Traffic Management and Poverty)

Pedestrians have not been very well served by many developing cities. There is a wide range of issues (i) lack of recognition of pedestrian needs, (Ii) even when pedestrian measures are provided, they are focused on the control of pedestrians in order to assist motor vehicle flow rather than to serve pedestrian needs (iii) poor footway maintenance and reinstatement after works rendering them unusable, (iv) footways encumbered by street traders, frontage occupiers and street dwellers (iv) provision of token pedestrian facilities which are neither in the right place nor can be used safely (vii) lack of institutional capacity t9 deal with pedestrian issues. There is need for much greater recognition of the needs of pedestrians and the need to assist, and not to subjugate them by (i) convincing city governments that pedestrians are an important element of the transport system and (ii) ensuring that the traffic agency has adequate powers and expertise to deal with the issues of good pedestrian facility planning, implementation, control of encroachment and maintenance.

Non Motorized Transport (NMT) - Bicycles

Bicycles are an efficient mode: suitable for various urban journeys bicycles and" available to at least some of the poorer sections of the community. Bicycles should be treated as an integral part of the traffic management system and strategies should be designed to capitalize on their strengths. However, as motorization increases, bicycle use becomes more hazardous. Contrary to Bank advocacy of bicycles; some countries do not regard bicycles as a viable, long term transport mode and there is pressure to release road space occupied by bicycles for use by motor vehicle or to divert bicycles onto long and inconvenient routes. Planning must determine that bicycle schemes fulfill a real (or a realistically assessed) need and are lot constructed in locations which are "easy", which inconvenience no one (basically cars) and thus arc of little value to users and potential users.

Road Signs and Markings

Many traffic systems suffer from inadequate signing, poor siting of signs, lack of visibility of signs (especially at night, inadequate signing standards, poor materials and lack of budgets for continuous signing and marking upgrading and maintenance programs. Regulatory and warning signs and road marking are essential elements of any traffic regime. It is indisputable that good , city – wide signing and road marking can assist development and maintenance of driver discipline, safety and can support enforcement to reduce adverse effect on Lagos roads.

Environment-Emission

Traffic management an integral part of traffic code promotes smooth traffic flow and thus can make a contribution to improvements in the traffic emission. However, unless demand management actions are taken, increases in traffic capacity may be taken up rapid by vehicle growth and by suppressed demand and thus the measures may make little overall difference to emissions, which is a serious problem to traffic flow if not fully controlled.

General Caution

Drive carefully and slowly when pedestrians are around, particularly in crowded shopping street, at bus stops, near food canteens or a parked mobile shop. Watch out for pedestrians coming from behind parked or stopped vehicles, or from other places where you might not be able to see them.

Near Schools

Drive slowly near schools, and look out for children getting on or off school buses and other vehicles. Obey all signals given by a school patrol officer.

At Crossing

When coming to a pedestrian crossing, usually marked in Zebra lines, be ready to slow down or stop to let people cross. You must give way once they step on to a crossing area. Signal to other drivers that you mean to slow down or stop. Give yourself more time to slow down or stop on wet roads. Never overtake just before a pedestrian crossing. In traffic queues, leave pedestrian crossing and junctions clear.

At Controlled Crossing

At pedestrian crossings controlled by lights or by a traffic officer, give way to pedestrians who are still crossing when the signal is given for vehicles to move. A flashing amber signal will follow the red stop signal at some pedestrian crossings. When the amber light is flashing, give way to any pedestrians on the crossing, otherwise you can proceed.

While Turning

When turning at a road junction, watch out for pedestrians who are crossing. Give way to them.

Procession

Be careful when there are pedestrians processions or other marching groups on the road, particularly where there is no side-walk. Give them plenty of room. Be especially careful on a right hand bend and reduce your speed.

With Animals

Animals Passing Go slowly when driving past animals. Give them plenty of room; and be ready to stop if necessary. Do not frighten the animals by sounding your horn or revving your engine. Watch out for animals being led on your side of the road, and be especially careful at right-hand bends, watch out for animals in villages and towns.

Herds of Animals In particular, you should take special care in areas where animals are normally used for services such as transportation of men or goods or where large herds of animals are commonly moved by road. In the absence of alternative routes, these animals use the same roads meant for vehicles. Herdsmen have been known to resort to violence to protect their flock!

With Slow or Large Vehicles On narrow or windings roads, or where there is a lot of oncoming traffic, drivers of large or slow-moving vehicles should be prepared to pull in and slow down or stop, as soon as it is safe to do so, to give faster vehicles a chance to safely overtake.

It is an offence for a slow moving vehicle to cause four or more vehicles to queue behind it wherever the driver can pull over safely to make way for the other vehicles.

With Cycles and Motor-Cycles Always be on the lookout for cycles motorcycles, particularly when overtaking or turning. Bear in mind that two-wheelers are less easy to see and that their riders have the same right to consideration as other road users, and are more vulnerable. Drivers (especially of long vehicles or of towing vehicles and trailers) should leave plenty of room for pedal cyclists in particular.

With Trains Level Crossing Space Never drive "nose to tail" over any level crossing. Never drive on to one unless you can see that the road is clear on the rails and on the other side.

Never stop on or immediately after any level crossing.

Level Crossing with Gates Some level crossings have gates, or barriers that are operated mechanically or by an attendant. Some also have flashing red warning light. Do not cross the railway once the lights have started to flash or when the gates are being closed.

Level Crossing without Gates At level crossing with no gates, or attendant or warning lights, stop, look both ways, listen, and make sure there is no train coming before you cross. Always 'give Way'' to trains.

Unmanned Level Crossing Some level crossings with no gates or attendants have flashing red (Stop) lights. When the red lights flash you must stop and wait. Do not cross the railway-a train will reach the crossing soon after the lights begin to flash. The lights will go out when it is safe to cross.

Stopping on a Crossing If your vehicles stall, or breaks down, or if you have an accident on the crossing:

First: Get your passengers out of the vehicle and away from the level crossing;

Second: Listening carefully for the approach of railway traffic, try and push the vehicle clear of the crossing, and stand well clear of the crossing.

Third: If the above attempt proves impossible, phone or get in contact with the signalman.

NOTE: Common sense dictates that, where there are sufficient hands around, some should be used to push the vehicle off the tracks while someone tries to contact the signalman. All if these still amounted to state of mind and readiness to cooperate with others and the stipulated codes.

Level Crossing Alarm If you are already crossing when the red lights and bell start, keep going. REMEMBER: No vehicle, be it a trailer, tanker or car stands any chance on being hit by a railway train.

Environment - Traffic Calming Unregulated and inappropriate vehicle speed is a significant contributory factor to traffic accidents and to the reduction of quality of life, particularly in residential areas. Traffic calming is applied in developed cities and may find increasing application in developing cities particularly as measures which control vehicle speeds through physical or operational means (such as traffic signal timings) can eliminate some of the usual traffic police enforcement problem of speed limits. Traffic Management and Road Safety but it is noted that traffic calming on main roads must be treated differently from traffic calming on lesser roads, On main roads, it would add to accident hazards to introduce some of the more extreme physical traffic calming measures which are used to reduce traffic speeds on lesser roads and thus major roads measures can include:

- positive signs and road markings emphasizing speed limits;
- "rumble devices" which ,involve surfacing the carriageway ill materials which create noise or vibration when crossed by vehicles and thus warn drivers of approaching hazards;
- "bar markings" which comprise lateral road markings (lines at right angles to the road) on high speed approaches to urban junctions; the lilies are increasingly closely spaced as the junction is approached and create a visual effect such that drivers slow;
- road texture and colour on the approaches to critical locations (junctions, pedestrian crossings etc); and
- linking of traffic signal timings at successive junctions to control and maintain a desired safe speed of traffic progression.

On lesser roads, a wide range of physical traffic calming measures for speed control include:

- pedestrian refuges which narrow the effective road width, control vehicle overtaking and do not permit vehicles to reach high speeds
- road-speed control humps which reduce vehicle speed;
- road narrowing such that some classes of vehicle cannot use the road (such as trucks)
- road narrowing such that only one direction of vehicles can pass at one time thus opposing vehicles must give way
- chicanes such that vehicles have to following a tortuous route through a short section of road and thus must reduce speed
- raised junctions comprising a plateau or flat topped built cross an entire junction
- planting which can be used to change the perceived width of a road to cause traffic ,to slow

Care must be taken

- not to introduce new hazards such as may be caused by poorly designed and/or inappropriately located and/or inconspicuous (especially at night) speed control humps
- not to introduce measures which adversely affect bicycles or, particularly bus operations bus and speed control humps are generally incompatible and other designs such as speed tables and speed cushions have better operational characteristics for buses;
- do not increase the tendency to stop-accelerate and increase emissions.

Conclusions on Traffic Code (Management Techniques) and Road Safety

Most traffic management techniques which have found applicable in developed cities are equally worthwhile in developing cities but general lessons and "recommendations for technical success" for specific traffic management measures are difficult to define as measures:

- are highly site specific
- are most effective if applied on a comprehensive basis ("area-wide" or "corridor") rather than as isolated interventions
- are rarely "stand alone" bus priority will need parking controls, pedestrian measures, junction improvements etc
- will not usually comprise physical interventions alone; regulatory supporting actions (changes to traffic laws, enforcement etc) are necessary;
- must be set within a traffic policy and thus enables "measures of effectiveness" to be defined and the extent of each intervention to be planned
- must be place~ in the context of a "functional road hierarchy'~ which separates, as far as is practicable, mutually incompatible functions onto different roads (arterial, primary, local etc). The "road hierarchy" will govern the types of traffic management measures which are appropriate for each road

Traffic Regulation Enforcement

Traffic regulation enforcement by the traffic policy is essential to safe traffic operations but in many development cities is ineffective. Enforcement is discussed in the context of traffic policy training and equipment programme, key issues are:

- a. Under-trained traffic police
- b.Lack of police number
- c. Lack of police mobility and equipment; and
- d. traffic police corruption and perception that traffic police are often unfair
- e. Under trained traffic agencies officers

Importance of Traffic Code, Observing it Reduces Accident

The conclusion of the chapter may be summarized as: A high proportion of traffic accidents occur in urban areas. A comprehension urban road safety policy required a multi-sectoral approach including programs for driver training and testing, education, publicity programs aimed at selected group of road users, vehicle roadworthiness testing, securing funds for road safety actions, community participation and monitoring and research, some form of multi-sectoral "Traffic Safety Committee" is required to initiate and co-ordinate safety policies and accident reduction programs. While a comprehensive safety program is broader than traffic management alone, traffic management action should be an integral and important part. The traffic management aspect of a safety program are likely to include actions in the following areas:

Accident Reporting: Data from accident sites are collected by the traffic police and, in developing cities, many data bases are incomplete due to under-reporting and poor quality of data. Accident policies programs should be based on sound data analysis. Improved data bases are necessary and require improved police training and systems and changes in police attitudes to climate bias-often against low income road users.

Accident Data Analysis: In many cities, accident analysis is reactive and confined to report problems sites; there is no systematic periodic transfer of data from the traffic police to the traffic management agency or systematic evaluation for program planning. Improved procedures are necessary, while analysis can be done manually with great effect (e.g. accident occurrence mans), data for both identification of accidents and for

monitoring of improvement needs to maintained and analyzed over a lengthy period (say 3 years) to obtain meaningful results; analysis should be PC based.

Accident Prevention: As part of its role in traffic strategy and designing schemes, the traffic management agency should:

- Promote safety throughout scheme planning and design; the concept of safety audits (in which all but the simplest of scheme are subjected to scrutiny by traffic management designers who were not involved in the original scheme planning and design) is worthy of consideration:
- Plan and design of speed limits and appropriate speed controls including traffic calming measures
- Plan and design policies and measures to meet the needs of vulnerable road users including pedestrians (particularly children) and cyclists.

Accident Reduction

A well run "traffic management agency" should approach safety on a comprehensive basis and a priority task should be the conduct of a safety review of the city's traffic system and preparation of a comprehensive "traffic management safety program". While the occurrence of road accident cannot be reduced by traffic management measures alone, they can do much to alleviate specific problems by:

- Simple action such as improved road marking and signing to ensure that drivers receive warning of hazards and are given clear, unambiguous direction to lanes, routes etc.
- Junction modifications such as re-phasing traffic or prohibition of some movement to reduce conflicts or minor realignments
- Comprehensive re-design or treatment of road section to balance the needs of all road users and to provide safe facilities

Traffic Regulation Enforcement

Enforcement of traffic regulation by the police is essential to safe traffic operations but in many development of traffic police are ineffective, trained and equipment are lacking.

Safety Experience in World Bank Project

Road safety is often stated as one of the objectives of traffic management components of Lagos State Nigeria by the effort of His Excellency but there has been little, if any, systematic evaluation of the component and thus no impact analysis is possible. There is a need for more rigorous.

- Definition of safety objectives and proper traffic code interpretation
- Systematic safety programs for the road users
- Monitoring of targets and indicators (i.e. agencies and signals)
- Mind set of traffic officers
- Biases of interpretation towards partiality in operation

Highlights of the Solutions/Recommendations to the Challenges

- **Over Speeding:** Speed limits are always ignored in Lagos state by 70% of the drivers' oral information from the Federal safety officer.
- **Parking Space:** This is serious problem because of the congestion and the limited plan and design structures in Lagos state does not take this into much cognizance as the high population of this like is not envisaged.

- **Implementation of Traffic Laws:** This is completely nothing to say about. Any law promulgated works for about 6 months and died off because the implementers must have been bought over one way or the other.
- **Execution of the Traffic Law:** The executors of these laws are doing it for their sake alone and if they do not get anything to themselves in addition to government pay, they change it to their personal properties/law and conserve the prices to themselves. Exemption of law is given to man know man.
- **Corruption:** The traffic agencies are not left out of the considering explanation in number four. Corruption is things of mind.
- **Court:** The court of law, which we belief that will considered justice, majority of them favour the rich and neglect the poor.
- Lack of Education: This is divided into two parts namely a. educating the road users and b. educating the educators.

Most drivers and other road users in Lagos state are illiterate about the laws, especially the commercial bus users. The other even some institution does not know the relevance of transportation certificates/degree to automobile degree. They taught is for drop out and garage boys and girls. I was even a victim off this for 9 years in a position before promotion after getting other master of science degree in automobile before progressing not until now after many write up to convince the college.

How much more organization that are not educative. General education should still continue to remove this institution from the mind of elites, enlighten them that transport is not just to drive but to follow all these regulations and to have fundamental knowledge of the components of these vehicle they are handling, because it easily send due to journey that has no end (heaven).

Government Adverse Effect: Lagos state government his Excellency has tried to him the advices that would abide with putting squarer in a round hole. (Heading a transport organization by an qualify hands) i.e. people without fundamental knowledge of transport but just acquire the degree at the top and delivering he/she knows the administration but task the job based on the financial and social amenities that is attached to it. It is certain that the outcome of the performance of those executives are negative and it will have adverse effect on the management and administration of the transport sectors in which he/she found he/herself.

Inadequate Finance: The Lagos state government has tried in the area of financing free traffic flow by employing traffic staff and given regular education but feedback is poor due to poor monitoring and always results into inadequate finance of the sector.

Transparency: Diverting government resources in this area in many ways, employing family member into same organization because one is in control/head. Taking government money and other benefits into this family that is not quality. For this has killed Lagos state transportation section and others.

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WINTER OLYMPICS AND REGIONAL DEVELOPMENT, WITH REFERENCE TO PYEONGCHANG 2018 : THE BIG PUSH THEORY REVISITED

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ABSTRACT

The Winter Olympics Games are usually held in areas far from major urban poles, unlike summer games. This study analyzes the impact of Winter Olympics on regional development. Synchronized expansion and coordinated investment on several sectors - construction, transportation, tourism, etc, and demand externalities across these sectors are key factors leading to success of a sustainable development, as was argued in Big-Push literature all the way from Rosenstein-Rodan and Nurkse to Murphy, Shleifer, and Vishny. Or, Paternostro's modified version encompassing fixed cost externalities incurred by agglomeration economies and increasing returns to scale may also explain this. This study is particularly interested in the 2018 Games in Pyeongchang, South Korea, which is one of the most underdeveloped regions of the country. This study first diagnoses Pyeongchang's current status, i.e. gross regional domestic product (GRDP) and its discrepancies compared with other regions to see how much the region is lagged behind. We then proceed to analyze the impact of the Winter Olympics 2018 on the region using the Big Push Theory, with emphasis on the Murphy, Shleifer, and Vishny's approach that view low-level equilibrium trap and high-level industrialization as multiple Nash Equilibria in a coordination game. For the lagged-behind region like Pyeongchang, the Olympics would work as strong exogenous shocks to transfer the equilibrium from the low to the high status, as long as externalities are created by generating mutual demand for a variety of sectors simultaneously. We also seek the possibility of observing Paternostro's version of technological externalities, in which fixed costs of each sector may be reduced due to agglomeration-based economies of scale. Finally, and most importantly, this study seeks possible role for government intervention and coordination across several sectors, ex-ante and ex-post of the games, as well as inter-governmental and inter-regional cooperation.

INTRODUCTION

Pyeongchang, South Korea, was chosen over Annecy, France, and Munich, Germany, on July 6, 2011 to host the 23rd Winter Olympic Games in 2018 after its consecutive losses to Vancouver, Canada in 2010 and Sochi, Russia in 2014. Pyeongchang's hosting is inspiring because, unlike France and Germany that had already hosted Winter Olympics several times with rich resources, Pyeongchang is not well known outside Korea. At the same time, Pyeongchang's hosting will be challenging, as the region is geographically remote from main development streams in Korea and its infrastructure systems are still yet to be developed, including world class winter sports facilities, and transport networks from Seoul or Incheon Airport. As shown in Figure 1, Pyeongchang is located in the northeast mountainous part of South Korea and has been isolated in the process of economic development of South Korea. Due to its geographical constraints, the whole province, Gangwon, has lacked growth both in industry and agriculture. As such, there are no major cities in the province, and transportation networks have not been sufficiently provided in this region. For example, thin lines in Figure 1 are highways. Gangwon has Yeongdong Highway (horizontal one) and Joongang Highway (vertical one). However, as shown in Table 1, compared with other highways, Yeongdong and Joongang Highways were not constructed until a few years ago, making Gangwon lag behind.

The same story can be applied to the Korea Train Express (KTX), which is drawn as thick lines in Figure 8. The KTX, Korea's first high speed train system with maximum speed of 200 miles per hour, opened on April 01, 2004. It takes only two hours to get from Seoul to Busan, and South Korea is now more closely interconnected because of this bullet train system. According to the Korean Railroad (KORAIL) (2008), regions where the KTX stops show rapid economic development, such as the \$100 billion investment in Iksan Industrial Zone with 1,800 new employees from 22 different companies, and the \$20 trillion investment in Cheonan-Asan Industrial Zone with 100,000 employees from Samsung Electronics. However, as shown in the map below, the KTX does not stop in a single part of Gangwon province.



Table 1. Highways in Korea

Name	Connecting	Opened	Note
Gyeongbu	Seoul – Busan	1970	Connects the Capital Area and Yeongnam
			The first highway in Korea
Honam	Seoul – Gwangju	1973	Connects the Capital Area and Honam
Olympic	Daegu– Gwangju	1984	Connects Yeongnam and Honam
Jungbu	Seoul – Daejeon	1987	Aimed at solving congestion problems in Capital Area
Yeongdong	Seoul – Gangneung	1995	First opened in 1975, but only 2 way lanes (did not
			work as a highway). Expanded into 4 way lanes in 1995
Joongang	Chuncheon-Daegu	2001	Connects Gangwon and Yeongnam

Source: Korea Expressway Corporation Note: There are 28 highways in Korea, as of 2008. Only some of them

are introduced here.



Figure 1. Map of South Korea with Pyeongchang Highlighted

Source: travel.nationalgeographic.com

Note: Pyeongchang is highlighted just above the letter "T" of SOUTH.Against this backdrop,

Against this backdrop, government is making a series of plan for development in the region. As seen in Figure 2, several "clusters" will be constructed for the Games in mountain and coast, which will be connected through high-speed railways and highways and all the way to Seoul and even to the Incheon International Airport by 2017. Interestingly, what South Korean government is trying to implement recalls what Japanese government did 20 years ago. After Nagano's host of the Winter Olympic was determined in 1991, the Japanese government started to construct sports facilities as well as transport networks. Nagano Shinkansen was completed in 1997, and the Olympic Games were successfully held in 2018.



Figure 2 Map of Pyeongchang and Logistics Plan of the Area



Source: <u>www.pyeongchang2018.com</u>

The Winter Olympics Games are usually held in areas far from major urban poles, unlike summer games. For this reason, synchronized expansion and coordinated investment on several sectors - construction, transportation, tourism, etc, and demand externalities across these sectors would be key factors leading to success of a sustainable development. This is particularly important for Pyeongchang, which is a lagged-behind region relative to other areas in South Korea. The theoretical tool for the study is the Big-Push Model, discussed all the way from Rosenstein-Rodan (1943) and Nurkse (1957) to Murphy, Shleifer, and Vishny (2008), Paternostro (1997), and Oh (2008).

This study first diagnoses Pyeongchang's current status, i.e. gross regional domestic product (GRDP) and its discrepancies compared with other regions to see how much the region is lagged behind. We then proceed to analyze the impact of the Winter Olympics 2018 on the region using the Big Push Theory, with emphasis on the Murphy, Shleifer, and Vishny's approach that view low-level equilibrium trap and high-level industrialization as multiple Nash Equilibria in a coordination game. For the lagged-behind region like Pyeongchang, the Olympics would work as strong exogenous shocks to transfer the equilibrium from the low to the high status, as long as externalities are created by generating mutual demand for a variety of sectors simultaneously. We also seek the possibility of observing Paternostro's version of technological externalities, in which fixed costs of each sector may be reduced due to agglomeration-based economies of scale. Finally, and most importantly, this study seeks possible role for government intervention and coordination across several sectors, ex-ante and ex-post of the games, as well as inter-governmental and inter-regional cooperation.

Regional Income Disparity of South Korea: Gangwon vs. other regions.

Economic growth of a country is oftentimes associated with inequality within the country, and the relationship of the two has been addressed by many economists (Kuznets 1955, Williamson 1965, and Basu 2000). For the past four decades, South Korea has been one of the "champions" of economic growth, with per capita GDP growth of 6% per year on average, which resulted in "tensfold" of per capita GDP, and which is "unmatched" accomplishment in history (Barro 2003). However, South Korea's economic development policies over the past decades have been

In this regard, this chapter first examines the pattern of South Korea's regional inequality, with a special reference to Gangwon Province. One of the widely used methods in measuring regional inequality is the Theil Index. The rationale for preferring Theil's T statistic is not that there is some inherent flaw with the other measures, but that Theil's T has a more flexible structure that often makes it *relatively* more appropriate. If a researcher always had access to complete data at the individual level, then measures like the coefficient of variation or the Gini coefficient would usually be sufficient for describing inequality. However, in reality,

individual data is rarely available, and researchers are asked to deal with aggregated data. In this case, Theil's T statistic is often a more appropriate and theoretically sound tool (Inequality Project 2008).

The following formulae reveal the algebra behind Theil's T. While these particular equations use income as the variable of interest, Theil's T can address any number of quantifiable phenomena. When household data is available, Theil's T Is:

$$T = \sum_{p=1}^{n} \left\{ \left(\frac{1}{n} \right)^{*} \left(\frac{y_{p}}{\mu_{y}} \right)^{*} \ln \left(\frac{y_{p}}{\mu_{y}} \right) \right\}$$

where *n* is the number of individuals in the population, y_p is the income of the person indexed by *p*, and μ_y is the population's average income. If every individual has exactly the same income, *T* will be zero. This represents perfect equality and is the minimum value of Theil's T. If only one individual has all of the income, this represents utmost inequality and is the maximum value of Theil's T statistic.

If members of a population can be classified into *mutually exclusive* and *completely exhaustive* groups, then Theil's T statistic is made up of two components, the *between* group element (*B*) and the *within* group element (*W*) (T = B + W), where:

$$B = \sum_{i=1}^{m} \left\{ \left(\frac{p_i}{P} \right) * \left(\frac{y_i}{\mu} \right) * \ln \left(\frac{y_i}{\mu} \right) \right\}$$

where *i* indexes the groups, p_i is the population of group *i*, *P* is the total population, y_i is the average income in group *i*, and μ is the *population-weighted* average income across the entire population. When aggregated data is available instead of individual data, *B* can be used as a lower bound for the population's value of Theil's T statistic.

However, *B* is generically smaller than *T*, and the portion of *B* out of *T* fluctuates; on average, the portion is only 12% (Shorrock and Wan 2005). Decomposition - regrouping regions - is one way of improving this portion. Shorrock and Wan (2005) said that the method of decomposition accounts for regional inequality up to 78% in the case of China. Kanbur and Zhang (2003) also used the decomposition and re-grouped China's provinces into rural and urban areas. By doing so, they showed the improved pattern of *B* between rural and urban areas. Based on these studies, this paper analyzes the regional inequality of South Korea usin various kinds of decomposiⁱtions.

An interesting property of the Theil Index is that it is *relative*; Total Theil is a *between* group inequality in terms of individual citizens, but is a *total* inequality in a decomposition, meaning that decomposed inequalities are now *between* group inequality in terms of Total Theil. *Total Theil* = W + B (*Decomposed Group*)

Therefore, the rates of B out of Total Theil indicate what portion of decomposed inequality explains total inequality, suggesting an idea of how important these decompositions are. This approach was originally used in Kanbur and Zhang (2005) when they decomposed China into coastal and inland, and rural and urban areas. After measuring overall Theil of South Korea, this chapter uses the decomposition methods and regroups South Korea (Gangwon and the rest) to better capture the regional inequality of the country. The indices themselves do not mean anything generically. However, by comparing different indices over time, we can examine the trend of regional inequality.

	Economic Indicators and Inequality of South Korea with a Reference to Gangwon						
	GDP (Billion KRW)	POP (Thousand)	GRDP_G/GDP (%)	POP_G/POP (%)	THEIL	T_G/THEIL (%)	
1989	355744	42449	3.587	3.786	0.035	0.157	
1990	389465	42869	3.380	3.643	0.037	0.277	
1991	427236	43296	3.183	3.572	0.038	0.603	
1992	459219	44503	3.116	3.492	0.011	1.935	
1993	485609	45001	3.081	3.422	0.013	1.442	
1994	531953	45416	3.025	3.367	0.014	1.371	
1995	573504	45858	3.042	3.333	0.014	0.977	
1996	611977	46266	3.084	3.304	0.015	0.522	
1997	637985	46684	3.103	3.293	0.047	0.123	
1998	579807	46991	3.037	3.304	0.033	0.345	
1999	638229	47336	2.900	3.289	0.031	0.792	
2000	691468	47733	2.857	3.257	0.031	0.855	
2001	718652	48022	2.797	3.233	0.030	1.068	
2002	778485	48230	2.744	3.190	0.032	1.041	
2003	806524	48387	2.830	3.156	0.032	0.569	
2004	834771	48584	2.735	3.131	0.032	0.858	
2005	869305	48782	2.647	3.102	0.031	1.170	
2006	914018	48992	2.643	3.073	0.030	1.088	
2007	965298	49269	2.621	3.052	0.031	1.079	
2008	991677	49540	2.574	3.045	0.031	1.259	
2009	999311	49773	2.538	3.040	0.034	1.344	

 Table 2.

Note: POP: Population, GRDP_G: Gross Regional Domestic Product of Gangwon, POP_G:Population of Gangwon, THEIL: Theil of the 16 entire South Korean provincial units, T_G: Theil of Gangwon vs. other region decomposition According to Table 2, gap between Gangwon and other regions has been larger; although overall Theils based on the 16 provincial units have become stable at 0.031~0.034 since 1998 after going through fluctuation⁴. On the other hand, Theils between Gangwon and other regions relative to the overall ones



Source: GDP (constant price at 2005), POP, GRDP_G/GDP: <u>www.kosis.kr</u>; THEIL, T_G/THEIL: Calculation by Author

The poverty trap has been one of the core issues in Development Economics. Rosenstein-Rodan (RR) (1945) and Nurkse (1953) were early pioneers in this area. They postulated that a whole group of firms producing a variety of goods will become more prosperous by entering new markets together, yet an individual firm may take a loss by entering into production by itself. These economists argued that it is the aforementioned kind of trap that explains the persistence of poverty in less developed economies. Formalization of this idea into a model of multiple equilibria occurred much later: see Basu (1984), Murphy, Shleifer, and Vishny (1989), and Paternostro (1997).

In particular, Murphy, Shleifer, and Vishny (MSV) (1989) formalized a model that explained the concepts of *poverty trap* and *industrialization* as multiple equilibria and *big push* a phenomenon that went from the former to the latter. The model's multiplicity is frequently observed in the real world. Many underdeveloped countries are in a stagnant poverty trap, which is a state of equilibrium. Furthermore, using Nurkse's (1953) term, it becomes a "vicious circle" in which a less developed economy may go back to the trap after a small deviation from the equilibrium. On the other hand, industrialization is another side of equilibrium; most of the current world's superpowers were also superpowers a century ago, and they have maintained the highest income levels in the world. This trend of two-state-equilibria is well captured in the MSV model.

for the 16 provinces have been increasing approximately four times (0.345 to 1.344) since 1998 even when the overall ones become stabilized.

Note: POP: Population, GRDP_G: Gross Regional Domestic Product of Gangwon, POP_G:Population of Gangwon, THEIL: Theil of the 16 entire South Korean provincial units, T_G: Theil of Gangwon vs. other region decomposition According to Table 2, gap between Gangwon and other regions has been larger; although overall Theils based on the 16 provincial units have become stable at 0.031~0.034 since 1998 after going through fluctuation. On the other hand, Theils between Gangwon and other regions relative to the overall ones for the 16 provinces have been increasing approximately four times (0.345 to 1.344) since 1998 even when the overall ones become stabilized.

The Big Push Model

Elaborating ideas of Rosenstein – Rodan (1945) and Nurkse (1953), Murphy, Shleifer, and Vishny (MSV) (1989) described poverty trap and industrialization using multiplicity of equilibria. In a less developed economy, they assumed k sectors in a less developed economy producing different commodities, and within each sector, there is a *fringe* (traditional, with constant returns to scale) firm and a *monopolist* (modern, with increasing returns to scale) firm. Monopolist firms are industrialized in the sense that for a given input of labor, monopolist firms, resulting in higher wage λ than w of the fringe firms (In later analysis, w and λ will be normalized to 1 and 1+v, respectively). Production functions of both firms are all linear; in sector j, $x_j=f(l_j)=l_j$ (45 degree line and no sunk cost) for the fringe firm, and $x_j=g(l_j)=\alpha(l_j-F)$ ($\alpha>1$ and F is a sunk cost) for the monopolist firm is assumed to be the same across sectors, but where this model is empirically applied to North Korea, this assumption will be released, and F_j (each firm's sunk cost) will be used instead. Lastly, this economy has consumers having identical utility function $u(x) = x_1x_2x_3...x_k$ and income y. The consumers provides L units of labor, and l_j is the number of laborers employed in sector j for all j=1,2,...,k, where $l_1+l_2+...,+l_k=L$.

Traditional Firm

We have $\pi = p_j x_j \cdot w l_j = (p_j \cdot w) l_j$ for j=1,...,k. If $p_j > w$, when l_j goes up, profit goes up as well. Therefore, demand for labor keeps increasing, thus market does not clear. If $p_j < w$ the optimal demand for labor is 0, so there is no incentive to produce. The only meaningful case is when $p_j = w$ with zero profit. Actually, the technology is assumed to be linear, which is homogeneous of degree 1. Therefore, it is natural to say that profit is zero.

Since $x_j = l_j$, if $p_j > w_j$, $x_j = \infty$, if $p_j < w_j$, $x_j = 0$, and if $p_j = w_j$, $x_j \in [0, \infty]$, deriving a step function of a supply curve. Also, from the UMP, we have a demand function of $x_j = \frac{y}{kp_j}$.

Modern Firm

We have $\pi = p_j x_j - \lambda l_j = p_j \alpha (l_j - F) - \lambda_j = (p_j \alpha - \lambda) l_j - p_j \alpha F$ for j = 1, ...k. If $p_j > w$, then according to the homogeneity assumption, nobody will buy a good x_j from monopolist. In other words, a demand function that a monopolist faces is $x_j = 0$. If $p_j < w$, people will only buy goods made by monopolist firms, and a demand curveⁱⁱ that they face is the same as the demand curve of the (representative)

consumer in this country, which is $x_j = \frac{y}{kp_j}$. Therefore, $p_j = \frac{y}{kx_j} < w$, deriving $x_j > \frac{y}{kw}$. Since $x_j = \alpha(l_j - F)$, it turns out that $l_j > F + \frac{y}{kw\alpha}$ where the profit maximization problem is not solvable. The only meaningful case is when $p_j = w$. In this case, $x_j \in [0, \frac{y}{kw}]$. In other words, $l_j \in [F, F + \frac{y}{kw\alpha}]$ he profit maximization problem becomes

$$Max(w\alpha - \lambda)l_{j} - w\alpha F \qquad (P)$$

s.t. $l_{j} \in [F, F + \frac{y}{kw\alpha}]$
case (i) $w\alpha < \lambda$

$$l_{j}^{*} = F \qquad \therefore \pi = -wF < 0$$

case (ii) $w\alpha = \lambda$
 l_{j}^{*} indeterminated
case (iii) $w\alpha > \lambda$
 $l_{j}^{*} = F + \frac{y}{kw\alpha} \qquad \therefore \pi = (w\alpha - \lambda)(F + \frac{y}{kw\alpha}) - w\alpha F = \frac{y}{k}(1 - \frac{\lambda}{w\alpha}) - \lambda F$

Therefore, case (iii) is the only one that solves (P). If $w = \lambda$, then, since $\alpha > 1$, case (iii) is obviously true. However, w is assumed to be smaller than λ , and under this assumption, $w\alpha > \lambda$ is a necessary condition for profit maximization.

Now, let us normalize w and λ to 1 and 1+v, respectively. Then, from the case (iii), individual firm's profit becomes $\pi = \frac{y}{k}(1-\frac{1+v}{\alpha}) - (1+v)F \cdot \text{Let } 1 - \frac{1+v}{\alpha} = b$, then

$$\pi = \frac{by}{k} - (1+v)F \tag{1}$$

where b is assumed to be positive. The number of firms entering the economy is n, so the total profit of this economy is

$$\frac{-}{\pi} = n[\frac{by}{k} - (1+v)F]$$
⁽²⁾

y is the income of a representative consumer in this economy. In other words, *y* is the sum of profit of firms and wage income of workers. More specifically,

y = profit of fringe firms (0) + profit of monopolist firms (π) + wage income of workers hired in

fringe firms +wage income of workers hired in monopolist firms (3)

Consider the number of workers in fringe firms and their wage income. The equilibrium output x_j^* is $\frac{y}{kw}$, and when wage is normalized to 1, it is $\frac{y}{k}$, which is the same as l_j^* . Since monopolist firms enter *n* sectors, fringe firms are doing their business in *k*-*n* sectors. Therefore, total number of people working for fringe firms and their wage income (when *w* is 1) are $(k-n)\frac{y}{k}$.

The rest of workers are in monopolist firms. Total number of workers in this economy is L. Therefore, *L*- (*k*-*n*) $\frac{y}{k}$ number of people works in monopolist firms. Since each person's wage is 1+v, their wage income is $(1+v) [L-(k-n)\frac{y}{k}]$. Plugging all of these into (3), $y = n[\frac{by}{k} - (1+v)F] + (k-n)\frac{y}{k} + (1+v)[L-(k-n)\frac{y}{k}]$

$$\therefore y = \frac{(1+v)(L-nF)k}{(1+v)k - n(v+b)}$$
(4)

Plugging (4) into (1),

$$\pi = \frac{(1+v)[b(L-nF) - F(1+v)k + Fn(v+b)]}{v(k-n) + k - bn}$$
(5)

Since k > n and $b = 1 - \frac{1 + v}{\alpha} < 1$, denominator is positive. Therefore, whether profit is positive or negative depends on the sign of b(L-nF)-F(1+v)k+Fn(v+b). Following Basu's

notation, $\chi(n) = b(L - nF) - F(1 + v)k + Fn(v + b)$ (Basu 2000, p.29). Then there exist b,L, F, v, and k such that $\chi(1) < 0$ and $\chi(k) > 0$, which suggest a possibility of multiple equilibria.

When other monopolists do not enter, the monopolist in sector j gains a negative profit if it enters the market alone. This is true for every monopolist firm in the country. Therefore, when nobody enters the market, the Nash Equilibrium, or combination of best responses, is *not entering*. However, when others enter, the monopolist can have a positive profit, so it has an incentive to enter the market. Therefore, another Nash equilibrium is made when everybody enters the market. Being stuck in the former equilibrium is the so called *poverty trap*; small deviation from the equilibrium will cause the economy to go back to where it was. The latter equilibrium is synonymous with *industrialization*, and moving toward to the latter from the former is possible by *big push*. A graphic explanation of this result is as follows:

Figure 3.

Multiple Equilibria in Big Push



The two points at *a* and *b* can be viewed as Nash Equilibria. When other monopolists do not enter, the monopolist in sector *j* gains a negative profit if it enters the market alone. This is true for every monopolistic firm in the country. Therefore, when no one enters the market, the Nash Equilibrium is *not entering*. However, when others enter, the monopolist can have a positive profit, so it has an incentive to enter the market, thus, another Nash equilibrium is made when everybody enters the market. Being stuck in the former equilibrium is a *poverty trap*; a small deviation from the equilibrium will cause the economy to go back to where it was. The latter equilibrium is synonymous with *industrialization*, and moving toward the latter from the former is possible by a *big push*, in which once monopolist firms enter more than a certain threshold of sectors, other sectors will be industrialized on their own, and the economy will jump into full industrialization.

Big Push Model and Regional Development

For the lagged-behind region like Pyeongchang, the Olympics would work as strong exogenous shocks to transfer the equilibrium from the low to the high status, as long as externalities are created by generating mutual demand for a variety of sectors simultaneously. We also seek the possibility of observing Paternostro's version of technological externalities, in which fixed costs of each sector may be reduced due to agglomeration-based economies of scale. This would be achieved by successful government intervention which enables coordination across several sectors.

The Olympics itself is for only about 2 weeks. Such coordination should focus on how the massive investment on the infrastructure could be utilized so that sustainable development could be achieved. In this regard, tourism



and transport will play a crucial role. For example, Karuizawa in Nagano Prefecture in Japan is well-known for a place that people can enjoy shopping, ski, hot-spring altogether. In particular, a huge outlet was opened in 2000 just in front of a Shinkansen station, which was constructed in 1997, one year before the Olympics in 1998. This type of plan could be applied to Pyeongchang when the Olympic is over.

We can even think of international coordination among several Asian countries. For example, those who visit either Japan or China can easily visit Korea and visit Pyeongchang using a travel.

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AN EVALUATION OF PUBLIC TRANSPORTATION SYSTEMS' SERVICE QUALITY USING A LOGISTIC REGRESSION MODEL 15

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ABSTRACT

The quality perceived by passengers and quality issues related to public transportation systems evaluation have been thoroughly and extensively investigated in recent years. The SERVQUAL (service quality) methodology represents the most widely applied methodology to measure customers' perceived quality across the service industry. Besides, several studies have focused on public transportation systems evaluation by means of various SERVQUAL models that are proposed in order to monitor public transportation service quality. The objective of this study is to provide a tool for measuring public transportation passenger satisfaction and for identifying critical service aspects in order to offer services characterized by a high level of quality. Unlike the traditional approaches proposed to evaluate the customer satisfaction level, a logistic regression model is proposed in this paper in order to evaluate the SERVQUAL of public transportation systems in Istanbul which is one of the most famous megacities in the world and is the third largest metropolitan area in Europe. The city is the cultural, economic, financial center and urban agglomeration of Turkey, where a plethora of public transport improvements have been exerted and still some policies and improvements are ahead. The proposed evaluation model is analyzed with the data collected by means of a customer satisfaction survey conducted by Istanbul Electricity Tramway and Tunnel General Management (IETT) at Metrobus (Bus Rapid Transit - BRT) stations and bus stops, prepared with respect to SERVQUAL dimensions and the European standard, EN 13816. Based on the results, the public transportation systems in Istanbul are evaluated and recommendations are suggested to enhance the SERVQUAL of the public transportation systems, in terms of passengers' perceptions of service provided.

Keywords - Customer satisfaction; logistic regression; public transportation; SERVQUAL.

INTRODUCTION

Service, provided to fulfill the requirements of a customer, is defined variously in the literature. A service is a time-perishable, intangible experience performed for a customer acting in the role of a co-producer (Fitzsimmons & Fitzsimmons, 2003); where Lovelock & Wirtz (2007) states that services are economic activities offered by one party to another, most commonly employing time-based performances to bring about desired results in recipients themselves or in objects or other assets for which purchasers have responsibility. In exchange for their money, time, and effort, service customers expect to obtain value from access to goods, labor, professional skills, facilities, networks, and systems; but they do not normally take ownership of any of the physical elements involved.

Service quality is generally recognized as a critical success factor in a firm's endeavors to differentiate itself from its competitors (Ladhari, 2008). The use of SERVQUAL methodology in assessing service quality is introduced by Parasuraman, Zeithaml, and Berry et al. (1985) based on a wide variety of measuring items, grouped around various dimensions. At the end of the 1980s, a debate ensued concerning the definition and dimensions of the concept 'satisfaction' (Mouwen & Rietveld, 2013). Service quality can be defined as a consumer's overall impression of the relative efficiency of the organization and its services (Park, Robertson, & Wu, 2004). Satisfaction and service quality take into account the basis of customer's expectations and perceptions obtained through the experience with the service provided.

In public transportation, service quality plays significant relevance to the satisfaction of the passengers as customers. Improving the percieved service quality rather than the delivered or expected service quality, becomes the main concern in highly competitive transportation environment. Implementing policies and procedures designed to improve the quality of public transport (PT) services holds a great priority for transit agencies and transport planners, who, in order to promote a more sustainable mobility in cities, seek to encourage modal shift from private vehicles to PT services, by offering high quality services which lead to higher customer satisfaction (Oña, Eboli, & Mazzulla, 2013). In order to ensure continuous improvement of the delivered transit services, performance measures are an essential tool for focusing transit agencies on their strategic goals (Eboli & Mazzulla, 2012).

Traditional and comprehensive models for monitoring service quality have been proposed in the literature, such as the SERVQUAL model (Parasuraman, Zeithaml, & Berry, 1985), the SERVPERF model (Cronin & Taylor, 1992), the Customer Satisfaction Index, CSI (Hill, Brierley, & MacDougall, 2003), and so on. Various adaptation of the models are applied by several authors, such as weight SERVQUAL (Pakdil & Aydin, 2007), the fuzzy weighted SERVQUAL (Chou et al, 2010) or weight SERVPERF (Sánchez et al, 2007), and so on.

The SERVQUAL, being the widely applied technique among researchers (Chou et al, 2008; Eboli & Mazzulla, 2009; Awasthi et al, 2010; Barabino, Deiana,& Tilocca, 2012), measures the service quality considering the differences between passengers' expectations and perceptions. The SERVQUAL methodology is based on five generic service-quality dimensions, as follows: tangibility, reliability, responsiveness, assurance and empathy (Ladhari, 2009).

The EN13816, a European Standard on public passenger transport (PPT) service quality, specifies the requirements to promote and implement service quality approach to PPT. The Standard EN 13816's overall quality of PPT, contains a large number of criteria, grouped around eight categories, as follows; availability, accessibility, information, time, customer care, comfort, security and environmental impact. Adoption of the SERVQUAL approach compliant with the EN 13816, will contribute to the continuous improvement in providing service.

In this paper, an ordinal logistic regression model is proposed in order to evaluate the SERVQUAL of public transportation system (PTS) within the SERVQUAL framework compliant with the European Standard, EN 13816. This model is analysed with the data collected by means of a customer satisfaction survey, based on a real PTS case in Istanbul.

The remainder of the paper is organised as follows: In section 2, we present the review of relevant literature about customer satisfaction, public transportation, SERVQUAL, and logistic regression model. Section 3 introduces the theoretical framework of the logistic regression models and the European Standard, EN 13816. The model applied on a real PTS case is explained in Section 4. Then, the last section draws the results of the data analysis and useful suggestions for further research are given in conclusion.

LITERATURE REVIEW

The quality perceived by passengers and the quality issues related to PTS evaluation have been thoroughly and extensively investigated in recent years. Besides, several studies have focused on PTS evaluation by means of various SERVQUAL models, proposed in order to monitor service quality. A range of relevant studies are examined from well-known databases; such as "Web of Science", "ScienceDirect", "Emerald Journals". A concise review of the PTS SERVQUAL evaluation is presented in this section.

Stradling, Carreno, Rye, & Noble (2007) investigated what bus users disliked and liked about travelling by bus in Edinburg, Scotland, to characterise the urban bus journey experience and the dimensions of bus service acceptability. A sample of 1114 responses was collected via surveys delivered on a call or mail allowing for a postal return. The survey provided the respondents to express their comments about the dimensions asked, then factor analysis was applied on comments.

Cabana, Corbett, & Lo (2007) handled the conceptual SERVQUAL framework adding three transport dimensions (comfort, connenction, and convenience). They applied three-column SERVQUAL instrument, aiming to evaluate the rail passenger service quality of New Zeland, identifying zones of tolerance for each

dimension and attribute. The statistically analyzed 340 valid responses were collected by both on-board surveys and returned mail surveys. They investigation resulted in finding that "assurance", the most important dimension, falls outside the zone of tolerance and "statistically" below the adequate level of expected service.

Eboli & Mazzulla (2009) introduced an ordinal logistic regression model for measuring air passenger satisfaction. The quality of service provided by Lamezia Terme airport, Italy, is statistically analysed through the data collected by means of interview survey addressed to 1800 departing passengers. The interviewed passengers are expected to give a judgement according to an ordinal verbal scale varying on six levels, to each 14 service quality aspects asked.

Ji & Gao (2009) explored the factors of accesibility of PTS in Beijing, China, from the perspectives of public transportation services, local economics, and road constructions. 6231 valid samples were collected by means of a questionnaire survey based on an ordinal six levels of satisfaction. The attributes were analysed with a multi-level logistic regression model.

Mahmoudi, Verdinejad, Jandaghi, & Mughari (2010) statistically analysed customer satisfaction dimensions of SERVQUAL and the BRT (Bus Rapid Transit) System in Tehran, Iran through 200 selected passengers' responses. Their findings showed the significant relation between BRT establishment and customer satisfaction in Tehran.

Chou, Liu, Huang, Yih, & Han (2011) proposed a fuzzy weighted SERVQUAL model for evaluating the airline service quality over a case study of Taiwanese airline. The fuzzy weighted procedure was applied on the data collected through 329 valid interview surveys. Their paper also presented the comparison of the fuzzy SERVQUAL gap with the fuzzy weighted SERVQUAL gap.

Liou, Hsu, Yeh, & Lin (2011) proposed a modified grey relation method for improving airline service quality among four domestic airlines in Taiwan. Based on a valid sample of 5553 on-board surveys, modified weighted grey relation model was used to investigate the SERVQUAL of airlines.

Awasthi, Chauhan, Omrani, and Panahi (2011) proposed a hybrid approach based on SERVQUAL and fuzzy TOPSIS for evaluating service quality of urban transportation systems in Montreal, Canada. Fuzzy TOPSIS was implemented on 60 metro transit users' responses received by the on-board surveys that based on SERVQUAL dimensions.

Oña, Oña, & Calvo (2012) proposed using a classification and regression tree (CART) over the 858 sample gathered in a CSS conducted at bus stops on the lines on the Granada metropolitan transit system, Spain. The outcomes showed that although frequency was the most influencing attribute in the preliminary evaluation, other attributes like proximity, speed, and safety became more important than frequency.

Barabino, Deiana, & Tilocca (2012) proposed a integrated model adapting modified SERVQUAL approach and the EN 13816, the European standard, which is used to evaluate the perceived quality of public transport services in a metropolitan area of Cagliari, Italy. 2611 usable data collection is established by means of on-board surveys. The survey framework is developed regarding the SERVQUAL dimensions and EN 13816 quality criteria. Their results analysed through regression and correlation, show that the highest gaps are between provided and perceived cleanliness, bus reliability and frequency.

Bilişik, Erdoğan, Kaya, & Baraçlı (2013) presented A hybrid fuzzy methodology to evaluate customer satisfaction in a public transportation system for Istanbul, Turkey. Their hybrid approach consists of SERVQUAL, Delphi method, fuzzy AHP, and fuzzy TOPSIS. 2006 responses were collected by a questionnaire at Metrobus (BRT System) and bus stations. A new linguistic scale was used in converting the responses to fuzzy numbers.

Barabino & Deiana (2013) presented an exploratory analysis on the attributes and influencing factors of end-users quality perceptions in Cagliari's urban transport system. Establishing 3173 on-board interview surveys, passengers were asked to rate the attributes investigated, numerically from 1 to 10. They applied a modified SERVQUAL methodology and evaluated the data by a preliminary multiple regression analysis.

Çelik, Bilişik, Erdoğan, Gümüş, & Baraçlı (2013) proposed a novel interval type-2 fuzzy MCDM method based on TOPSIS and GRA, to evaluate and improve customer satisfaction in Istanbul public transportation. The questionnaire used in this study was applied to 2006 passengers at bus stops and Metrobüs (BRT) stations.

Shaaban & Khalil (2013) investigated the quality of bus service in Doha, Qatar, and passenger's perception regarding many factors including comfort, convenience, safety, and cleanliness. 278 useful data obtained through administered survey was statistically analysed using structural equation modeling (SEM) to study the complex relationships among variables.

Oña, Eboli, & Mazzulla (2013) presented the evaluation of monitored changes in transit service quality of Granada, Spain, based on the customer satisfacion surveys conducted from the years from 2006 to 2012. The sample size changing from approximately 1000 to 1650, across the years 2006 and 2012, was applied the SERVPERF model.

Oña, Oña, Eboli, & Mazzulla (2013) used a SEM methodology to reveal the unobserved latent aspects describing the service and the relationships between these aspects with the Over all Service Quality (OSQ). Collected 1200 valid data by means of Customer Satisfaction Survey (CSS) was analysed for modeling OSQ in the bus transit service.

Following this literature, in this paper, an ordinal logistic regression model is proposed in order to evaluate the SERVQUAL of public transportation system (PTS) in Istanbul within the SERVQUAL framework compliant with the European Standard, EN 13816. This model is analysed with the data collected by means of a customer satisfaction survey (CSS) conducted by Istanbul Electricity Tramway and Tunnel General Management (IETT) at Metrobus (BRT) stations and bus stops, prepared with respect to SERVQUAL dimensions and the European standard. Logistic regression models, and particularly OLR models, are very suitable for customer satisfaction analysis, because surveys are generally conducted by using ordinal verbal scales of measurement (Eboli & Mazzulla, 2009).

METHODOLOGY

3.1. The SERVQUAL Approach

The use of SERVQUAL methodology in assessing service quality is introduced by Parasuraman, Zeithaml, and Berry et al. (1985) based on a wide variety of measuring items, grouped around various dimensions. According to Parasuraman et al. (1985), customers' perceptions of service quality are influenced by five "gaps" (Ladhari, 2009):

- 1. Gap 1 represents the difference between customer expectations and management perceptions of customer expectations.
- 2. Gap 2 is the difference between management perceptions of consumer expectations and the translation of these perceptions into service-quality specifications.
- **3.** Gap 3 is the difference between the service actually delivered by frontline service personnel on a day-to-day basis and the specifications set by management.
- **4. Gap 4** represents the difference between service delivery and what is promised in external communications to consumers.
- 5. Finally, Gap 5 is the difference between customer expectations and perceptions (perceived service quality)

Gap 5, the percieved service quality, is influenced by the rest Gaps 1, 2, 3, and 4, which needs to be investigated, because the inadequacy in meeting customers' expectations related to this Gap 5. The gaps relationship is depicted as in Figure 1.

Parasuraman et al. (1985) stated that the focused group revealed, regardless of the type of service, consumers used basically similiar criteria in evaluating service quality that seem to fall into the following 10 dimensions below, and labelled as "Service Quality Determinants".

- 1. Reliability
- 2. Responsiveness
- 3. Competence
- 4. Access
- 5. Courtesy
- 6. Communication
- 7. Credibility

8. Security

9. Understanding / Knowing the Customer

10. Tangibles



These ten dimensions were subsequently collapsed into five generic service-quality dimensions, as follows and shown at Figure 2 (Parasuraman et al., 1988, Ladhari, 2009):

- 1. Tangibles : Physical facilities, equipment, and appearance of personnel;
- 2. Reliability : Ability to perform the promised service dependably and accurately;
- 3. Responsiveness: Willingness to help customers and provide prompt service;
- 4. Assurance : Knowledge and courtesy of employees and their ability to inspire trust and confidence;
- 5. Empathy : Level of caring, individualised attention the firm provides to its customers.

These five dimensions are thus assessed by a total of 22 items. Each item is measured on the basis of responses to two statements that measure (Ladhari, 2009) :

- (1) the general expectations of customers concerning a service; and
- (2) the perceptions of customers regarding the levels of service actually provided by the company within that service category.



3.2. The European Standard - EN 13816

The European Standard EN 13816, dated 2002, and was approved by CEN (the European Committee for Standardization), specifies the requirement to define, target and measure quality of service in public passenger transport (PPT), and provides guidance for the selection of related measurement methods (EN13816:2002). Considering both the customer's and service provider's view, the standard is based on the concept so called "The Service Quality Loop", shown at Figure 3.



Figure 3 Service Quality Loop (EN13816:2002)

The Standard enables us to approach the service quality through 8 categories shown at Table 1, that are determined out of the large number of criteria related to the overall quality of PPT. Table 2 shows the overall quality dimensions according to the Annex A: EN13816.

	Categories	Contents
1.	Availability	Extent of the service offered in terms of geography, time, frequency and transport mode
2.	Accessibility	Access to the PPT system including interface with other transport modes
3.	Information	Systematic provision of knowledge about a PPT system to asist the planing and execution of journeys
4.	Time	Aspects of time relevant to the planning and execution of journeys
5.	Customer Care	Service elements introduced to effect the closest practicable match between the standar service and the requirements of any individual customer
6.	Comfort	Service elements introduced for the purpose of making PPT journeys relaxing and leasurable
7.	Security	Sense of personal protection experienced by customers, derived from the actual measures implemented and from activity designed to ensure that customers are aware of those measures
8.	Environmental Impact	effect on the environment resulting from the provision of a PPT service.

Table 1Service Quality Criteria (EN13816:2002)

CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national Standard without any alteration (EN13816:2002). The EN 13816 has been already applied in important realities as "Metro de Madrid S.A." in Spain, "Société des Transports Intercommunaux de Bruxelles" in Belgium, "Régie Autonome des Transports Parisiens" in France, "İstanbul Ulaşım" in Turkey and so on (Barabino et al., 2012).

Table 2a Quality Criteria (EN13816:2002)							
LEVEL 1	LEVEL 1 LE		LEVEL 3				
1. Availability	1. Availability 1.1						
	1.2	Network	1.2.1 distance to b/a-point1.2.2 need for transfers1.2.3 area covered				
	1.3	Operation	1.3.1 operating hours1.3.2 frequency1.3.3 vehicle load factor				
	1.4	Suitability					
	1.5	Dependability					
2. Accesibility	2.1	External Interface	2.1.1 to pedestrians2.1.2 to cyclists2.1.3 to taxi drivers2.1.4 to private car users				



LEVI	EL 1	LEVEL 2		LEVEL 3
2.	Accesibility	2.2	Internal Interface	2.2.1 entrances/exits2.2.2 internal movements2.2.3 transfer to other PPT modes
		2.3	Ticketing Availability	2.3.1 acquisition on network2.3.2 acquisition off network2.3.3 validation
3.	Information	3.1	General Information	 3.1.1 about availability 3.1.2 about accessibility 3.1.3 sources of information 3.1.4 travelling time 3.1.5 customer care 3.1.6 about comfort 3.1.7 about security 3.1.8 environmental impact
		3.2	Travel Information Normal Conditions	 3.2.1 street directions 3.2.2 b/a-point identification 3.2.3 vehicle direction signs 3.2.4 about route 3.2.5 about time 3.2.6 about fare 3.2.7 about type of ticket
		3.3	Travel Information Abnormal Conditions	 3.3.1 about current/forecast network status 3.3.2 alternatives available 3.3.3 about refund/redress 3.3.4 about suggestions&complaints 3.3.5 about lost property
4.	Time	4.1	Length of Trip Time	4.1.1 trip planning4.1.2 access/egress4.1.3 at b/a-points and transfer points4.1.4 in vehicle
		4.2	Adherence to Schedule	4.2.1 punctuality4.2.2 regularity
5.	Customer Care	5.1	Commitment	5.1.1 customer orientation5.1.2 innovation and initiative
		5.2	Customer Interface	5.2.1 enquiries5.2.2 complaints5.2.3 redress
		5.3	Staff	5.3.1 availability5.3.2 commercial attitude5.3.3 skills5.3.4 appearance

Table 2b Quality Criteria (EN13816:2002)

LEVEL 1		LEVEL 2 LEVEL 3			
	5.4	Assitance	5.4.1 at service interruptions		
	5.1	Tissituniee	5.4.2 for customers needing help		
	5.5	Ticketing Options	5.5.1 flexibility		
			5.5.2 concessionary tariffs		
			5.5.3 through ticketing		
			5.5.4 payment options		
			5.5.5 consistent price calculations		
		** 1.11. 0			
	6.1	Useability of			
6. Comfort		Passenger Facilities	6.1.1 at b/a points		
			6.1.2 on vehicles		
	62	Seating and Personal			
	0.2	Space	6.2.1 in vehicle		
		Space	6.2.2 at b/a-points		
	6.3	Ride Comfort	6.3.1 driving		
			6.3.2 starting/stopping		
			6.3.3 external factors		
	6.4	Ambient Canditians	(11 starsachers		
	0.4	Ambient Conditions	6.4.2 weather protection		
			6.4.2 weather protection		
			6.4.4 brightness		
			6.4.5 congestion		
			646 poise		
			6.4.7 other undesired activity		
			0.4.7 other undesned detivity		
	6.5	Complementary			
		Facilities	6.5.1 toilets/washing		
			6.5.2 luggage&other objects		
			6.5.3 communication		
			6.5.4 refreshments		
			6.5.5 commercial services		
			6.5.6 entertainment		
	6.6	Enconomy	6.6.1 and of movement		
	0.0	Ergonomy	6.6.2 furniture design		
			0.0.2 Turinture design		
7. Security	7.1	Freedom from Crime	7.1.1 preventative design		
,			7.1.2 lighting		
			7.1.3 visible monitoring		
			7.1.4 staff/police presence		
			7.1.5 identified help points		
			• •		
	7.2	Freedom from			
		Accident	7.2.1 presence/visibility of supports,		
			e.g. Handrails		
			7.2.2 avaodance/visibility of hazards		
			1.2.3 active safeguarding by staff		
	73	Emergency			
	1.5	Management	7.3.1 facilities and plans		
			The second secon		

Table 2c Quality Criteria (EN13816:2002)

Quarty Chiefia (E1015010.2002)							
LI	LEVEL 1		LEVEL 2	LEVEL 3			
8.	Environmetal Impact	8.1	Pollution	 8.1.1 exhaust 8.1.2 noise 8.1.3 visial pollution 8.1.4 vibration 8.1.5 dust&dirt 8.1.6 odour 8.1.7 waste 8.1.8 electromagnetic interference 			
		8.2	Natural Resources	8.2.1 energy 8.2.2 space			
		8.3	Infrastructure	8.3.1 efect of vibration8.3.2 wear on road/rail etc.8.3.3 demands on available resources8.3.4 disruption by other activities			

Table 2d Ouality Criteria (EN13816:2002)

3.3. Logistic Regression

Logistic regression is a regression method applied when the dependent variable Y is dichotomous. Therefore, the method of regression function estimation joins the probability that the response takes the value of 1 with a set of explanatory variables (Fabbris, 1997; Eboli & Mazzulla, 2009).

Logistic regression is an analysis which enables us to estimate categorical results like group membership with the help of a group of variables. Logistic regression does not require assumptions to meet concerning the distribution of independent variables. The parameter statistical significance is usually verified by the Wald test, and the goodness-of-fit of the model is generally verified by means of the Nagelkerke R 2 test; the R 2 is between 0 and 1.

Logistic regression models are very suitable for customer satisfaction analysis, because surveys are generally conducted by using ordinal verbal scales of measurement (Eboli & Mazzulla, 2008).

3.4. The Proposed Model

The quality perceived by passengers and quality issues related to public transportation systems evaluation have been thoroughly and extensively investigated in recent years. In the literature, statistical approaches are preferred for the purpose of evaluating the SERVQUAL of the public transportation systems.

After investigating the theoretical framework of the logistic regression model and EN 13816, we reviewed the related literature considering SERVQUAL and customer satisfaction survey analysis.

IETT's customer satisfaction survey data as the real PTS case extensively analysed over both the survey's structure and the proposed analysis model's fitness for the survey conducted.

Due to the Likert scale of the survey, we determine to apply binary and ordinal logistic regression analysis together to analysis the perceived SERVQUAL level. The proposed methodology is shown as at Figure 4 and Figure 5.





Figure 4 The Steps of the Proposed Methodology Implication

Step 1 :	EN13816 Criteria Investigation
Step 2 :	SERVQUAL Approach and Public
-	Transportation
Step 3 :	Logistic Regression Modelling
Step 4 :	Related Literature Review
Step 5 :	Applying the model
Step 6 :	Interpreting the results

A REAL CASE STUDY: IETT

4.1. The PTS in Istanbul

Istanbul is one of the most famous megacities in the world and is the third largest metropolitan area in Europe. The city is the cultural, economic, financial center and urban agglomeration of Turkey, where a plethora of public transport improvements have been exerted and still some policies and improvements are ahead. Besides, these improvements need further attention due to the state of being the most crowded city of Turkey, with an increasing population of 14,160,467, and a population density of 2725, according to the Address Based Population Registration System (ABPRS) 2013, shown at Figure 6 and Figure 7.

The distribution of daily passenger in Istanbul, according to the public transportation types, their maximum trip per day and percentages are given at Table 3.

Figure 6 Population Graph



Figure 7 Population Density Graph



Public Transport Mode	Туре	Maximum Trip / day	%
RAIL		1.632.863	14,3
	Metro	609.269	5,4
	Light Metro	337.950	3,0
	Tram	541.601	4,8
	Tunnel-Funicular	69.639	0,6
	Moda Tram	4.675	0,0
	Ropeway	8.200	0,1
	TCDD(Marmaray)	61.529	0,5
ROAD		9.158.823	80,5
	Metrobus(BRT)	750.000	6,6
	IETT	720.696	6,3
	РРТВ	1.420.178	12,5
	Otobus Inc.	747.949	6,6
	Minibus	1.910.000	16,8
	Taxi&Jitney	1.210.000	10,6
	Employee Shuttle	2.400.000	21,1
SEA		590.725	5,2
	IDO	211.476	1,9
	Sehir Hatları Inc.	22.888	2,0
	Ferries	150.369	1,3
	TOTAL	11.382.411	100,0

 Table 3

 Distribution of daily passenger in Istanbul (

 www.iett.gov.tr)



Figure 8
Distribution of daily passenger (<u>www.iett.gov.tr</u>)

Figure 9 Distribution of daily passenger (<u>www.iett.gov.tr</u>)



4.2. IETT

The public transportation system of Istanbul is executed by the PTS firms; Private Public Transportation Buses (PPTB), Otobus Inc., Metrobus (Bus Rapid Transit – BRT system), and IETT. IETT General Directorate has been managing, executing and supervising PPTB according to the decision of Coordination of Transportation Department (UKOME) since 1985. The fleet of PPTB in Istanbul consists of 2789 buses (Baracli et al., 2013; <u>www.iett.gov.tr</u>). Otobus Inc. serves with a fleet of 525 busses carrying 747.949 passengers per day. IETT, as a public transportation firm in Istanbul, serves with a fleet of 3059 buses and 8 garages for repair/maintenance operations.

4.3. Metrobus (Bus Rapid Transit – BRT System)

Metrobus, The BRT system in Istanbul, exhibits a high potential for development by other express ways, the investment and operating costs are relatively low compared with other rail systems, and its installation was completed in a shorter time. Also it reduces travel time for passengers. Because the busses are running on their own way, the accident rate and risk decreases. 750,000 of those passengers are carried by Metrobus (Baracli et al., 2013; <u>www.iett.gov.tr</u>).

4.4. The Customer Satisfaction Survey (CSS)

The sample was spread over 3025 passengers, above the age of 15, at bus stations and BRT stations, covering 38 districts of Istanbul province. The significant part of the respondents are between the age of 15-34 with a percent of 76; and the participants' gender is parallel to the gender percentage of Turkey's population as % 42 women, % 58 male. 79 percent of the sample are ordinarily students and active commuters by bus or BRT. A travelling cost of 100 – 150 TL/month is stated by 56 percent.

The demographic profile of the customer satisfaction survey is shown at Figure 10.

The socio-economic profile of the respondents is categorized as at Figure 11 and Table 4.

The bus and BRT usage frequency and usage purpose profile are shown at Figure 12.



Figure 11 The Socio-economic profile of the Respondents

Table 4					
Social Class Categorization					

Social Class Categorization							
GRADE	SOCIAL CLASS	OCCUPATION					
А	UPPER MIDDLE	Higher managerial, administrative or professional					
В	MIDDLE	Intermediate managerial, administrative or professional					
C1	LOWER MIDDLE	Supervisory or clerical and junior managerial,					
		administrative or professional					
C2	SKILLED WORKING	Skilled manual workers					
D	WORKING	Semi and unskilled manual workers					
Е	NON WORKING	Casual or lowest grade workers, pensioners, and others who					
		depend on the welfare state for their income.					



Figure 10



4.5. Obtained Results

We applied logistic regression model to the results of the customer satisfaction survey conducted by IETT. In order to analyse customer satisfaction data, the qualitative points on the ordinal scale are usually changed into binary numerical values (1 and 2). The transformation can be made by means of methods of direct or indirect determinate quantification, assuming 2 refers to very satisfied and satisfied likert scale; and 1 refers to otherwise. According to the study based on the general satisfaction level perceived by the passengers, the chi-square test results are shown at Table 5. The chi-square test is effectively a crosstabulation between the observed and the expected values measured. The Chi-Square test, as one of the statistical tests that enable us to evaluate and reject/accept hypothesis, is used to establish whether there are statistically significant relationships between two categorical variables.

Table 5 The Chi-Square Test Results of Satisfaction and Other Criteria									
Variable / Criteria	Pearson Chi-Square	df	P - Asymptotic Significance (2-sided)						
Availability	3025,000	1	,000						
Accesibility	2299,324	1	,000						
Information	3025,000	1	,000						
Time	2333,319	1	,000						
Customer Care	2299,324	1	,000						
Comfort	1581,313	1	,000						
Environmetal Impact	1646,107	1	,000						
Security	1243,883	1	,000						



According to the Chi-Square test results shown at Table X; "Availability" (χ^2 =3025,000; df=1; p≤0,05), "Accesibility" (χ^2 =2299,324; df=1; p≤0,05), "Information" (χ^2 =3025,000; df=1; p≤0,05), "Time" (χ^2 =2333,319; df=1; p≤0,05), "Customer Care" (χ^2 =2299,324; df=1; p≤0,05), "Comfort" (χ^2 =1581,313; df=1; p≤0,05), "Environmetal Impact" (χ^2 =1646,107; df=1; p≤0,05), "Security" (χ^2 =1243,883; df=1; p≤0,05) differences are sttistically significant. In other words, the null hypothesis claiming that there is no difference between the provided and perceived satisfaction is rejected. The proposed logistic regression model can be formulated like that;

$$\ln\left(\frac{P(\mathbf{Y})}{1 - P(\mathbf{Y})}\right) = Y_i = \beta_0 + \beta_1 S_1 + \beta_2 S_2 + \dots + \beta_8 S_8 + u_i$$

In this model, P(Y) / 1-P(Y) the odds ratio of the probability of being satisfied by the SERVQUAL provided- the perceived quality to the probability of not being satisfied satisfied by the SERVQUAL provided.

The Enter Method is applied while analyzing the dependent variable, the general satisfaction of the passengers. The β parameter, standart error, Wald Statistics, degree of freedom, significance level and Exp(β) (ODDS) values are given at Table 6. The proposed models present good levels of significance and a high explanatory power, in fact the statistics LR are widely verified, and the values of R 2 of Nagelkerke are at the unit one.

	β S.E.		Wald	Wald df		Sig.	Exp(β)	
Constant 0,8:		850 0,040	458,168		1	0,000	2,339	
S	Step	-2 Log Lil	-2 Log Likelihood		& Snell R Square	Nagelkerke F	R Square	
	1	,000	$,000^{a}$,705	1,000	•	
Hosmer and L	emeshow Te	st Chi-squ	are		df	Sig.	Sig.	
1	l	,000	-		1	,997		
Contingency	Table for	GENERAL_SATIS	GENERAL_SATISFACTION = 1,0		GENERAL_SATI	SFACTION $= 2,00$	T-4-1	
Tes	it	Observed	Expected		Observed	Expected	Total	
	121	0	121		0	,000	121	
Step 1	785	0	785		0	,000	785	
	0	2119	2119	9 2119		2119,000	2119	

Table 6 The Analysis Parameters

CONCLUSION

Public transportation systems need to be improved through particular criteria like EN13816, satisfaction survey etc. The analysis of the collected data helps to enhance the SERVQUAL of the PTS. Surveys enables the supervisors to be aware of what is presented in the frame of SERVQUAL and how the presented is perceived.

For this aim The proposed evaluation model is analyzed with the data collected by means of a customer satisfaction survey conducted by Istanbul Electricity Tramway and Tunnel General Management (IETT) at Metrobus (Bus Rapid Transit – BRT) stations and bus stops, prepared with respect to SERVQUAL dimensions and the European standard, EN 13816.

According to the results, "Security" in vehicles and stations, "Environmetal Impact "occurs through the bus, "Comfort" presented by the buses or metro, and "Customer Care" that the passengers are found at a lower perceived SERVQUAL level. So, further intereset should be given to improve these aspects of the mentioned company viathe survey results.

For future research, fuzzy methodology can be applied to evaluate customer satisfaction of PTS passengers, and the results can be compared in a hybrid solution.

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DIGITAL DETOX FOR THE HOLIDAYS: ARE WE ADDICTED? 16

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ABSTRACT

Invention of Internet and usage of smart phones and tablets has changed our life style in last 15 years. Some applications are life saving tools for smart phone addicted consumers. According to a survey, at the end of 2015 mobile Internet users will take over desktop Internet users. Smart phones are an inseparable part of our life. People on holiday want a stress free period during their journey. We all desire a wonderful holiday as a gift to ourselves. Why do people go on holiday? Businessman and women go on holiday as a break from their normal duties due to the health consequences posed with failure to break. On the other hand, families and other individuals go on holidays for reasons such as relaxation and adventures among others.

Since we use smart devices often, we take them with us on holiday and often use them as a communication, entertainment tool during our holiday. What happens if we do not use our smart devices during our holiday? Can we survive or not? Digital detox holiday provides a chance to decrease stress and focus on social interaction in the real world.Some hotels realized that they may offer digital free environment for the guests and this may attract some customers to the digital detox hotels. On the other hand, acceptance of this idea for a community will not be easy.

The aim of this paper is to discuss a new travel trend that nearly rejects the digital life during a holiday and focus on individual needs rather than virtual environment.

Keywords: Addicted, Detox, Digital, Digitox, Holiday, Smartphone

INTRODUCTION

Reaching Internet has been changing its form and smart device (IOS and Android devices) usage is getting popular among social media users. Smartphone appeared in 2007 and later mobile users became the new Internet users in the society. More and more people search, mail, watch or listen music by using mobile devices 7/24. In last seven years technology improvements have seen new systems, powerful handsets, faster and cheaper data connections touch screens, app downloads and addicted smart phone users.

Smartphone has transformed the consumer's behavior. According to Google all smart devices (tablets, smart phones and wearable tech) are cost effective, lightweight and will overtake the desktop in the next few years. Mobile phones are no longer used to make call only but people use them as a multi activity device.

With the growing usage of smart devices and tablets, people are getting more addicted to their devices. The Google report"Our Mobile Planet" shows that in Turkey, 68% of Smartphone users were online in 2013, that means they are connected 7/24. Such a number may increase in near future and than people may suffer from side affects of this addiction.

The term digital detox recently used for smart device addicted people. Today hotel companies offer digital services for the guest comfort. Some of these services are targeting smart phone users on the other hand limited numbers of hotels are offering traditional services that do not include smart device usage.

Defination of digital detox is: A period of time during which a person refrains from using electronic devices such as Smartphones or computers, regarded as an opportunity to reduce stress or focus on social interaction in the physical world (oxforddictionaries, 2014).

LITERATURE SURVEY

2.1. Smartphone usage intention

We have seen a huge change in human behavior; complete new devices are dominating our lives. World Smartphone user will reach to 1,75 billion in 2014. Almost two-fifths of all mobile phone customers will use a Smartphone at the end of 2014. The survey shows that 48,8% of mobile phone users and 33,8% of population will use Smartphone users by 2017. (emarketer, 2014).

	2012	2013	2014	2015	2016	2017
Smartphone users (billions)	1.13	1.43	1.75	2.03	2.28	2.50
% change	68.4%	27.1%	22.5%	15.9%	12.3%	9.7%
% of mobile phone users	27.6%	33.0%	38.5%	42.6%	46.1%	48.8%
% of population	16.0%	20.2%	24.4%	28.0%	31.2%	33.8%

Table 1
Smartphone Users and Penetration Worldwide, 2012-2017

Note: Indivuduals of any age who own at least one smart phone and us it at least once per month. Source:eMarketer Dec 2013

In Turkey, Turkish Statistical Institute conducted a survey in the first quarter of 2013. According to the survey 41.1 % of Internet users aged 16-74 used mobile or smart phones in Turkey (turkstats, 2013). A survey is conducted by internet survey company called comScore. According to the results, millions of visitors getting news from the Smartphone. Local media group Hurriyet ranked first in February with 4.1 million unique visitors accessing from smart phones, with more than two-thirds of those visitors coming from Android phones. Milliyet Gazetecilik ve Yayincilik secured the #2 position with 3.8 million unique users visiting from smart phones, followed by Nokta.com Medya with 3.3 million Smartphone visitors. Nokta.com Medva ranked at the top of the list in terms of tablet audience with 1.2 million visitors, followed by Milleyet Gazetecilik ve Yayıncılık and Hurriyet, both with nearly 1.1 million visitors.

Table 2Top 20 Properties in Turkey Ranked by Mobile Web Visitors (000) on Smart phones February 2014

	Total Unique Visitors (000)			
	All Smartphones	iPhone	Android Phone	All Tablets
Hurriyet Internet Group	4.130	1.302	2.828	1.050
Milliyet Gazetecilik Ve Yayincilik	3.868	1.170	2.697	1.076
Nokta.com Medya	3.317	962	2.354	1.273
Yeni Medya	2.983	853	2.131	876
Mynet A.S.	2.228	676	1.552	927
Ciner Medya Grubu	1.751	655	1.096	401
Sahibinden.com	1.750	528	1.222	751
Dailymotion	1.688	485	1.203	667
eBay	1.346	465	881	486
Dogan Gazetecilik	1.341	416	925	403
Stargazete.com	1.323	412	911	435
Dogan TV	1.303	413	890	478
Turkcell	1.145	412	733	191
Bugun.com.tr	1.099	335	764	348
Dogan Online	1.099	371	728	394
Sozcu.com.tr	1.090	491	599	272
AccuWeather Sites	1.086	40	1.046	85
Goal Sites	1.014	232	783	272
Turk Medya	963	312	651	224
Turkuvaz Yayin	877	317	560	384

Source: comScore Mobile Matrix

These figures show that smart digital devices in Turkey widely used for reading daily newspapers and doing shopping.Beside reading newspapers and doing shopping, checking e mails and socializing through Facebook, Twitter like apps.

2.2. Nomophobia: The way to digital detox

Some studies show that there is a group of people evaluating smart technologies, including Smartphones, mobile apps, etc enlarge and change the classical border of tourism (Germann Molz, 2012; Mascheroni, 2007; Paris, 2010, 2012; Tussyadiah & Fesenmaier, 2009; Wang, Park, & Fesenmaier, 2012; White &White, 2007). Travellers use the devices for booking, navigating, ticketing, boarding, socializing and communicating for the journey.

The increases of the benefits of technology makes us depandent on it. The increasing numbers of teenagers with access to mobile internet technology (Lenhart, et al., 2012) appears as potential explanation for the recognized problems related to Internet use. Smartphone addiction has become so widespread and attracted so much concern, it even has a name "Nomophobia". UK Post Office states that, 13 million UK citicens suffered from "Nomophobia" (no mobile phobia) in 2008. Monophobia is the fear of being out of mobile phone contact.

2,163 people sampled for this study. Study explains that 53% of users in the UK tend to be anxious when they "lose their mobile phone, run out of battery or credit, or have no network coverage". Results show that about 58% of men and 48% of women familiarity the monophobia, and if their mobile phones are off additional 9% feel stressed.

Although technology is a driving force for many years to come with tourism, some hoteliers have identified a niche market for those who want to "escape" from digital life they are addicted, they offer isolated accommodation facilities with no smart services (Sudgen 2014). The World Travel Market Global Trends Report, 2012 in association with market researcher Euromonitor International states that digital detox packages are offered at discounted prices. Hotel guest stay in technology free rooms and use relaxation packages. Family time and quality human time with family members is an important issue of the digital detox. The more people are connected and stay online stress level of them increase in near future

Another study conducted by the Radicati Group report that usage of total worldwide daily email traffic will increase from 182,9 billion in 2013 to 206,6 billion in 2017. 100 billion these emails came (sent/received) from business sources in 2013 and it will increase to 132,1 billion in 2017 (Radicati, 2013). On the other hand consumer email (sent/received) will see a slow down in the same period, from 82,4 billion to 74,5 billion. The main reason behind this slow down is the Instant Massaging (IM) services and social networking. During the same period we will see a remarkable increase on social networking accounts and users. Social network accounts will increase 3,2 billion accounts in 2013 to 4,8 billion accounts in 2017 and 400 million additional users will join the system and 1,58 billion people will be online. By 2017 mobile email user number will not be less than the mobile instant massage users, reaching to 1,78 billion.

3. Problem and Solutions

3.1. Digital detox in tourism sector

Holidays represent a valuable period of our busy life, and most of the time it is sold as "a once in a lifetime experience" (Ryan 1997). Therefore, holidays are desirable for every tourist and every tourist should have such an experience. The accommodation sector offers a variety of choices as "escape-aids, problem-solvers, suppliers of strength, energy, new lifeblood and happiness" (Krippendorf 1987:17). Technology had been preventing us from being fully present.

A Foundation for Jewish Camp (FJC) has been supporting National Day of Unplugging (NDU) since 2010 in the USA. Every year one weekend in March National Day of Unplugging is organized as a modern Sabbatical activity. (jewishcamp.org, 2014) NDU runs from the first sundown on Friday, to sundown on Saturday. The activity encourages people of all backgrounds to unplug during the period and fallow 10 simple suggestions. By doing this they try to slow down lives in a busy world.

Some food and beverage outlets offer promotions to the customers for dropping their smart devices with the receptionist for the entirety of the dinner. Eva Restaurant in Los Angeles offers a 5% discount since the summer of 2012 (money.cnn, 2012). They want people to connect again in person. Eva notifies its guests of its cell phone policy with a statement on its menu.

3.2. Digital Detox hotels

Most of hotel the companies try to offer technology facilities, applications and technology features makes customers demanding in every stay. Some 63% of UK hotels now offer free Wi-Fi, according to hotel booking website HRS.

Smart phone applications try to offer much better hotel experiences from check in to check out for the guests. One example is called Mystaymanager. It is a mobile application, introduced in February of 2010. A guest can book change or cancel a reservation and organize their stay by using the application. Tourist can manage his or her own preferences order room service, read messages, schedule a wake-up call, view billing information and check out. The real-time integration with OPERA PMS empowers the hotel guest to connect with hotel. It simplifies business and leisure travel, attracting more guests to the hotel.

Hotel Newspapers and Good Morning News are the world's largest hotel news publications of KVH Media Group. The service is delivered hotel guests in 192 countries free of charge, only the hotels sign up a contract with KVH Media Group. Newspapers are delivered by email in PDF or read by an application, at present 38 titles published in 11 different languages. Also the application is compatible with iPad too. On the other hand, digital detox hotels or digital detox packages provide completely different selling points for a technology break. Hotels offer digital detox packages, software companies and some applications try to help the addicted Smartphone users to reduce the time spent with Smartphone interactions. An application called "Quiet" blocks notifications and changes your status on things like Skype to "busy" (techland, 2013). Of course this can be done manually but a user can prefer a technology tool for a quiet period.Users can delete social applications like Facebook, Twitter and they can reach the same services through the web browser, if it is needed.

Guest wellness may be improved by hotels digital detox packages. Technology-free hotels, health tourism centers, cruise lines and safaris present endless opportunities in the digital detox market, as these offers an ideal context for consumers to disconnect and relax. Best examples of digital detox hotels in the world would be; 1-Westin Dublin, Ireland, 2. Grand Cayman Marriott, Cayman Islands, 3. Echo Valley Ranch & Spa, Canada, 4. Palm Island Resort, the Grenadines, 5. Kimpton Monaco, Chicago, USA, 6. Four Seasons at Peninsula Papagayo, Costa Rica, 7. Renaissance Pittsburgh, USA, 8. JW Marriott Cancun, Mexico, 9. Lifehouse Spa and Hotel, Essex, UK, 10. Jakes, Treasure Beach, Jamaica.

3.3. US Packages

Luxury Lake Piacid Lodge in New York offers a two- night package, which is called "Check in to Check out". Participants hand over their digital devices at the front desk and take part in classes like cooking, snowshoeing expeditions, yoga, and other tech-free pursuits. The package costs starts from \$2,233 per room

Digital Detox of San Francisco organizes three- and four-day retreats at various locations in Northern California, including the Shambhala Ranch in Mendocino County. Tourists take part in a variety of Zen-like activities, including yoga, hiking, and silent meals. The digital detox package start at \$700 per person for three nights.

3.4. UK Packages

The Westin Dublin hotel gives you the possibility to leave from all that electronic devices. The Digital Detox package includes: accommodation, breakfast in bed each the morning, a handy Detox Survival Kit, featuring information on discovering the city of Dublin and a walking map, a newspaper, a relaxing white tea candle, a board game and a tree planting kit to take home with you, a safe in which to hide your gadgets for the duration of your stay. The package cost you €175.00. The package requires guests to hand in their Smartphone and gadgets at reception on arrival.

3.4. Packages in Turkey

Turkey is one of the world's top tourism destinations. According to the UNWTO in 2013 Turkey keeps 6th position in arrivals (37.8 Million) and 12th in receipts (US\$ million 27.997) (UNWTO, 2014). For a complete digital detox, gofing cold turkey, in Turkey still very possible. Actually just a few hotels in Turkey offer digital detox packages. This concept has not been realised by the managers of the hotels yet, hence meaningful digital detox packages just introduced in selected hotels.

A workshop organised by Şile Municipals, Istanbul in January 2014 saw a debate on digital detox tourism and possible contributions of it. The digital population of Istanbul and being a close destination (60 km) for local tourist, Şile can be a very useful digital detox destination for Istanbul. In Şile region there are 30 accommodation facilities, and most of them are small hotels with less than 35 rooms (Sema, 2014). At the end of the workshop it was accepted that hotels in the region easily offer digital detox packages especially for Istanbul residences.

CONCLUSION

Tourism and technology are inseparable parts of our daily life. Recent trends proves that Smartphone usage among the population increasing rapidly, hence a type of addiction of these devices making the daily life and holiday period more complicated on one hand and easy one in another. As the holiday period of becomes important, feeling complete relaxation and being a refreshed person, all the factors that restrain a perfect holiday need to be eliminated.

According to WTTC (World Travel and Tourism Council) in Turkey accommodation sector has been developing the hotel facilities and offering latest convenient services to the tourist. Turkey shows strongest travel and tourism growth in Europe and among the G20 countries in 2013 (wttc, 2014). New hotel concepts and packages try to attract tourist to the destinations. As a package digital detox offers a real escape from your digital habits and focus on holiday for relaxation. Reading personal emails, business e-mails, doing online banking, checking or updating social media profiles consuming an important time of our holiday period.

Most of the five star hotels offer the spa; the gym, Turkish bath and the sauna services and these are kind of digital detox services for the consumers. Beside these services there is not any digital detox packages offered by the hotels in Turkey. A need for digital detox in Turkey will start sooner or later, since the increasing number of Smartphone; the hoteliers may offer digital detox packages for treatment of the addicted tourist for a few days for a better world.

But if you're feeling like the Smartphone you bought now owns you, as a coast destination, Şile, can be an ideal digital detox destination especially for addicted residence of Istanb

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