

A COMPARISON STUDY OF IODIZED SALT PRODUCTION COST IN CENTRAL REGION

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ABSTRACT

According to the Universal Salt Iodization (USI) program, all salt for human consumption in the Kingdom of Thailand has been regulated by the Thai Food and Drug Administration (FDA) to ensure adequate iodine nutrition. The salt producers have to ensure that iodized salt contains the iodine level of 20-40 mg iodine/kg (20-40 ppm). To substantially improve the quality of iodized salt, in 2013 the FDA subsidized 70 small-scale mixing machines (40 kg/batch) and 30 large-scale mixing machines (150 kg/batch). The producers have to bear the machine cost for only 30 percent of total price. This paper aims to calculate the iodized salt production cost by small-scale and large-scale mixing machines in the central region, which comprises about 73 percent of the salt producers in the country except northeastern region received the subsidy. The data were collected through an in-depth interview of 14 samples out of a population of 35 by non-proportional purposive sampling during February and March 2015. The interviews were conducted at the salt production plants from 10 small-scale and 4 large-scale mixing machine operations. The average total cost of production comprises of raw material cost, capital cost, iodization cost, and packing cost. The average cost for iodized salt productions are 5,860 baht/ton for small scale machine-mixing method and 5,875 baht/ton for large scale machine-mixing method. The average cost for large scale machine-mixing method is higher than the small scale machine-mixing method because they did not use full capacities of the large scale machines.

A COMPONENT OF LEAN MANUFACTURING FOR PRACTICES WHICH IS THE 5S PHILOSOPHY OF THE OTOMOTIVE INDUSTRY

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ABSTRACT

In the process of production of each manufactured item and in the process of consumption of each consumed item, in our world that resources are limited, the fact that provides the elimination of waste and the common idea above many disciplines is the concept of "lean". The first indicator that introduces business world to "lean" concept is "lean manufacturing" one of the components of "lean manufacturing" is 5S philosophy. 5S philosophy is sum of everything that surrounds business world, increases fruitfulness, shortens the time, increases the attendance of employees, ensures the conditions that can be standardized like organization, order, discipline.

In our studies content some touches were done through 5S in an automotive business. Our applied management is exporting to many countries, having business with its innovative structure and quality focused approach. We observed that management employees motivations increased, work accidents eliminated and working atmosphere relaxed with regulations done by our recommendations. In our study, our main purpose is to get sustainable fruitfulness by small touches in working areas.

Key words: Lean Manufacturing, 5S, Otomotive Sector

INTRODUCTION

As production fact forms according to some needs and the requirements, it can be measured by the manufactured goods and services value that is created. In this regard, value according to Rother and Shook (1998), is to create production and services equipped with some aspects in return to a price that customer is willing to pay in particular time periods (transferred by Birgün and others, 2006).

Value flow, on the other hand, is the basic delivery needed on the production process of a single production or services. In this delivery, information, relations with suppliers, goods and semi-manufactured goods, delivery, design and production development, in short from the starting point of a production till the last point that a production meets the customer is the flow of all equipment that added or not added value on particularly the production and service. Inside the value flow process to set a course for all the materials and information flow processes from suppliers to manufacturers and finally to the consumer is called 'Value Stream Mapping' (VSM) (Seth and Gupta, 2005).

Sources should be used effectively during the creating value process. Using sources effectively will cause to increase the benefit from the point of all partners who take place during the value chain and created value and this can be increased only by purifying from waste. Lean production, as a far-reaching philosophy, provides elimination of all wastes for programmed, controlled, tabulated and industrial production available for constant improving and developing.

1. LEAN PRODUCTION

To understand the lean production, primarily the project about 'future automobile' done by MIT (Massachusetts Institute of Technology) with five million budget and lasted for five years should be examined. After this project was completed Womack and his friends shared all details in their book called 'Machine that changes the world'.

1.1. The birth of lean production

One of the members of Toyota family, Eiji Toyoda's uncle, sent his nephew to Detroit and asked for investigation after visiting Ford. In Japan at that time government dominated and labour-art dependent production was done. However, Toyoda and Ohno witnessed some malfunctions that were applied on production system and they were worried about the implementation of the same system. Thus, Toyota Manufacturing System, later called lean production, was born as a production system with more different radical components than mass production (Womack and others, 1990).

1.2. Elements of Lean production

In the project with the contributions of John O'Donnell, UMAP Programme manager, the elements of lean production were formed. These basic elements are; factory management system, automobile's designs, the coordination of implementation chain, customer relations management and lean enterprising management.

1.3. Lean production techniques

Under the skin of a lean organization there are components that can control chaos by regularity (Jenner, 1998). Some of these components and techniques are; Just In Time (JIT), Kanban (traction system), Kaizen, 5S Poke-Yoke, Single Minute Exchange of Dies (SMED), U type line, Jideko or autonomation, total quality management, total productive maintenance. As our study is limited with the 5S other lean production techniques are defined only with one sentence.

1.3.1. Just In Time:

It is defined as a management that is oriented at organizing production and whole system of processes (Boone and Kurtz, 2013). It means to go beyond stock control and eliminate everything that doesn't add value.

1.3.2. Kanban:

On the contrary of propulsion system at mass production, the tension system developed at lean production completes just enough for production incomes that each production output needs.

Ohno describes this system as 'Just in Time Implementation' but it took him for more than twenty years to place this system (Womack and others, 1990).

1.3.3. Kaizen:

This compound noun that was suggested by Maasaki Imai means constant improvement and constant development. In organizational structure without level difference all individuals has to develop themselves.

This is settled to those individuals life style. According to Imai (1994); Kaizen means constant development at home and at work, private life and social life.

1.3.4. Poke-Yoke:

These are the systems that provide to decrease the man-made mistakes minimum and protects against malfunction (Krajewski and others, 2013). These malfunctions show up in the way of tiresome, absent-mindedness, tension under working stress, psychological or metabolic disorders. To make this technique more effective, it should be used with signals that are called 'andon'.

1.3.5. Single Minute Exchange of Dies (SMED)

Exchange of dies technique is also in mass production. But it takes a lot of time to exchange the tonnes of dies and also worker safety weakens and causes accidents. By applying this technique to the lean production, it is aimed to decrease the time of exchanging the dies, to prevent waste of workforce and possible accident risks.

1.3.6. U Type Line :

Besides producing in a short time it provides carrying less, decreasing in buffer stocks, developed coordination, simple tabulating and advantages working in narrow spaces.

1.3.7. Jidoka:

It is to cut the process of line automatically for preventing faulty products to pass next level, on the other hand, it is to develop self-control of machines themselves and early warning system.

1.3.8. Total Quality Management:

It is to have synchronized team spirit from the bottom employee to the top management and develop coherently. It found its complete meaning by being the component of lean production in Japan and this is what called 'quality rings' in the West and evolution that provides to be multifunctional.

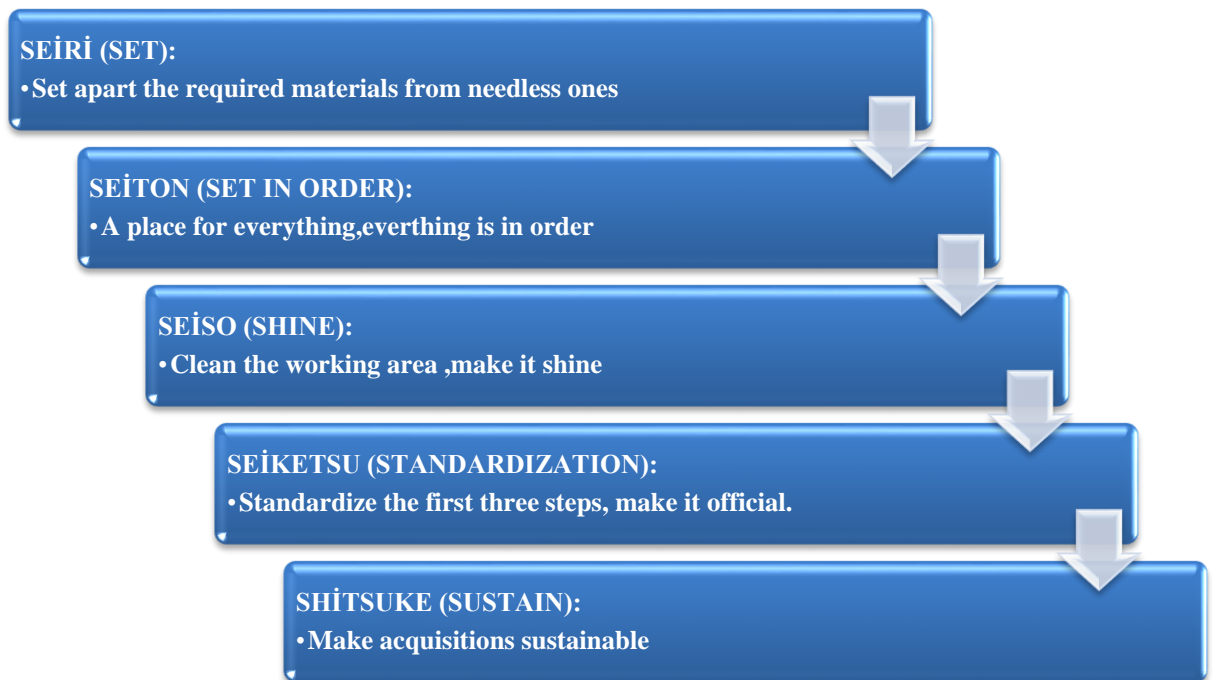
1.3.9. Total Preventive Maintenance:

In mass production maintenance of machines and equipments routine controls were done periodically. This is because employees work only in one single area. After long studies Ohno provided that every worker could maintain the machine he used without failing the production by suggesting that every employee could maintain the tools he used.

2. 5S METHODOLOGY

This methodology is one of the lean production principals that has similar added values like working place aesthetics, relaxing working atmosphere, employee safety, work-time utility, work-safety utility, setting -visuality utility that is used for productive managements. 5S systematic is an appliance that can increase the motivation and team spirit by evaluating the measurable results besides being sustainable by inner touches.

Figure 1: 5S Steps



Source : Krajewski and others ,(2013):s.304. developed from quoting

Constitution of 5S philosophy is the result of some regulations that Ohno and Toyoda applied in Toyota factory in the name of correcting some malfunctions that they observed in mass production factory. Some of these observations are the examples that Womack and friends mentioned in their book 'Machine that Changed the World'. In mass production managements by recording all wasted items such as machines that are waiting to be repaired along the corridors, tools that can never be found when needed, irregular archives, products that are waiting to be stocked particularly because of mass product, employees that are waiting for shift change in the area, each of them is applied as the forms of lean production. These malfunctions in mass production are so many that while in the factory waste of another employee or litters stays, in lean production every employee takes care of eliminating each waste and litter.

The reason why this philosophy is called 5S is to achieve the steps of classification, regulation, cleaning, standardization and discipline at work by using the five words' capital letters in Japan. Same words also found their meanings in English. On the table below, with the definitions of steps, there are English and Japanese meanings.

The classification process is done according to the answers, If the tools at work are needed or not and If they are needed how often they will be needed. Products that are grouped in regulation process are formed product identity and inventory by hanging red and white cards on them. All pieces have a place so they can be found when needed. On cleaning step, work place cleaning, machines' cleaning and polishing is required. By this way area will be purified from bad views and cleaning will be done. To standardize these steps on employees, a score chart that works like auto control or 5S award team should be formed. The last step is to make the provided environment at work place sustainable.

3.5S SYSTEMATIC APPLIED IN A COMPANY, IN BUSINESS IN AUTOMATIVE SUPPLY INDUSTRY RESEARCH OBJECTIVE:

Within our study our company chosen for pilot scheme;

- Within its vision to increase the power of international competition in sector to make real intercompany applicable changes and makes these changes sustainable.
- Telling the passing process to lean production and starting the steps of management, economical and physical transformation process.
- Giving the starter training and information to management and staff about process.
- Firstly, making the needed regulations and starting radical transformation.

3.1. Investigation Method:

Our investigation method is identified as choosing the company and making an application plan, determining work calendar and results check.

3.2. Management General Information and Selecting Aim:

Within our study throughout the years our company that 5S application was executed, started focusing on supplying the needs of local automotive industry. Since 1998, as milestone, our company has believed that with the effect of global fluctuation in our country and world, the fact that constant change and development will increase the competition power and widen the market share besides increasing customer satisfaction, will carry the company to the future.

By this means when company's current position is considered, it is seen that our company is a supplier that exports to eleven countries particularly Europe, South America, Australia and Turkish Republics and it is also seen that as 2023 vision our company aimed to be in the first five producers in the sector.

In our management, machining and chipless manufacturing, assembling, quality control and packaging and shipping steps take place. There are sixty-seven different machines scattered in our management. With this equipment Rascal Heater boogies are produced. These boogies are used as a power source and they are an essential material to start the engine. Primarily voltage is given to heater boogies thus boogies heat until over 850 C. By this means engine's capability of working cold increases however as there is no smoke it is an environmentally friendly product. These designs are performed in the quality management system ISO 9001:2008.

The reason why we evaluate this management is that in cooperation's quality management policy, constant development, constant improvement, involving staff, supporting employees training, maintain company's continuity with customer satisfaction and focusing on customer takes place so it makes us believe that it needs a serious touch on its current position. In this way, it is predicted that feedback will be taken as the result of improvements and landing up will be easier.

3.3. Operation Mode:

As an operation mode company authorities and employees were primarily given 5S training co-ordinately. Subsequently in the name of studying 5S team was formed and immediately a calendar was determined. While 5S team was forming, employees' responsibility in the company was considered and primarily areas were determined.

Table 1: 5S Steps

1 st step Classification (Seiri)	2 nd step Regulations (Seiton)	3 rd step Cleaning (Seiso)	4 th step Standardisation (Seiketsu)	5 th step discipline (Shitsuke)
Material picking process	Determining the places of materials	General cleaning at work	Performing sustainability	Principles becoming habits
Determining the future storage material	Reaching materials in a short time	Cleaning all material that will be used	Caring about the performing steps	Periodical checking
Materials that will be picked out	Shortening the piece operation time	Esthetic cleaning	Developing the work place culture	Informing team about the position
Taking safety precautions	Forming the general order	Purification of the ground	Standardization	Feedback control

During our pre-interviews within our report primarily by informing about predicted time, we stated that they should look over their work plans and support whole participation. Later, by reminding 5S steps and aims for each step, we started application by making a work maps. Process steps that are suitable for 5S systematic are these;

Beginning, first step *classification* namely *picking*;

This step needs two target studies. The first of them is to determine how often the materials are used, materials needed at emergency and materials not needed and will be stored or completely will be closed out by picking. Red and white papers are used to make it significant. Team benefited from taken inventory of all material one by one. Red cards are for the ones that will be stored or transformed to another management or sent for recycling, white cards are for the others. All departments were walked around and each unit is provided to be passed to the red and white card system.



Second step regulation;

Machines and materials that limit movement in the area were determined, cables, pipes, iron sticks that are free and threatens safety were sorted out. Material flowchart was examined and in this direction a new settlement plan was offered for machine equipment. Borders were formed not to regulate the working areas of employees' each other by considering the risks of production. Within the rule of a place for each material and every material in its place, no material that needs to be found was left in the middle, everything is regulated according to the answer of the questions 'where', 'what', 'how many'. To clean the metal pipes, steel sticks from the area, by considering that hand shelf system that is attached to the wall is not safe as it is not ergonomic, it is decided to be packed by two handed shelf system installed on the ground. For small working tools a stable nailed table was asked. Needed materials were positioned suitable to reach in half minute in other words thirty seconds.



Third step cleaning;

As our management is doing both machining and chipless production, it is determined that this management needs more frequent cleaning and maintenance as the dirtiness affects work health a lot and to increase the working productivity. First of all the atmosphere and cleanness here was comforted. By

placing the wastes separately, it was tried to provide value. A person was appointed in charge of cleaning and maintenance for each machine. Daily supervision is said essential by 5S executives. A frame was formed for ventilation in particular hours, not to leave even a small material on the ground and not to drop oil and its derivatives on the ground. They were informed about difference of the products that may spoil on the ground and how each dangerous material will be cleaned.



Fourth step *standardization*;

This step is the interlude control for the previous three steps. It is the needed standardization, control and improvement to maintain the classification, regulation and cleaning and by this preventing the possible spaces in between. By this means, posters and illustrations that are positioned on particular places especially about work health and safety to attract. Meanwhile, chairs that employees are sitting for packaging are suggested that they are not ergonomic and not suitable for standards so they are suggested to be changed into revolving electrical comfortable chairs instead. For mentioning the importance of standardization one hour team activity was done but this was suggested to be done out of working hours.

Last step *Discipline*:

On this step some studies were done to provide sustainability and increase the motivation of the employees. First of them is to ask the satisfaction and the complaint levels from these touches in the name of proliferation of these 4 steps. Motivation was provided for sharing innovative ideas to continue sustainability. Supervision team presented the results to them. Periodical meetings were planned to present the suggestions and to provide discipline. Particularly in organizational communication not to cause conflict from the point of responsibility requirements and habits acquired within the 5S systematic, new acquirements were gained.

RESULTS

In lean organization every process that is unnecessary and not creating value evaluated as wasted and expressed as 'Muda'. According to Bayraktar (2007) waste accumulates in the management like cancer cells and managements that delay the treatment take their place in bankrupted company statistics. So the modern managements have to define and cure all kinds of negative dispositions that will cause lost such as unnecessary time, work force and finance.

As the management that we did application study wants to follow the competitive atmosphere of modern age, knows the importance of information process as well as producing goods, it started the studies about producing area and document archiving inside the 5S training immediately. After the fast spanning picking out activities employees primarily joined the regulation activities in their area. Management relaxed during the regulation step also was cleaned by the participation of top management and employees, maintenance and cleaning of equipments were done. In the name of settling the organization culture in the management following the malfunctions and to form a total point of view at work place cleaning and regulations in other words to standardize, it was followed for three weeks.

During this period, from the point of producing, no lost was experienced on the contrary, by 5S the processes flew faster, not a stressful atmosphere occurred in between employees and safer environment were observed. In the company sorting out and counting all materials and adopting the principle of place for each document, each material and everything is in its place the stress because of time losing as a result of document lost and work waiting were decreased at all.

For cell type production to take care the suggestion inside the company and U Type setting plan and moreover, ordered flow namely Heijunka technique were considered significant and needed requirements were done. After one month time as a result of interviews with managers it showed up that employees can communicate better with each other and with the management. Among the interview data it is expressed that employee satisfaction increased, health complains decreased, sensitive topics like complains about attention deficit almost decreased very low levels. In areas where particularly employees work by sitting, buying ergonomic revolving seat with wheels and back instead of stools in terms of supplying employees needs cause devotion on employees.

In the application management 5S study was evaluated primarily from the point of company later managers and finally on employees. Expected results were reached. By this way studies were started to synchronize the lean production application on the next step.

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FINANCIAL INFORMATION QUALITY ACROSS THE CAPITAL MARKETS POSITIONED AT DIFFERENT LEVELS OF DEVELOPMENT”

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ABSTRACT

On the surface, financial reporting only enters the calculations of many in terms of its technical functionality. A more rigorous exploration, however, helps to conceptualize it as an integral component of business operations, market dynamics, and the economy in general. Financial reporting embodies a deep utility as pertains to the creation of overall welfare as investors base their investment decisions on the reported financial information. This research project, by employing rigorous empirical tests, examines how the quality of provided financial information varies across the capital markets positioned at different levels of development. The findings will be of particular importance for those investors interested to allocate their financial resources at less developed capital markets where because of the data unavailability/unreliability and limited research capacity reasons they are unaware at what extent to rely on the reported financial information. Prior literature has revealed a positive link between the extent of capital market development and the quality of financial information. Financial reports, due to high demand on financial information, tend to be of higher quality at larger and more liquid capital markets. There is, however, no systematic knowledge whether this positive relation increases or decreases as we shift from more towards less developed capital markets and/or vice versa. This work aims to explore the uncharted territory.

WEALTH AND INCOME DISTRIBUTION FLUCTUATIONS IN TOURIST ECONOMY

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ABSTRACT

The purpose of this study is to examine existence of business fluctuations in a growth model with tourism by Zhang (2013). Zhang constructed an economic growth model of a small open country with tourism in a perfectly competitive economy. The economy consists of one service sector and one industrial sector. International tourists and domestic residents consume non-traded goods and services. The land is distributed between housing and supply of services. This paper generalizes Zhang's model by allowing all the time-independent parameters to be time-dependent. This study examines the relationship between growth, wealth and income distribution and tourism with different time-dependent exogenous shocks. We simulate the model to demonstrate existence of equilibrium points, motion of the dynamic system, and oscillations due to different exogenous shocks.

Keywords: tourism, fluctuations, growth, wealth accumulation, wealth and income distribution

INTRODUCTION

This purpose of this study is to identify business cycles and economic fluctuations due to different exogenous shocks. There are many studies on existence of business cycles (Zhang, 1991, 2005, 2006; Lorenz, 1993; Chiarella and Flaschel, 2000; Shone, 2002; Gandolfo, 2005; Puu, 2011). But there are only a few theoretical models which identify fluctuations due to dynamic interdependence between economic growth, economic structural change, wealth accumulation, tourism and trade. This study attempts to provide another contribution to the literature by identifying economic fluctuations in an open-economic growth model by Zhang (2013).

Tourism has grown very rapidly in recent years. Tourism goods such as monuments of national heritage, historical sites, beaches, and hot springs, are not-tradable. Tourism converts non-traded goods into tradable ones. Tourism accounts for 6 per cent of global exports overall and thirty per cent of global exports of services (Copeland, 2012). Tourism growth has an interdependent relation with economic growth. There are many studies on tourism in the literature of economics (e.g., Corden and Neary, 1982; Copeland, 1991; Sinclair and Stabler, 1997; Luzzi and Flückiger, 2003; Hazari and Sgro, 2004; Hazari and Lin, 2011; Zeng and Zhu, 2011). As observed by Chao *et al.* (2009), study of tourism has been largely limited to the static framework. We argue that economics still needs an analytical framework for properly dealing with issues related to tourism, income and wealth distribution and economic growth with microeconomic foundation. Zhang (2013) builds a dynamic model of tourism and economic structural change in a small-open economic growth framework. The study develops an economic growth model with tourism, basing on the two key models in the neoclassical growth theory and tourism economics within the context of growth theory of small open economies. The purpose of this study is to demonstrate business cycles in Zhang's model due to exogenous periodic shocks. The rest paper is organized as follows. Section 2 defines the basic model. Section 3 shows how we solve the dynamics and simulates the model. Section 4 examines effects of changes in some parameters on the economic system over time. Section 5 concludes the study. The appendix proves the main results in Section 3.

2 The growth model with tourism

This section is built on Zhang (2013) by allowing all the time-dependent parameters to be time-dependent. We consider a small-open economy that produces two goods: an internationally traded good (called industrial good) and a non-traded good (called services). Domestic households consume both goods, while foreign tourists consume only services. Tourists do not consume traded goods. Tourism converts the non-traded good into an exportable commodity. Our model is a combination of the basic features of the well-known three models, the Solow growth model, the Uzawa two-sector growth model, and the growth models with tourism. An open economy can import goods and services and borrow resources from the rest of the world or exports goods and lend resources abroad.

There is a single good, called industrial good, in the world economy and the price of the industrial good is unity. Capital depreciates at an exponential rate, $\delta_k(t)$, which is independent of the manner of use. We assume that the economy is too small to affect the world interest rate. The households hold wealth and land and receive income from wages, land rent, and interest payments of wealth. Land is only for residential and service use. Technologies of the production sectors are characterized of constant returns to scale. All markets are perfectly competitive and capital and labor are completely mobile between the two sectors. Capital is perfectly mobile in international market and we neglect possibility of emigration or/and immigration.

The population is classified into J groups, each group with exogenous population, $\bar{N}_j(t)$. Let $T_j(t)$ stand for the work time of a representative household of group j and $N(t)$ for the flow of labor services used at time t for production. We assume that labor is always fully employed. We have

$$N(t) = \sum_{j=1}^J h_j(t) T_j(t) \bar{N}_j(t), \quad (1)$$

where $h_j(t)$ are the levels of human capital of group j .

Industrial sector

The industrial sector uses capital and labor as inputs. We use subscript index, i and s , to denote respectively the industrial and service sectors. Let $K_j(t)$ and $N_j(t)$ stand for the capital stocks and labor force employed by sector j , $j = i, s$, at time t . We use $F_j(t)$ to represent the output level of sector j . The production function of the industrial sector is

$$F_i(t) = A_i(t) K_i^{\alpha_i(t)}(t) N_i^{\beta_i(t)}(t), \quad \alpha_i(t), \beta_i(t) > 0, \quad \alpha_i(t) + \beta_i(t) = 1, \quad (2)$$

where $A_i(t)$, $\alpha_i(t)$, and $\beta_i(t)$ are parameters. The rate of interest, $r^*(t)$, is determined in international market. The wage rate, $w(t)$, is determined in domestic market. Hence, for any individual firm, $r^*(t)$ and $w(t)$ are given at any point in time. The industrial sector chooses $K_i(t)$ and $N_i(t)$ to maximize profits. The marginal conditions are

$$r_\delta(t) = \alpha_i(t) A_i(t) k_i^{-\beta_i(t)}(t), \quad w(t) = \beta_i(t) A_i(t) k_i^{\alpha_i(t)}(t), \quad (3)$$

where $k_i(t) \equiv K_i(t)/N_i(t)$ and $r_\delta(t) \equiv r^*(t) + \delta_k(t)$. As $r^*(t)$ is fixed, from (3) we have

$$k_i(t) = \left(\frac{\alpha_i(t) A_i(t)}{r_\delta(t)} \right)^{1/\beta_i(t)}, \quad w(t) = \beta_i(t) A_i(t) k_i^{\alpha_i(t)}(t). \quad (4)$$

Hence, we can treat $k_i(t)$ and $w(t)$ as functions of $r^*(t)$ and $A_i(t)$.

Service sector

The service sector employs three inputs, capital $K_s(t)$, labor force $N_s(t)$, and land $L_s(t)$, to produce services. We specify the production function as

$$F_s(t) = A_s(t) K_s^{\alpha_s(t)}(t) N_s^{\beta_s(t)}(t) L_s^{\gamma_s(t)}(t), \quad \alpha_s(t), \beta_s(t), \gamma_s(t) > 0, \quad \alpha_s(t) + \beta_s(t) + \gamma_s(t) = 1, \quad (5)$$

where $A_s(t)$, $\alpha_s(t)$, $\beta_s(t)$, and $\gamma_s(t)$ are parameters. We use $p(t)$ and $R(t)$ to represent respectively the price of services and the land rent. We assume that the price and land rent are determined in markets. The marginal conditions are

$$\begin{aligned} r_\delta(t) &= \alpha_s(t) A_s(t) p(t) k_s^{\alpha_s(t)-1} l_s^{\gamma_s(t)}(t), & w(t) &= \beta_s(t) A_s(t) p(t) k_s^{\alpha_s(t)} l_s^{\gamma_s(t)}(t), \\ R(t) &= \gamma_s(t) A_s(t) p(t) k_s^{\alpha_s(t)} l_s^{\gamma_s(t)-1}(t), \end{aligned} \quad (6)$$

where

$$k_s(t) \equiv \frac{K_s(t)}{N_s(t)}, \quad l_s(t) \equiv \frac{L_s(t)}{N_s(t)}.$$

From (6) we imply

$$k_s(t) = \frac{\alpha_s(t) w(t)}{\beta_s(t) r_\delta(t)}. \quad (7)$$

Hence, we can treat $k_s(t)$ as a function of $r^*(t)$ and $A_s(t)$.

Full employment of capital and labor

The total capital stocks utilized by the small-open economy, $K(t)$, is distributed between the two sectors. Full employment of labor and capital implies

$$K_i(t) + K_s(t) = K(t), \quad N_i(t) + N_s(t) = N(t).$$

The above equations also imply

$$k_i N_i(t) + k_s N_s(t) = K(t), \quad N_i(t) + N_s(t) = N(t). \quad (8)$$

In (8), k_i and k_s , are uniquely determined by the rate of interest which is fixed in international market. Solve (8)

$$N_i(t) = (K(t) - k_s N(t)) k_0, \quad N_s(t) = (k_i N(t) - K(t)) k_0, \quad (9)$$

where $k_0 \equiv (k_i - k_s)^{-1}$.

Demand function of foreign tourists

We use $y_f(t)$ to denote for the disposable income of foreign countries. Following Schubert and Brida (2009), we use an iso-elastic tourism demand function as follows

$$D_T(t) = a(t) y_f^\phi(t) p^{-\varepsilon}(t), \quad (10)$$

where ϕ and ε are respectively the income and price elasticities of tourism demand. We consider $a(t)$ to be related to many conditions, such as natural attractiveness, infrastructures (airports and transportation systems) and social environment (like criminal rates, pollutants and congestions).

Behavior of domestic households

Let L and $R(t)$ respectively stand for the fixed land and land rent. The representative household obtains income from land ownership, wealth and wage. To decide income, we need to determine who owns the land and how the land rent is distributed. The total land rent income is $L(t)R(t)$. The land rent income per household $\bar{r}(t)$ is

$$\bar{r}(t) = \frac{L(t)R(t)}{\bar{N}(t)}, \quad (11)$$

where $\bar{N}(t)$ is the total population

$$\bar{N}(t) = \sum_{j=1}^J \bar{N}_j(t).$$

Households choose lot size, consumption levels of industrial goods and services, and save. This study models behavior of households with a approach proposed by Zhang (1993). The current income is

$$y_j(t) = r^*(t)\bar{k}_j(t) + h_j(t)w(t)T_j(t) + \bar{r}(t), \quad (12)$$

where $r^*(t)\bar{k}_j(t)$ is the interest income, $h_j(t)w(t)T_j(t)$ the wage income, and $\bar{r}(t)$ the land rent income. We consider that the disposable income consists of the current income and the value of the household's wealth, that is

$$\hat{y}_j(t) = y_j(t) + \bar{k}_j(t). \quad (13)$$

Let $T_{hj}(t)$ stand for the leisure time at time t and T_0 the (fixed) available time for work and leisure. The time is distributed between leisure and work

$$T_j(t) + T_{hj}(t) = T_0. \quad (14)$$

The household spends the disposable income on the lot size, consumption of services, consumption of industrial goods, and saving. The budget constraint is

$$R_j(t)l_j(t) + p(t)c_{sj}(t) + c_{ij}(t) + s_j(t) = \hat{y}_j(t). \quad (15)$$

This equation implies that the household's disposable income is entirely distributed between the consumption and saving. Inserting (14) and (13) in (15) implies

$$w_j T_{hj}(t) + R_j(t)l_j(t) + p(t)c_{sj}(t) + c_{ij}(t) + s_j(t) = \bar{y}_j(t), \quad (16)$$

in which $w_j(t) \equiv h_j(t)w(t)$ and

$$\bar{y}_j(t) \equiv (1 + r^*(t))\bar{k}_j(t) + w_j(t)T_0 + \bar{r}(t). \quad (17)$$

We assume that utility level, $U_j(t)$, of the household is dependent on $T_{hj}(t)$, $l_j(t)$, $c_{sj}(t)$, $c_{ij}(t)$ and $s_j(t)$ as follows

$$U_j(t) = \theta_j T_{hj}^{\sigma_{0j}(t)}(t) l_j^{\eta_{0j}(t)}(t) c_{sj}^{\gamma_{0j}(t)}(t) c_{ij}^{\xi_{0j}(t)}(t) s_j^{\lambda_{0j}(t)}, \quad \sigma_{0j}(t), \eta_{0j}(t), \gamma_{0j}(t), \xi_{0j}(t), \lambda_{0j}(t) > 0,$$

in which $\sigma_{0j}(t)$, $\eta_{0j}(t)$, $\gamma_{0j}(t)$, $\xi_{0j}(t)$, and $\lambda_{0j}(t)$ are a typical household's utility elasticity of leisure time, lot size, services, industrial goods, and saving. We call $\sigma_{0j}(t)$, $\eta_{0j}(t)$, $\gamma_{0j}(t)$, $\xi_{0j}(t)$, and $\lambda_{0j}(t)$ household j 's propensities to leisure time, to consume housing, to consume services, to consume industrial goods, and to hold wealth, respectively. Maximizing $U_j(t)$ subject to the budget constraint implies

$$\begin{aligned} T_{hj}(t) &= \frac{\sigma_j(t)\bar{y}_j(t)}{w_j(t)}, \quad l_j(t) = \frac{\eta_j(t)\bar{y}_j(t)}{R(t)}, \quad c_{sj}(t) = \frac{\gamma_j(t)\bar{y}_j(t)}{p(t)}, \quad c_{ij}(t) = \xi_j(t)\bar{y}_j(t), \\ s_j(t) &= \lambda_j(t)\bar{y}_j(t), \end{aligned} \quad (18)$$

where

$$\begin{aligned} \sigma_j(t) &\equiv \rho_j(t)\sigma_{0j}(t), \quad \gamma_j(t) \equiv \rho_j(t)\gamma_{0j}(t), \quad \xi_j(t) \equiv \rho_j(t)\xi_{0j}(t), \quad \lambda_j(t) \equiv \rho_j(t)\lambda_{0j}(t), \\ \rho_j(t) &\equiv \frac{1}{\sigma_{0j}(t) + \eta_{0j}(t) + \gamma_{0j}(t) + \xi_{0j}(t) + \lambda_{0j}(t)}. \end{aligned}$$

According to the definition of $s_j(t)$, the wealth accumulation of household j is

$$\dot{\bar{k}}_j(t) = s_j(t) - \bar{k}_j(t). \quad (19)$$

This equation implies that the change in wealth is the saving minus dissaving.

Full use of land and demand of and supply for services

Land is used for the residential use and service production

$$\sum_{j=1}^J l_j(t)\bar{N}_j(t) + L_s(t) = L. \quad (20)$$

The equilibrium condition for services is

$$\sum_{j=1}^J c_{sj}(t)\bar{N}_j(t) + D_T(t) = F_s(t). \quad (21)$$

The national wealth is equal to the sum of the wealth owned by all the households in the country

$$\sum_{j=1}^J \bar{k}_j(t)\bar{N}_j(t) = \bar{K}(t). \quad (22)$$

Trade balance

We use $E(t)$ to denote the balance of trade. We have

$$E(t) = r^*(t)(\bar{K}(t) - K(t)). \quad (23)$$

We have thus built the dynamic growth model with endogenous wealth, consumption, and tourism.

3 The Dynamics of the National Economy

This section examines dynamic properties of the model with tourism.

Lemma

The motion of the economic system with J types of households is governed the following J nonlinear differential equations

$$\begin{aligned} \dot{R}(t) &= \Omega_1(R(t), \{\bar{k}_j(t)\}, t), \\ \dot{\bar{k}}_j(t) &= \Omega_j(R(t), \{\bar{k}_j(t)\}, t), \quad j = 2, \dots, J, \end{aligned} \quad (24)$$

where Ω_j are functions of $R(t)$ and $\{\bar{k}_j(t)\} = (\bar{k}_2(t), \dots, \bar{k}_J(t))$ given in the appendix. We determined $k_i(t)$, $w(t)$, and $k_s(t)$ as functions of $r^*(t)$ and $A_i(t)$. All the other variables are given as functions of $R(t)$ and $\{\bar{k}_j(t)\}$ by the following procedure: $\bar{k}_1(t)$ by (A13) $\rightarrow \bar{y}(t)$ by (A4) $\rightarrow p(t)$ by (A10) $\rightarrow T_j(t)$ by (A15) $\rightarrow T_{ij}(t)$, $l_j(t)$, $c_{ij}(t)$, $c_{sj}(t)$, $s_j(t)$ by (18) $\rightarrow N(t)$ by (A16) $\rightarrow K(t)$ by (A12) $\rightarrow K_i(t)$ and $K_s(t)$ by (A1) $\rightarrow N_i(t)$ and $N_s(t)$ by (9) $\rightarrow D_T(t)$ by (10) $\rightarrow \bar{K}(t)$ by (22) $\rightarrow L_s(t)$ by (A2) $\rightarrow F_i(t)$ by (2) $\rightarrow F_s(t)$ by (5).

The lemma shows how to follow the motion of the economic system once we know the initial conditions of the system and the rate of interest in the global market. Before introducing fluctuations in the parameters, we assume the parameter values constant and specify the parameter values as follows

$$\begin{aligned} \bar{N}_1 &= 2, \quad \bar{N}_2 = 3, \quad \bar{N}_3 = 5, \quad h_1 = 3, \quad h_2 = 1, \quad h_3 = 0.5, \quad A_i = 1.5, \quad A_s = 1, \quad \alpha_i = 0.3, \quad \alpha_s = 0.3, \\ \beta_s &= 0.6, \quad r = 0.06, \quad T_0 = 1, \quad L = 10, \quad a = 1, \quad y_f = 4, \quad \phi = 1.8, \quad \varepsilon = 1.2, \quad \lambda_{01} = 0.8, \quad \xi_{01} = 0.15, \\ \gamma_{01} &= 0.06, \quad \eta_{01} = 0.08, \quad \sigma_{01} = 0.2, \quad \lambda_{02} = 0.7, \quad \xi_{02} = 0.15, \quad \gamma_{02} = 0.07, \quad \eta_{02} = 0.06, \\ \sigma_{02} &= 0.22, \quad \lambda_{03} = 0.65, \quad \xi_{03} = 0.18, \quad \gamma_{03} = 0.08, \quad \eta_{03} = 0.05, \quad \sigma_{03} = 0.25, \quad \delta_k = 0.05. \end{aligned} \quad (25)$$

We choose the initial conditions

$$R(0) = 0.6, \quad \bar{k}_2(0) = 3.5, \quad \bar{k}_3(0) = 2.1.$$

We plot the motion of the economic system in Figure 1. In Figure 1

$$Y(t) \equiv F_i(t) + p(t)F_s(t) + \sum_{j=1}^J l_j(t)\bar{N}_j,$$

stands for the national product. The rest of this section is based on Zhang (2013).

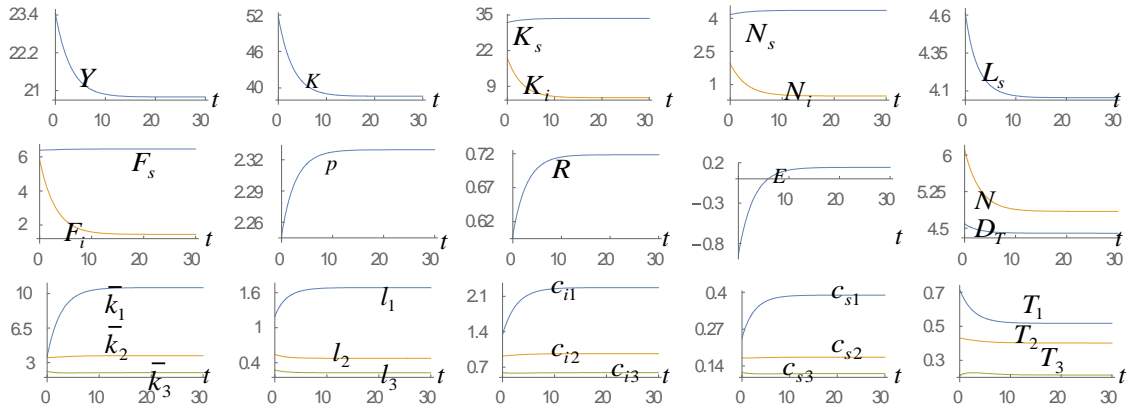


Figure 1. The Motion of the Economic System

Simulation identifies the following equilibrium values of the variables

$$\begin{aligned}
 &Y = 20.8, K = 38.63, \bar{K} = 42.18, N = 4.85, E = 0.14, D_T = 4.4, R = 0.72, p = 2.33, \\
 &F_s = 6.47, F_i = 1.45, N_i = 0.49, N_s = 4.36, K_i = 4.84, K_s = 33.78, L_s = 4.06, \bar{k}_1 = 10.6, \\
 &\bar{k}_2 = 3.7, \bar{k}_3 = 1.98, c_{i1} = 0.98, c_{i2} = 0.42, c_{i3} = 0.25, c_{s1} = 0.39, c_{s2} = 0.17, c_{s3} = 0.11, \\
 &l_1 = 1.69, l_2 = 0.48, l_3 = 0.23, T_1 = 0.52, T_2 = 0.4, T_3 = 0.21.
 \end{aligned}
 \tag{27}$$

It is straightforward to calculate the three eigenvalues are

$$\{-0.45, -0.41, -0.37\}.$$

The equilibrium point is stable. The existence of a unique stable equilibrium point is important as we can effectively conduct comparative dynamic analysis.

4 Comparative Dynamic Analysis

The previous section shows how the system moves over time. We now study how changes in some parameters may alternative the paths of the economic growth. As we have shown how to simulate the motion of the system, it is straightforward to make comparative dynamic analysis. First, we examine what will happen to the dynamics of the economic system if the rate of interest is changed as follows: $r^* = 0.06 \Rightarrow 0.055$, where “ \Rightarrow ” stands for “being changed to”. It should be noted that as we give the procedure to simulate the differential equations, we can also carry out comparative dynamic analysis by assuming that the rate of interest varies in time, $r^*(t)$. This study uses the variable, $\bar{\Delta}x(t)$, to represent the change rate of the variable, $x(t)$, in percentage due to changes in the parameter value. As the cost of capital in global markets is increased, the capital intensities of the two sectors and wage rates of the three groups are affected as follows

Zhang (2013) shows how the system reacts to a once-for-all change in parameters. This section shows how the system reacts to time-dependent changes in parameters. For convenience we consider the parameters in (20) as the long-term average values. We make small perturbations around these long-term values. First, we introduce a variable $\bar{\Delta}x(t)$ to stand for the change of the variable $x(t)$ due to changes in the parameter value.

Fluctuations in group 1’s human capital

Oscillations in group 1’s human capital are specified in the following way

$$h_1(t) = 3 + 0.2 \sin(t).$$

The effects on the variables are plotted in Figure 2.

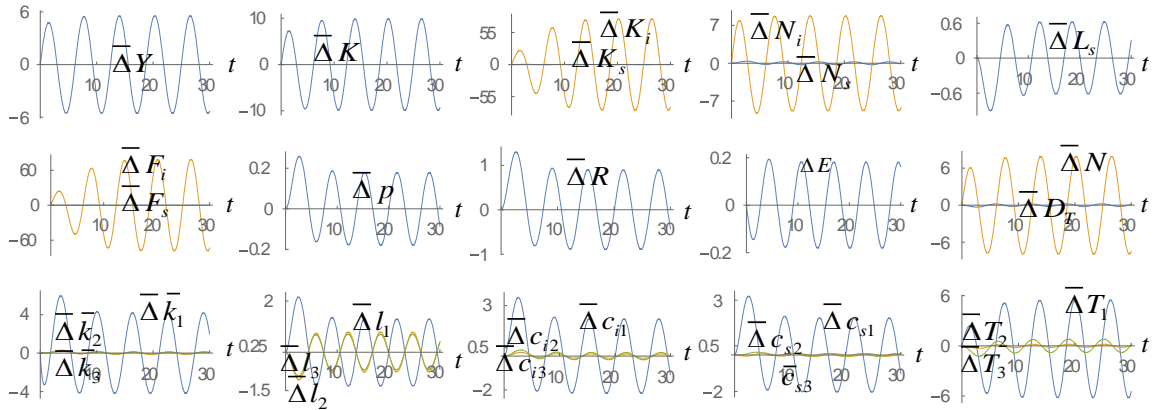


Figure 2. Fluctuations in Group 1's Human Capital

We have

$$\bar{\Delta}k_i = \bar{\Delta}k_s = \bar{\Delta}w_2 = \bar{\Delta}w_3 = 0.$$

The impact on group 1's wage rate is given in Figure 3.

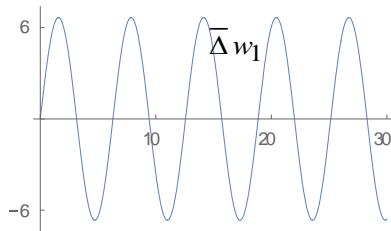


Figure 3. Periodic Changes in Group 1's Wage Rate

Fluctuations in group 3's population

Oscillations in group 1's human capital are specified in the following way

$$\bar{N}_3(t) = 5 + 0.5\sin(t).$$

The effects on the variables are plotted in Figure 4.

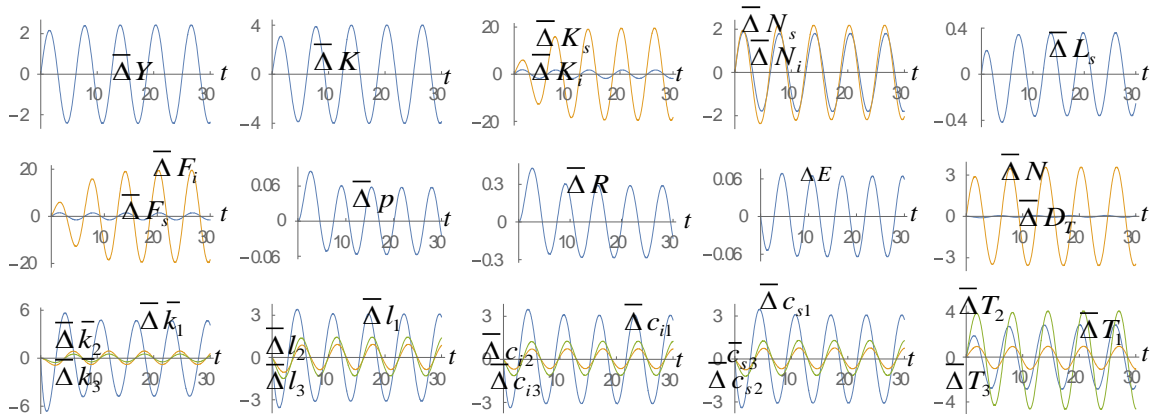


Figure 4. Fluctuations in Group 3's Population

Fluctuations in foreign countries' income

Oscillations in foreign countries' income are specified in the following way

$$y_f(t) = 4 + 0.2 \sin(t).$$

The effects on the variables are plotted in Figure 5.

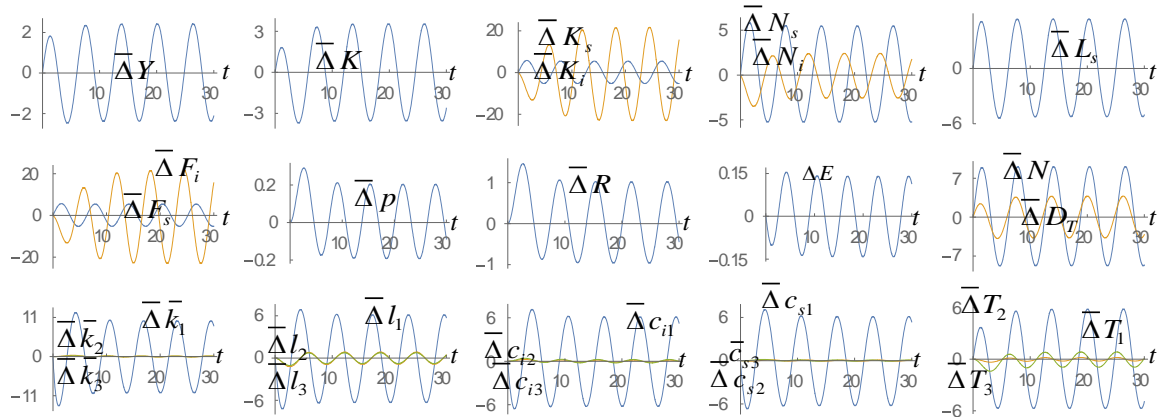


Figure 5. Fluctuations in Foreign Countries' Income

5 Conclusions

This paper showed economic oscillations due to periodic changes in some parameters in the economic model proposed by Zhang (2013). Zhang constructed an economic growth model of a small open country with tourism in a perfectly competitive economy. The economy consists of one service sector and one industrial sector. International tourists and domestic residents consume non-traded goods and services. The land is distributed between housing and supply of services. This paper generalized Zhang's model by allowing all the time-independent parameters to be time-dependent. This study examines the relationship between growth, wealth and income distribution and tourism with different time-dependent exogenous shocks. We simulated the model to demonstrate existence of equilibrium points, motion of the dynamic system, and oscillations due to different exogenous shocks.

Appendix: Proving the Lemma

We determined k_i , w , and k_s as functions of r^* and A_i . From $K_j = k_j N_j$ and (8), we have

$$K_i = (K - k_s N)k_0 k_i, \quad K_s = (k_i N - K)k_0 k_s, \tag{A1}$$

where we omit time variable in expressions. From (5), we solve

$$R = \frac{w_s N_s}{L_s}, \tag{A2}$$

where we also use $l_s = L_s / N_s$ and $w_s \equiv w \gamma_s / \beta_s$. Inserting (A2) in (20) implies

$$\sum_{j=1}^J l_j \bar{N}_j + \frac{w_s N_s}{R} = L. \tag{A3}$$

From the definition of \bar{y}_j , we get

$$\bar{y}_j = (1 + r^*)\bar{k}_j + w_j T_0 + \frac{RL}{N}. \quad (\text{A4})$$

Equation (A4) and $l_j = \eta_j \bar{y}_j / R$ in (13) implies

$$l_j = \frac{(1 + r^*)\eta_j \bar{k}_j + w_j \eta_j T_0}{R} + \frac{\eta_j L}{N}. \quad (\text{A5})$$

Inserting (A5) in (A3) implies

$$\sum_{j=1}^J \bar{n}_j \bar{k}_j + w_s N_s = \eta_0 R - \bar{\eta}_0, \quad (\text{A6})$$

where

$$\bar{n}_j \equiv (1 + r^*)\eta_j \bar{N}_j, \quad \bar{\eta}_0 \equiv T_0 \sum_{j=1}^J w_j \eta_j \bar{N}_j, \quad \eta_0 \equiv \left(1 - \frac{1}{N} \sum_{j=1}^J \eta_j \bar{N}_j\right) L.$$

From $r_\delta = \alpha_s p F_s / K_s$ and (16) we have

$$\sum_{j=1}^J c_{sj} \bar{N}_j + D_T = \frac{r_\delta K_s}{\alpha_s p}. \quad (\text{A7})$$

Inserting $c_{sj} = \gamma_j \bar{y}_j / p$ in (A7) implies

$$\sum_{j=1}^J \gamma_j \bar{y}_j \bar{N}_j + p D_T = \frac{r_\delta K_s}{\alpha_s}. \quad (\text{A8})$$

Insert (A4) into (A8)

$$\sum_{j=1}^J \bar{\gamma}_j \bar{k}_j + \bar{\gamma}_0 + a y_f^\phi p^{1-\varepsilon} = \frac{r_\delta K_s}{\alpha_s}, \quad (\text{A9})$$

where we also use (10) and

$$\bar{\gamma}_j \equiv (1 + r^*)\gamma_j \bar{N}_j, \quad \bar{\gamma}_0 \equiv \sum_{j=1}^J \left(w_j \gamma_j \bar{N}_j T_0 + \frac{RL}{N} \gamma_j \bar{N}_j \right).$$

We assume $\varepsilon \neq 1$. It is straightforward to check that we can easily analyze the case of $\varepsilon = 1$. From (6) we have

$$p = p_0 R^{\gamma_s}, \quad (\text{A10})$$

where we also use $l_s = w_s / R$ from (A2) and

$$p_0 \equiv \frac{w}{\beta_s A_s k_s^{\alpha_s} w_s^{\gamma_s}}.$$

Insert (A10) in (A9)

$$\sum_{j=1}^J \bar{\gamma}_j \bar{k}_j + \bar{\gamma}_0 + a p_0^{1-\varepsilon} y_f^\phi R^{\gamma_s(1-\varepsilon)} = \frac{r_\delta K_s}{\alpha_s}. \tag{A11}$$

Substitute $N_s = (k_i N - K)k_0$ from (9) into (A6) and $K_s = (k_i N - K)k_0 k_s$ from (A1) into (A11) respectively yields

$$\begin{aligned} \sum_{j=1}^J \bar{n}_j \bar{k}_j + (k_i N - K)w_s k_0 &= \eta_0 R - \bar{\eta}_0, \\ \sum_{j=1}^J \bar{\gamma}_j \bar{k}_j + \bar{\gamma}_0 + a p_0^{1-\varepsilon} y_f^\phi R^{\gamma_s(1-\varepsilon)} &= (k_i N - K)\bar{k}_0, \end{aligned} \tag{A12}$$

where $\bar{k}_0 \equiv r_\delta k_0 k_s / \alpha_s$. From (A12), we solve

$$\bar{k}_1 = \Omega(R, \{\bar{k}_j\}), \tag{A13}$$

where

$$\Omega(R, \{\bar{k}_j\}) \equiv \frac{(\eta_0 R - \bar{\eta}_0)\bar{k}_0 - w_s \bar{\gamma}_0 k_0 - k_0 a w_s p_0^{1-\varepsilon} y_f^\phi R^{\gamma_s(1-\varepsilon)} - \sum_{j=2}^J (\bar{k}_0 \bar{n}_j + k_0 w_s \bar{\gamma}_j)\bar{k}_j}{\bar{k}_0 \bar{n}_1 + k_0 w_s \bar{\gamma}_1}.$$

From (18), we have

$$T_j = T_0 - \frac{\sigma_j \bar{y}_j}{w_j}. \tag{A14}$$

Inserting (A4) in (A14) implies

$$T_j = (1 - \sigma_j)T_0 - (1 + r^*) \frac{\sigma_j}{w_j} \bar{k}_j - \frac{\sigma_j L}{w_j \bar{N}} R. \tag{A15}$$

From (1) and (A15), we have

$$N = \tilde{N} - \sum_{j=1}^J \bar{\sigma}_j \bar{k}_j - \tilde{\sigma} R, \tag{A16}$$

where

$$\tilde{N} \equiv T_0 \sum_{j=1}^J (1 - \sigma_j) h_j \bar{N}_j, \quad \bar{\sigma}_j = (1 + r^*) \frac{h_j \bar{N}_j \sigma_j}{w_j}, \quad \tilde{\sigma} \equiv \frac{L}{\bar{N}} \sum_{j=1}^J \frac{\sigma_j h_j \bar{N}_j}{w_j}.$$

The following procedure shows how to find all the variables as functions of R and $\{\bar{k}_j\}$: \bar{k}_1 by (A13) $\rightarrow \bar{y}$ by (A4) $\rightarrow p$ by (A10) $\rightarrow T_j$ by (A15) $\rightarrow T_{hj}, l_j, c_{ij}, c_{sj}, s_j$ by (18) $\rightarrow N$ by (A16) $\rightarrow K$ by (A12) $\rightarrow K_i$ and K_s by (A1) $\rightarrow N_i$ and N_s by (9) $\rightarrow D_T$ by (10) $\rightarrow \bar{K}(t)$ by (22) $\rightarrow L_s$ by (A2) $\rightarrow F_i$ by (2) $\rightarrow F_s$ by (5).

From this procedure and (19), we have

$$\dot{\bar{k}}_1 = \Omega_0(R, \{\bar{k}_j\}) \equiv s_1 - \bar{k}_1, \quad (\text{A17})$$

$$\dot{\bar{k}}_j = \Omega_j(R, \{\bar{k}_j\}) \equiv s_j - \bar{k}_j, \quad j = 2, \dots, J. \quad (\text{A18})$$

Taking derivatives of (A13) with respect to time implies

$$\dot{\bar{k}}_1 = \frac{\partial \Omega}{\partial t} + \frac{\partial \Omega}{\partial R} \mathcal{R} + \sum_{j=2}^J \Omega_j \frac{\partial \Omega}{\partial \bar{k}_j}, \quad (\text{A19})$$

where we use (A18). We do not provide the expression of the partial derivatives because they are tedious. Equating the right-hand sides of (A17) and (A19), we get

$$\mathcal{R} = \Omega_1(R, \{\bar{k}_j\}) \equiv \left(\Omega_0 - \frac{\partial \Omega}{\partial t} - \sum_{j=2}^J \Omega_j \frac{\partial \Omega}{\partial \bar{k}_j} \right) \left(\frac{\partial \Omega}{\partial R} \right)^{-1}. \quad (\text{A20})$$

We thus proved Lemma 1.

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STUDENTS' PERCEPTION ON FEMALE TEACHERS

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ABSTRACT

As one of the pedagogic activities, teacher plays important roles to make students learn directly from their teachers in order to develop their cognition, affection, and psychomotor. In this case, there are some competencies have to be performed by all teachers, namely pedagogic, professional, personal, and social competencies as the requirements to be professional teachers. The facts show that many female teachers perform teacher competencies better than male teachers because of the meekness and good appearance. This study was conducted to know the students' perception on male teachers in English Education Department of Unismuh Makassar. The data were collected through interview, and analyzed descriptively in qualitative way. The findings indicated that the students as the respondents mostly like female teachers because they perform almost all teacher competencies better than male teachers. Therefore, it was concluded that female teachers are better than male teachers in English Education Department of Unismuh Makassar.

Keywords: male and female teachers, pedagogic, professional, personal, and social competencies, performance, appearance

HEDGING IN DOCTOR-PATIENT COMMUNICATION: A PRAGMATIC STUDY

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ABSTRACT

Social relations are (partly) achieved through the existence of institutionalized roles with socially prescribed patterns of behaviour. Doctor-patient communication can present particular challenges to these relations. Since illness is regarded as a form of social deviance as it impairs normal role performance, patients often look for clues to assess the situation. One of such clues is soaking their speech with particular types of hedges. Doctors also use hedges of particular types. To use hedges properly can strengthen expressive force and communicative results, which can improve interpersonal relationship and thus make communication go more smoothly. The current paper analyses the type and frequencies of hedges employed in 15 conversations between doctors and patients. The overarching goal of this investigation is to present a general situation of hedges used in doctor-patient communication and explore their pragmatic functions. The results obtained lead to the conclusions that the two interlocutors use different types of hedges to mitigate the statements. However, it is found that doctors employ more hedging devices. By maintaining more hedges mainly of the adaptor type, doctors can provide positive feedback to the patient and facilitate his or her participation.

Key words: *doctor-patient communication, hedging, hedges, approximators, shields*

INTRODUCTION

1. What is Hedging?

Hedging is a rhetorical strategy in which a mitigating word (or sound) is used to soften the force of a speaker's utterance in order to make it more acceptable to the interlocutor (Nikula, 1997: 188). By including a particular term, choosing a particular structure, or imposing a specific prosodic form on the utterance, the speaker signals a lack of commitment to either the truth value of an accompanying proposition or a desire to avoid commitment to categorical assertions (Hyland, 1998: 1). By means of hedges, speakers can avoid saying something definite, the result is that they keep their option open. For example, when one says:

I think he is not very clear. .1

The expression *I think* suggests that the speaker avoids expressing the core of the sentence as what the person might be. The speaker in this case uses a hedging expression as a way of saying that the utterance

is approximate and that it may not be exactly correct. In other words, using such a device makes the utterance sound less authoritative (Brown and Levinson, 1987:116).

What is apparent in the hedgy expressions is the fact that they may be realized by different categories such as auxiliaries (*can, could, may, might, etc.*), full verbs (*suggest, think, appear, etc.*), various adjectives and adverbs (*possible, probable, approximately, generally, etc.*) nouns (*suggestion, possibility, etc.*), introductory phrases (*it is our view that, we feel that., etc.*), passive voice (*It was assumed....*) and use of questions (*did you know that..?*) and tense (*The model implies...*) (Hyland, 1998). Hedging has typically been linked to modality, mostly to epistemic type of modality. Epistemic modality can be expressed in a number of ways. Lyons (1977) defined epistemic modality as "any utterance in which the speaker explicitly qualifies his commitment to the truth of the proposition expressed by the sentence he utters, whether this qualification is made explicit in the verbal component...or in the prosodic or paralinguistic component"(Lyons,1977,797).Despite such relations between hedges and specific linguistic categories, one should not deny the fact that meanings do not reside in the items themselves but are assigned to utterances which contain them; therefore, there are no linguistic items that are inherently hedgy. Any expression can acquire this quality depending on the communicative context or the co-text (Markkanen and Schroder,1997:6).This means that being context-bound (in that individual words, phrases and constructions cannot serve a hedging function unless contextualized),the concept of hedging is vague in itself, and the number of hedge devices is practically infinite in that it is neither easy to limit them within certain boundaries nor provide clear-cut lists of the hedging expressions. As a consequence, scholars vary in their taxonomies, classifications and views towards hedging and hedge devices (Nikula,1997: 190). In medical communication, the interlocutors usually make claims and deny claims of other participants so they need devices to make their utterances sound more acceptable. Hedging is one of the best devices that can help both doctors and patients to make their utterances flow smoothly and avoid any inconsistency between the two participants.

2. Functions of Hedging

Hedging must be considered an intentional action in that the speaker chooses a linguistic device over and above the propositional content of the message which will affect the interpretation of the utterance, either by modifying the content of the utterance or its force. Scholars differ in their views as far as hedging's functions. Some maintain that hedges serve *semantic* functions (Lakoff 1972), Lakoff's main concern with hedges is their semantic characterization and how they may realize two seemingly contradictory functions, namely these of making things fuzzier or less fuzzy. According to this function, hedging has been looked at as a strategy of "saying less than one means" (Markkanen and Schroder,1997:48), the functions of such a strategy is to modify the writer's/speaker's responsibility for the truthfulness of the utterance, and to modify the definiteness of an utterance or its information. Hinkel maintained that hedges represent the use of

linguistic devices to decrease the writer's responsibility for the extent of the truth value of propositions/claims, to show hesitation or uncertainty so as to display a lack of commitment to the truth of what people say (Hinkel, 1997: 168).

Others scholars (Prince et al 1982; Zuck and Zuck 1985; Myers 1989; Markkanen and Schroder 1997) focused on the *pragmatic* function of hedging. Hedging is to be analyzed with an eye on the communication situation, particularly its effect on the relationship between sender and addressee. According to this function, hedging serves as an alternative softener and politeness strategy that is mainly used to reduce the force and the effect of utterances in order to make the hearer accept what has been said in a conversation or a written text (Brown and Levinson, 1987:116). In other words, this function emphasizes the interpersonal aspects of hedging, which can be seen as a politeness strategy whereby speakers tone down their statements in order to reduce the risk of opposition and minimize the threat to face that lurks behind every act of communication (Saglar-Meyers, 2000:3). In medical interaction, hedging is interpreted as one of the negative politeness techniques. It is "a politeness strategy when it marks a claim, or any other statement, as being provisional, pending acceptance in the literature, acceptance by the community, in other words, acceptance by the readers" (Myers, 1989:12).

While research on hedging has progressed and expanded enormously over the past four decades, focusing on the *cognitive* aspects in which interpretation of hedges go beyond the information given and use principles of categorization (Channell, 1994: 199), and *social* aspects of hedging showing how hedging is socially constructed and thus a learned linguistic resource which makes linguistic behaviour more socially acceptable in accordance with certain social norms established by a given culture of a given moment (Salager-Meyer, 1994, 180), it is still apparent that the semantic and pragmatic categories formed the basis of many discussions on hedging. This is because they throw more light on the theoretical significance of studying fuzzy expressions like hedges in natural languages using formal logic. "Without hedging, the world is purely propositional, a rigid (and rather dull) place where things either are the case or are not. With a hedging system, language is rendered more flexible and the world more subtle" (Skelton, 1988: 38).

3. Classification of Hedging

Different classifications have been made for the concept 'hedging'. The concept itself originates in logic and semantics, and has lately been developed further in pragmatics and discourse analysis so far that it extends to areas like meta-communication and to communication strategies like mitigation and politeness. The use of the concept as a linguistic term goes back to the early 1970s, when George Lakoff popularized the concept in his (1972) article *Hedges: A Study in Meaning Criteria and the Logic of Fuzzy Concepts*. Lakoff used the term to refer to words that "make things fuzzier or less fuzzy" (Lakoff, 1972:195). He was not interested in the communicative value of the use of hedges but was concerned with the logical

properties of words and phrases like *rather*, *largely*, *in a manner of speaking*, *very* and so on. In short, his focus is mainly on the semantic aspects of hedges that serve a function of fuzziness. He was primarily interested in hedges, not hedging¹ (Markkanen and Schroder, 1997: 4).

Lakoff's pioneering ideas have been further developed by a number of linguists, who have generally adopted a broader view on hedging, considering it not only a semantic phenomenon but also a pragmatic one (Mauranen, 2004: 173) (see above). In other words, hedges are no longer seen as conveying only inexactitude (e.g. a rose is *kind of* a flower) but contributing to pragmatic strategies, such as politeness or mitigation, as well. Thus, whereas Lakoff considered only *propositional hedging*, Fraser, for example, touched on *performative verb hedging*. Fraser (1975) introduced this type of hedging where certain performative verbs such as *apologize*, *promise*, and *request* when preceded by specific modals such as *can*, *must*, and *should*, as in

2-a) I *should* apologize for running over your cat.

b) I *can* promise that I will never again smoke grass.

c) I *must* request that you sit down.

result in an attenuated illocutionary force of the speech act designated by the verb. In these examples, the modals were considered as hedges. Example (2-a) is still an apology, just one less strong than if *should* were not present.

Brown and Levinson (1987) treated the hedging of the illocutionary force of a speech act in great detail in their efforts to account for politeness phenomena. This type of hedging has been referred to as *Speech Act Hedging* (Fraser, 1975). In their model, Brown and Levinson considered hedges as devices that minimize the threat to face as hedged utterances leave room for the opinion of the audience. By the use of hedging, the sender protects his negative face against critical comments. Resorting to such devices is "a primary and fundamental method of disarming routine interactional threats" (Brown and Levinson, 1987: 146). Other scholars dealt with hedges in different ways. Myers (1989) studied politeness in written academic discourse. He discusses hedges as positive or negative politeness strategies. Hedging may also be used to have a positive politeness dimension. The interpretation of hedging can be ambiguous in certain communication situations. According to Swales (1990) hedges are rhetorical devices used to protect one's reputation as a scientist. Hyland (1998) considers hedging as a communicative strategy that can decrease the force of statements. These definitions go along with what Holmes (1995) suggests. She identifies hedges as weakeners, softeners, and downtoners used in utterances and then function to express uncertainty in such sentences. Salager-Meyer (1994) agrees pretty much with this notion when she argues that hedging devices are used to add a probability degree to mitigate propositional information in the text. She considers hedges 'as a resource to express scientific uncertainty, skepticism and doubt' (Salager-Meyer, 1994, 151).

These definitions vary in use, discourse and functions and show that there is no clear-cut agreement on categories of hedges either in their forms or functions. Prince et al (1982) conducted a study on medical discourse to examine the speech of physicians and what hedge categories they use. Since this model has been adopted in the current study, it has been given separate sections as follows:

3.1 Prince et al's Model

As has been mentioned above, Lakoff's main concern with hedges is their job "to make things fuzzier" (1972:195). Prince et al. (1982) noted that this 'fuzziness' could be manifested in two ways: as fuzziness within the propositional content that affects the truth condition of the proposition conveyed, or as fuzziness in the relationship between the propositional content and the speaker, that is, the speaker's commitment to the truth of the proposition. To illustrate this, Price et al (1982:4) gave the following example:

3-a) His feet were blue

b) His feet were *a sort of* blue

c) *I think* his feet were blue

Sentence (3-a) is a standard situation that includes no hedges and conveys the proposition "his feet were blue". Sentence (3-b) conveys a different proposition through the use of "*sort of*" as a hedge that affects the propositional content of the sentence (rather than the speaker's commitment). Prince and his colleagues labeled such types of hedges as Approximators. In the last sentence (3-c), the same proposition of sentence (3-a) is being conveyed (that is, his feet were blue). The hedge "*I think*" does not affect the propositional content but merely implicates that the speaker is less than fully committed, or committed in some marked way, to the truth of the proposition. Prince and his colleagues labeled such types of hedges as Shields (ibid).

Approximators are hedges that operate on the propositional content proper and contribute to the interpretation by indicating some markedness, that is, non-prototype, with respect to class membership of a particular item. That is, in the unmarked (unhedged) case, certain terms indicate prototypicality. The use of hedges serves to classify a certain item with respect to these (prototypical) terms. Approximators such as *about, around, approximately, sort of, kind of* and *basically* can have the effect of withholding commitment to a proposition. They achieve this by inserting vagueness into the substantive proposition itself. According to Prince et al (1982), approximators have two subclasses which are **Adaptors** and **Rounders**. Both of these sub-classes occur when the speaker is attempting to correlate an actual situation with some prototypical, goal-relevant situation, where the hedging indicates that actual situation is close to but not exactly the expression modified. In other words, a certain term indicates the prototypical situation, while the hedge chosen indicates that the actual situation is close to but not identical with the prototypical situation. **Adaptor** hedges relate to class membership. They modify a term to suit a non-prototypical situation, for example, *somewhat, sort of, almost describable as, some, a little bit*, etc. Some examples are:

4-He has a *somewhat* low interior larynx.

5- She noticed that he was a *little bit* blue.

Rounders convey a range, where the term is typical. That is, they indicate that a term is not exactly precise, for example, *about*, *approximately*, *something around*, etc. Examples of rounders in sentences are like:

6-The taxi will be here in *about* ten minutes.

7- His weight was *approximately* 3.2 kilograms.

8-The baby's blood pressure was something *between* forty and fifty.

Shield hedges are the second type of Hedges in Prince et al's (1982) classification. Such types of hedges change the relationship between propositional content and the speaker by implicating a level of uncertainty with respect to the speaker's commitment. They affect "the pragmatics by inducing implicatures conveying markedness with respect to the speaker commitment" (Prince et al,1982:86). One of the functions of shield-hedges is to protect the speaker from accusation of being committed to a false proposition (Channell,1994). Here, again, there are two subclasses: **Plausibility Shields** and **Attribution Shields**. The former are expressions that relate doubt. They indicate different degree of uncertainty on part of the speaker, such as *I think, I take it, probably, as far as I can tell, right now, I have to believe, I don't see that*, etc. These hedges stand outside a substantive proposition and point to something less than complete commitment to it. Examples are:

9- *Maybe* we should call a taxi

10- *I think* we can just slow him down to a little over maintenance.

11-*As far as I can tell*, you don't have anything to lose by taking that path.

Prince et al point out that whereas the unhedged versions imply that the speaker has knowledge via observations and/or logical reasoning, statements marked by a plausibility shield imply that the speaker is making the assertion based on plausible reasons.

Attribution shields, on the other hand, are expressions that attribute the degree of uncertainty toward a proposition to another party such as *according to her estimates, presumably, at least to X's knowledge, so and so says that*.etc., which attribute the responsibility of the message to someone other than the speaker.

For example:

12- *John says* you can't divide 739 by 9.

13-He was not very ill, *according to her estimates*.

14- There was no reason to worry, *as far as anyone knew*.

The reason behind adopting such a model in the current study is that its two categories *approximators* and *shields* deal with the two aspects of semantics and pragmatics. The former presents a semantic aspect of

utterances, while the latter presents a pragmatic aspect. Hence a better understanding will be gained when investigating doctor-patient communication as far as how they use hedge devices and for what reasons.

METHODOLOGY

4.1 Method of Analysis

The current study analyses 15 conversations between doctors and their patients. Ten conversations have been selected from Platt's (1995) *Conversation Repair* which is a source book that introduces 53 conversations as case studies in doctor-patient communication. The other five conversations have been chosen from a net site which is www.worth1000.com/contests/doctor-patient. Both sources are found reliable since they introduced real conversations and they vary in turns between doctors and patients (i.e., the turns between the participants are of various topics and consultations about different diseases). The study is descriptive in the sense that it discusses the hedging devices used between doctors and patients so as to investigate who uses what hedging devices and for what purposes. The method of investigation involves counting the devices in each participant's turn so as to find out the type and frequency of use for such devices. The investigation is based on Price et al's (1982) approach to the analysis of hedging devices. The turns in the dialogues were counted manually, and then separated for each participant to examine them as far as their numbers (for each participant) as well as what characterization each (turn) embodies in using the hedging devices. Each device has been put under its type then counted as a total usage. The average is calculated to see the frequent type among such devices

4.2 Data Analysis

Table (1) and (2) in the appendix show doctors' and patients' use of hedging respectively. Detecting hedges in doctors' speech shows that the most frequent type is that of adaptors. Although having less power than doctors in the consultation, patients can nevertheless influence the interaction by their willingness or otherwise claims. Unexpectedly, the analysis suggests that patients use adaptors in as much as the same way as doctors, although less in numbers but still the most frequent type within their speech.

Since rounders are considered as measurement devices, they prove to be the least in number in both doctors' and patients' speeches. They are used in a statement to limit the degree of a certain subject. For example, in conversation 3, the patient says: *I paid approximately \$1000 to get rid of this disease*. The speaker here does not give the exact price. He/she tries to make the statement not too far from the given fact, bearing in mind that the hearer will understand the meaning the speaker wishes to deliver.

Plausibility shields are also used in doctors' speech as tools that refer to the speaker's speculation upon something. They include the first pronoun (singular and plural) to express the speaker's willingness to take responsibility for an alternative idea to be a reference. For example: in most of the conversations, the

doctors appeal to '*I think.....*' utterances so as to avoid imposing his/ her thought on the hearer. Thus, "*I think*" is used here to imply a reference to the utterance. Patients also use these devices mostly in the negative form (*I don't know, think, suppose.....*) which may indicate more hesitation and inconsistency in their speech.

Attribution shields serve the same function of speculating. The difference is that they include a third person structure, for example, in patients' conversations, one may find (*my chiropractor, nutritionist, sister says, suggests.....*) so as to avoid personal involvement and mitigates the responsibility of uttering a certain statement to a third party.

4.3 Results and Discussion

Based on the analysis above, the survey finds that doctors applied a large number of hedges during their communication with patients. According to the selected 15 conversations, the frequency of hedges in all texts is 295. Adaptors are considered a distinctive feature in doctor-patient communication. There are 154 occurrences which constitute 52.20% of all types of hedges. Adaptors are commonly used by doctors who reveal the degree of truth of the original proposition. By using adaptors, doctors can express the degree of correctness well in order to be more polite and less arbitrary. The general purpose of using such a device is to imply that an utterance or a specific word should not be understood in its literal meaning in the sense that it is only an approximation of some sort. Since doctors have to be careful in their speech with patients, they resort to such devices as a means to make their relationship with the content of the utterance fuzzier so that patients will not take the utterances as being for granted. Such tools can be seen as aiming at softening the resultant acts and thus making it more acceptable to the addressee. Plausibility shields appeared 70 times, which represents 23.72%. These devices are used to express speaker's doubtful attitude or uncertainty of the truth value of propositions. Attribution shields appeared 58 times, which accounts for 19.66%. When doctors have the complex communicative task of breaking bad news to a patient, they try to soften the force of their utterances in order to make these more acceptable to their patients. Thus, doctors frequently resort to the use of shields to "contain the scene". By using shields, doctors attempt to be both cautious in making knowledge claims and interactive in building trust relationships with their patients. Such hedging can be viewed as a *negative politeness* feature as leaving room for the patients' opinions at the same time fending off being taken for granted. Rounders have the frequency of 13 which constitutes 4.40%. Rounders refer to those fuzzy languages which can show the variation range. By using them, doctors can be more objective and patients can be more free.

Although patients almost always want as much as accurate and precise information as possible, doctors seem to be careful in their choices. The study suggests that doctors develop a particular consulting style and tend to be the most flexible interlocutor, showing the greatest ability to respond to differences in patients' needs or the circumstances of the consultation. Hedges enabled the doctors to express propositions with greater accuracy in areas often characterized by reformulation and reinterpretation. Such devices

helped them to state tentative scientific claims with appropriate caution. The hedging devices were found important and considerable as they contributed to the development of the doctor-patient relationship, addressing the need for deference and cooperation in gaining patients' approval of the doctors' claims. Patients, on the other hand, used hedges as a means of compliance and hesitation.

5. Conclusions

There has also been a growing interest lately in hedging and the motivation for its use in scientific communication. The study of hedges has drawn much attention from researchers. Based on the theory of hedges and its pragmatic functions, this paper analyzed hedging devices used in doctor-patient communication. What is worth noticing is the frequent use of hedges by doctors more than patients which aids a better understanding for patients during their communication.

Doctors primarily use hedging to express caution in their speech with patients. They resort to claims rather than facts to be able to gain the patients' gratification. Hedges are one of the devices that play a critical role in gaining ratification for claims by allowing doctors to present statements with appropriate accuracy, caution, and humility, expressing possibility rather than certainty and prudence rather than overconfidence. Based on the politeness theory, hedging in doctor-patient communication is found to act as an adaptor that can make communication euphemistic, moderate, polite and flexible, which effectively helps to maintain and adjust the relationship between doctors and patients and keep communication smooth. On the other hand, hedges would make information fuzzy and fail to keep conveyed information appropriate, so as to make patients more comfortable and feel more flexibility in their talk with doctors. Patients also resort to such tools as a means of attesting the degree of precision or reliability of a claim and accurately stating uncertain statements with appropriate caution.

Notes

¹ Hedges are the linguistic devices and hedging is the act of using these devices in spoken and written discourse.

Appendix

Table (1) Types of Hedges Used By Doctors

Approximators			Shields	
No. of Conversation	Adaptors	Rounders	Plausibility Shields	Attribution Shields
Con. 1	-well -a little -really	about	-As I said -I think -I remember -I don't think -my view of...	-You told me that
Con. 2	-enough			-You need... -your nutritionist doesn't know

Con. 3	-almost -mostly -surely	about	-if you follow...	
Con. 4	-well -some... -some...		-I don't think... -I think...	-you seem...
Con. 5	-really -most -really - more -almost	around	-If we're worried... -I think -Probably	-It seems... -As far as you and I are concerned -That means it is...
Con. 6	-actually -just		-I think -I think	You ought to..
Con. 7	-sort of -just -just -sort of...		-I thought -I don't know.. -may be	-You can tell... -You ought to tell.. -That would be
Con. 8	-almost -sort of -just			-from your point of view...
Con. 9	-sort of -mostly -mostly -just		I don't find... -I think you should	
Con. 10	-sort of -sort of		-If I can't examine you	-You know...
Con. 11	-well -perhaps -well -somewhat -actually -sort of...			-it appears that.... -you would better sit -that is to say, -they are supposed to
Con. 12	-just -just -more -really -much -really -anyway -a lot - kind of...		-I can't even tell... -I don't think... -I don't mean... -I am not sure... -I think... -probably	-somebody said... -that could explain -it doesn't mean... -That's what it says... -you know...

	<ul style="list-style-type: none"> - lot of... -just -few -anyway -really -kind of... -just -well -little -more -little -kind of... -sometimes 			
Con. 13	<ul style="list-style-type: none"> -most of... -a bit like... -just -just -more -some 	approximately		<ul style="list-style-type: none"> -you seem.... -it is supposedly -you seem sure... -you sound like... -do you think... -you are supposed....
Con. 14	<ul style="list-style-type: none"> -quite -little -almost -well -little -sort of -actually... -just -really -more -little -sort of ... -well -well -much -kind of ... -just... -lots of... -a little... 	about	<ul style="list-style-type: none"> -I thought... -I can assume you... -I think... -I think... -I know that... -I meant... -If I know her -I'll make sure... -I don't think so. 	-you should know...
Con. 15	<ul style="list-style-type: none"> -more... -well. -sort of 		<ul style="list-style-type: none"> -I can see that... -maybe 	<ul style="list-style-type: none"> -you said... -Do you think...? -you would think...

Total Number of Hedges 159	86	5	36	32
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Table (2) Types of Hedges Used by Patients

Approximators			Shields	
No. of Conversation	Adaptors	Rounders	Plausibility Shields	Attribution Shields
Con. 1	-really -only -well	-about	-I thought... -I thought...	-My chiropractor says -My sister said
Con. 2	-still -only -more -really -sort of -more		-I wonder -Probably	-You know... -My nutritionist says..
Con. 3	-not much -Just -mostly	-approximately	-I guess -That's what I thought -I know ...	-You know
Con. 4			-I am not sure -I thought -I didn't think -I thought I ought to...	-he said -she said..
Con. 5	-really -Just -Just -really		-I see -I know -I think -I am beginning to doubt	-you told me... -the French says that if...
Con. 6	-fairly -just		-I didn't know.. -I wasn't sure.. -I think.. -I can tell you -I don't know if -you remember...	-That seems... -You know -You just presumed...
Con. 7	-mostly		-I think -I guess -may be	

			-may be	
Con. 8	-just -just -just -always -just	-about		-My wife said.. -He said....
Con. 9	-just -always -just -not really -just -just -just like -always	-about	-I don't think it	-You know
Con. 10	-totally -more -mostly -just -almost -almost			-No one can understand.. -No one understands -She was the one who told me.. -You are supposed to know.
Con. 11	-just -something -just -always -some... -more...than -at least -whatever -just -more -less -less		-I always thought...	-you can't seem...
Con. 12	-well -well		-I'm not sure	-you think I need.. -you know...
Con. 13	-actually -well -still -quite a few... -essentially... -some... -just.. -well...	-between -around	-you don't understand... -I'm still not sure... -I thought...	-the conversation is supposed...

	-some			
Con. 14	-so... -so much -well -very... -just... -well...	-between	-I'm not sure... -I'm afraid... -may be	-Do you think...? -don't think...?
Con. 15	-just...	-about	-I can understand that...	-Are you sure?
Total of Number of Hedges 136	68	8	34	26

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THE INFLUENCE OF THE POLITICAL CLIMATE ON SOUTH AFRICA'S TOURISM INDUSTRY

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ABSTRACT

Tourism is of significant importance to the economy of any country. The successful political transformation in South Africa has virtually 'opened' the country's tourism potential to the rest of the world. However, South Africa experienced an increase in violent crimes, political instability, xenophobic attacks and repetitive social and labour unrest in 2015. This has prompted this paper to develop a model for determining political climate variables that influence tourism in South Africa. Three main political climate variables (tourist safety, political instability and public turmoil) were identified from literature that influence tourism. Secondary variables were also identified within each main variable. Tourist arrival statistics for 2015 indicates a sharp decrease in tourist arrivals to the country. This study adds to the debate and literature on political climate variables that influence tourism in South African and developed a model that can also be tested in other countries.

Keywords: Political, South Africa, Tourism

INTRODUCTION AND PROBLEM STATEMENT

Tourism is seen as one of the key drivers in the South African economy (Ramukumba & Ferreira, 2015:1; Tassiopoulos, 2011:30), as the tourism industry contributes approximately R309 billion to the country's GDP. Furthermore, the tourism industry employs more people than the country's mining and automotive industries (Democratic Alliance, 2013:3). It is conservatively estimated that one new job opportunity is created for every 16 international tourist arrivals. One in every eleven South Africans is involved in the tourism industry (Democratic Alliance, 2013:3). South Africa's successful political transformation from "apartheid" (racial segregation) in 1994 has virtually opened the country's tourism potential to the rest of the world (Government of South Africa, 2015:1). A democratic South Africa has re-integrated into the international community whereby the tourism industry has extended from a domestic to an increasingly

diverse international tourist market (Government of South Africa, 2011:3). The five leading international source markets (excluding Africa) for inbound travel are: United Kingdom (UK), United States of America (USA), Germany, The Netherlands and France (Stats SA, 2012:8). Africa is by far the largest source market of tourism arrivals to South Africa (Republic of South Africa, 2014:2).

However, since South Africa's re-admittance into the international community in 1994, the country has received numerous negative media attention as a tourist destination due to several high profile cases involving crime against tourists (George, 2010:806). Moreover, South Africa has also been at the centre of political tension, corruption and social- and labour unrest. In addition to this The Economist Intelligence Unit (2015:4) classified South Africa as a flawed democracy, and states that nations with a weak democratic tradition are, by default, vulnerable to setbacks. South Africa's uncontrolled, increasing crime rates continue to impact business and civil society in a manner that erodes the nation's psyche daily (The Institute of risk Management, 2015:17). In addition, tourism-related organisations within South Africa have voiced their concerns on the long-term impact of repeated negative exposure of the country's tourism industry. There is thus a need for the continual assessment and analysis of the influence of a negative political climate on the sensitive nature of the tourism industry (Seddighi, Theocharous & Nuttall, 2002:61). Xenophobic attacks have occurred from time to time at different locations in South Africa and although there have been travel cancellations and a loss of tourism business, the possible relationship between xenophobia and travel cancellations has not been empirically researched (Gauteng Tourism Authority, 2016:1). Political- and economic stability are the main weaknesses of the South African tourism industry and if these issues are not addressed and managed it will deter tourism growth (Du Plessis, 2002:40). There is a need to investigate the negative political climate indicators influencing the South African tourism industry.

This has lead to the research in question: *Which negative political climate variables in South Africa influence the tourism industry?*

The primary objective of this study is therefore to develop a hypothesised model of the political climate variables that influence South African tourism. To give effect to the primary objective of this study, the following secondary research objectives have been formulated:

- To present a brief overview on the political climate in South Africa.
- To identify the political climate variables that effect South African tourism using a desktop study.
- To indicate the trend in South Africa tourist arrivals statistics during 2015 and provide possible explanations for it.

- To develop a proposed model indicating the important political climate variables that has or may have influenced South African tourism.

In the following section, the methodology of this paper, desktop research, is discussed.

METHODOLOGY

As this paper aims to conduct a more-in-depth analysis on current issues in the political climate using secondary research, it is qualitative in nature. Secondary research is also known as desktop research (Hague & Wilcock, 2015:1) whereby secondary data is obtained from various sources and analysed (Crouch & Housden, 2012:22). It includes accessing non-published sources (Hague & Wilcock, 2015:1), prior research reports, newspapers, magazines, journals, government and non-governmental organisation statistics (Schutt, 2009:453) and mostly the internet as a source of information (Benson, 2009:1). According to several authors (Benson, 2009:1; Crouch & Housden, 2012:22; Cude, 2004:32; Marvist Consulting, 2005:1), the advantages of internet research are:

- It is more economical and saves money;
- It is available in an electronic format;
- Large amounts of information can be retrieved quickly;
- Published data can be leveraged from many sources;
- A researcher can rule out irrelevant information faster;
- It provides a preliminary assessment and a more in-depth analysis of current issues;
- It produces both a contemporary- and historical framework;
- A quick reference can be made to the already existing information without much effort; and
- It assists in primary research to gain background to the study under investigation and provide an additional dimension to primary research.

However, Prescott (2008:1) cautions against the pitfalls of internet research such as lack of overall quality control, incomplete information and small samples to generate results. Despite of these drawbacks, desktop research is useful as it helps determine whether there are findings, which could be built upon, which could be further tested, or establish speedily whether further research is in fact warranted (Crouch & Housden, 2012:22).

This paper uses conceptual analysis as a principle qualitative data analysis research technique (Cronin, Ryan & Coughlan, 2008:38). Conceptual analysis was accomplished through systematic literature review

of the political climate variables that influence the South African tourism industry. This was undertaken in context of the three critical research questions that include:

- What are the political climate variables that influence the South African tourism industry?
- Which sub-variables influence the main variables?
- How do each of the variables influence the South African tourism industry?

Subsequently, a report was created based on the information sourced (Marvist Consulting, 2005:1). Further value was added when the literature (report) was compared and analysed within the context of tourism demand in South Africa. Firstly internet research was utilised in this study to provide a comprehensive review of national and international secondary sources in the form of textbooks, journal articles and newspaper articles to enhance and verify the research. This approach ensured quality control and verification of information sourced. The information was evaluated to determine if it was applicable within the South African context. Thereafter, an analytical framework was developed for political climate variables influencing tourism in South Africa. The content was then further refined and contextualised. The findings were then presented as a proposed hypothesised model indicating the main and sub political climate variables that influence tourism in South Africa. As the findings of this paper was based on extant global and South African literature and sourced mostly from most recent journal- and newspaper articles available, it can be regarded as trustworthy and applicable to the current tourism environment.

THE INFLUENCE OF POLITICAL CLIMATE ON TOURISM

Political climate can be described as the views and opinions generated by the public's feelings towards a variety of political and social issues present within a country (Queen, 2016:1). Therefore a country's political climate is related to destination appeal, as destination appeal is related to the overall perceived attractiveness of the tourist destination (Mak, 2008:109). Destination appeal is perceived to be the principle factor of destination competitiveness and one of the main reasons why a tourist choose a specific tourist destination above another (Meng, Tepanon & Uysal, 2008:42; Vengesai, 2008:290). It is widely accepted that destination appeal affect tourists' subjective perception, consequent behaviour, and destination choice (Shin, 2009:33). The demand for many tourism products and services is known to rely greatly upon the overall impression the tourist have of the destination (World Travel and Tourism Council, 2011:5). Therefore, if a country is politically vulnerable, an interruption in the demand for goods and services such as tourism can reduce the GDP and economic growth of that country. Political instability has strong negative effects on GDP growth, private investment, inflation, total productivity, as well as physical- and human capital accumulations of the country (Aisen & Veiga, 2011;1380).

THEORETICAL OVERVIEW OF THE POLITICAL CLIMATE VARIABLES INFLUENCING TOURISM IN SOUTH AFRICA

The political climate in South African tourism is related to three main variables namely; political instability, public turmoil and safety of tourists (Abu, Karim & Aziz, 2015:46; Asongu, 2015:2040; Jung & Sunde, 2014:53; Saunders, 2011:241; The Economist Intelligence Unit, 2015:4).

Political instability

Political instability refers to concerns relating to government unity, consistent and predictable government actions, corruption, current president (presidency), legislative strength, and stability of democracy (Abu *et al.*, 2015:46; Asongu, 2015:2040; Saunders, 2011:242). In other words, how government is structured and institutionalised, and other areas of governance are organised can affect tourism demand (World Economic Forum, 2014:21). High levels of political lawlessness can cause irreparable damage to the image of a destination. Therefore, political stability is a critical requirement for attracting international tourists to a destination (World Economic Forum, 2013:43). Weaknesses in the functioning of government and restraints on civil liberties are having a corrosive effect on the image of South Africa (The Economist Intelligence Unit, 2015:4). Citizens depend on government for sound decision making that guarantees expected standards of living, particularly in marginal populations where the poor's alternatives are limited (Lagi, Bertrand, & Bar-Yam, 2011:2).

A politically corrupt nation can indirectly worsen public turmoil when conflict between corrupt politicians and the citizens of the country and/or opposition political parties become intense (Lagi, Bertrand, & Bar-Yam, 2011:6). Governmental corruption in South Africa ranges from embezzlement of paltry pension payments by civil service clerks, nepotism, tribalism, bribery, falsification of qualifications, abuse of position, inflation of tenders to dishonesty in public administration (Hyslop, 2005:773). Furthermore, the re-emergence of securocrats within South African politics is a tremendous concern (Van Vuuren, 2014:1). Securocrats refers to military or police officials who hold an influential position in government and advocates for the close involvement of the military in government and the securitisation of political information (Hunter, 2014:1). Moreover, South Africa's municipalities are failing to deliver on their directives as they are burdened by mismanagement, lack of accountability and corruption (Mnguni, 2016:1).

The Jacob Zuma presidency is further tainting the image of South Africa and the ruling party, The African National Congress (ANC) (Cohen, 2016:1). Jacob Zuma's political career and presidency so far can be described as controversial. Prosecutors spent eight years investigating Jacob Zuma on allegations of bribes from arms deals, corruption, racketeering, fraud and money laundering before abandoning the case after

he become president (Cohen, 2016:1). On Wednesday the 9th of December 2015, the presidency announced the replacement of Finance Minister Nhlanhla Nene, with a relatively unknown member of parliament, David Van Rooyen (Kalenga, 2016:1). After the news broke internationally, the decision resulted in the South African currency (ZARs) plummeting to a record low of R15.38 against the American Dollar and R23.42 against the British Pound (Mkokeli, Paton, Ndzamela & Ensor, 2015:1). It further led to a national outcry which gave rise to the #ZumaMustFall campaign, where South Africans marched to show their discontent with the current president (Cohen, 2016:1). Following the national outcry and the instability in the markets, the presidency redeployed David Van Rooyen (four days later), and instated Pravin Gordhan to the position, who previously was a Minister of Finance for the period 2009 to 2014 (Jacobs, 2015:1).

Furthermore, on the 31st of March 2016, the Constitutional Court ruled that President Jacob Zuma "failed to uphold, defend and respect the constitution" by not abiding to a directive from Public Protector Thuli Madonsela to repay some of the state funds spent on his private home at Nkandla (Cohen, 2016:1). This led to a motion of impeachment brought before the parliament of South Africa by the opposition party, to remove Jacob Zuma as head of state (Merten, 2016:1). The motion was not successful as there were only 143 votes in favour and 233 against the motion. It was alleged that members of the ruling party in parliament were urged to vote against the motion, or lose their seats in parliament (Letsoalo, 2016:1). This has raised several questions regarding the democracy of South Africa (Letsoalo, 2016:1). The parliament of South Africa was found guilty by the constitutional court for failing in its first duty of holding the president accountable on the Nkandla matter (Mantshantsha, 2016:1). Furthermore, the South African government failed to arrest Sudanese President Omar Al-Bashir. The International Criminal Court (ICC) issued a warrant of arrest for President Al-Bashir on "seven counts of war crimes and crimes against humanity committed in Sudan's Western region of Darfur" (Mbola, 2015:1; Tladi, 2015:1). South Africa was obligated to comply with the interdict as the country is a member of the ICC (Mbola, 2015:1). This does not only indicate the South African government's disregard for the ICC, but also the country's attitude towards international relations, which portrays South Africa in a negative light internationally (Mbola, 2015:1). Furthermore, in a survey conducted by Harvard Kennedy School, assessing the influence of national leaders on a global scale. President Jacob Zuma received a low ranking from South African respondents with regard to his managing of domestic affairs (12.8% confidence) and international affairs (18% confidence) (Maylie, 2015:1).

Public turmoil

Public turmoil include racism, xenophobia, terrorism and labour- and social unrest (strikes) (Abu *et al.*, 2015:46; Asongu, 2015:2040; Saunders, 2011:245). Countries affected by public turmoil will eventually

experience a decline in the number of international tourists and visitation. No country has been able to shield its tourism industry against the impact thereof (Haddad Nasr & Ghida, 2015:1). Public turmoil theoretically damage the social- and cultural image of a country and threaten tourism demand and investment (Taylor & Francis Online, 2016:1). However, it is not only the tourism industry that is affected but also all tourism related businesses (Jenkins, 2013:1).

Colonial racial oppression in South Africa dates back to many centuries (Kynoch, 2008:629). In 1948, racial domination was institutionalised in South Africa by the National Party (then ruling party) and legitimised in terms of an explicitly racist ideology (Apartheid) (Kynoch, 2008:630). The policy of apartheid had vested power and privilege in the white minority in South Africa for decades (Abrahams, 2010:496). Many Africans were subjected to widespread undernourishment, poor health and education systems, overcrowded schools, poor social security, and high levels of unemployment (Duncan, 2005:7). Therefore it is not surprising that apartheid is regarded as the largest contributor to the political violence that prevailed in South Africa for decades (Duncan, 2005:7). Even after the democratic elections in 1994, racism still remains a key challenge in the South African society (Msomi & Shilaho, 2016:1). In 2015 and 2016 South Africa saw an increase in racism due to social media remarks directed at both the black and white population groups within the country (Dixon, 2016:1). However, racism in South Africa is not limited solely to the different racial groups within the country but also extends to international tourists (Narsee, 2016:1). The danger here remains that individuals that have been victim to racism while travelling abroad would probably not visit that specific destination again (Mann, 2014:1).

One of the major obstacles for tourism to achieve its economic and social roles is Xenophobia (Strachan, 2015:1). Xenophobia can be defined as a passionate and irrational fear of foreigners and therefore a discriminating and sometimes violent attitude towards foreigners (Azindow, 2007:98; Creswell, 2006:185). This fear has manifested itself into a severe tension and violence by South Africans towards foreign nationals living in the country (Shindondola, 2008:56). Reasons for this vary and include; a belief that all foreigners are inherently criminal, that non-nationals are a threat to access to local employment, grants, and a drain on public resources (Cilliers, 2008:65). Furthermore, the presence of xenophobia within a country or nation can lead to a loss of potential income derived from tourists; this in turn makes the tourist destination less attractive to tourists (Strachan, 2015:1). In South Africa, local black inhabitants blame foreign black nationals who are in the country (either legally or illegally) for taking their jobs and marrying local black women, resulting in discriminatory practices that lead to violence and aggression towards foreign black nationals, especially those from the African continent (Shindondola, 2008:56).

South Africans are known to be positively biased towards their own culture and negatively biased towards other cultural groups (Crush, 2006:104). Although xenophobia existed during apartheid, it was only after 1994 that it became a noticeable and sombre issue within the South African society (Delport & Strydom, 2009:34). In the month of April, 2015, seven people died and many more injured in violent xenophobic attacks which started in KwaZulu-Natal and later spread to the Johannesburg CBD, Alexandra and certain parts of the East Rand in South Africa (Mapenzauswa, 2015:1). These xenophobic attacks were allegedly sparked by comments made by the Zulu King, Goodwill Zwelithini, when he called for the deportation of all foreign nationals living in South Africa, stating that it is intolerable that South African citizens were being made to compete with foreigners for the few economic opportunities available (Ndou, 2015:1). The xenophobic attacks were widely condemned in South Africa itself, with large turnouts at anti-xenophobia rallies in cities across the country (Mail and Guardian Africa, 2015:1). These xenophobic attacks put a negative strain on the country's international relations, especially with other African countries whose citizens were attacked and killed (SABC, 2015:1). China, Australia and the United Kingdom issued travel warnings to their citizens to not travel to South Africa during the month of April 2015, due to the xenophobic attacks (Media24, 2015:1).

Many highly publicised terrorism attacks which affect tourism was not specifically targeted towards tourists or tourist centres for example the Madrid train bombings (Spain) (2005), London bombings (UK) (2005), and the 9/11 terrorist attacks (USA) (2001) (Moss, Ryan & Moss, 2008: 34). A more recent terrorism attack in Paris (France) in November 2015, consisted of gunmen and suicide bombers that targeted a concert hall, a major stadium, restaurants and bars which resulted in the death of 130 people and left hundreds more wounded (British Broadcasting Corporation, 2015:1). However, some terrorist groups do target tourist areas (Mawby, 2010:44), as is evident from the Brussels airport bombing in March, 2016. In this attack, 32 victims were killed, and over 300 people were injured with at least 12 of the victims being foreign nationals from America (USA), the Netherlands, Sweden, Germany, France, UK, Italy and China (British Broadcasting Corporation, 2016:1). Terrorism in South Africa has not been regarded as a significant threat to the country since the end of apartheid. However, South Africa could be at risk of a terrorist attack since The Islamic State (IS) declared its intention to attack western interests in any part of the world (Quintal, 2016:1).

Labour- and social unrest in South Africa is increasing and this growing unrest is visible in the country's statistics relating to public turmoil data (Duncun, 2013:1). The root of this unrest possibly lies in the unfulfilled expectations of millions of South African citizens, who expected to see their lifestyles and employment prospects improve after the end of apartheid (Duncun, 2013:1). Police brutality has also escalated during local protests in post-apartheid South Africa, as since 2008 more than 70 people are

believed to have been killed by the South African Police Service (SAPS) during various unrest incidents (Institute of Security Studies, 2009:1).

Labour unrest is a strike action or industrial action undertaken by labour unions and employees, which can lead to labour disputes becoming violent (Arnesen, 2007:123). Labour unrest has been most prominent within the manufacturing and mining industries of South Africa. BMW decided not to manufacture their new automotive model in South Africa, due to the labour unrest in the country (Hedley, 2014:1). Furthermore, due to the history of labour unrest and protests within the manufacturing industry, companies are considering a shift to mechanisation of their manufacturing plants (Hedley, 2014:1). The mining industry is especially troubled, due to strikes, protests and industrial action. The combined worth of South Africa's 35 top platinum mining companies have dropped by 55% since June 2014 (Dodgson, 2016:1). The most violent and publicised was the Marikana strike incident. On the 16th of August, 2012, police opened fire on striking miners at the Marikana plant of the Lonmin mine where 112 people were shot, 34 killed and 78 wounded (Laing, 2012:1). The miners had been protesting for a week, some armed with guns and machetes, demanding higher wages (Gladdis, 2012:1). In Auckland, Australia, Australian protesters attacked the South African consulate building with paintball guns in response to the shooting, the protestors blamed the South African government for the incident (Luscombe, 2012:1).

One of the most dangerous aspects of social unrest is rioting which refer to the violent and unrestrained behaviour of a large group of people (Teasley, 2016:1). Ongoing and frequent violent protest actions largely aimed at poor service delivery on local government level in South Africa, is on the increase (Hough, 2008:1). In 2012, the frequency, geographical spread and violence of service delivery related social riots in post-apartheid South Africa, reached unprecedented levels (Tapela, 2016:1). In 2014, approximately 80% of all protests involved violence either by the participants or by the authorities (Mnguni, 2016:1). In 2015, South Africa experienced widespread community-level protests, along with a large-scale student protest popularised by the #FeesMustFall slogan (Lancaster, 2016:1). Students were protesting for access to free tertiary education and the decolonisation of education across South Africa (Lancaster, 2016:1). Moreover, the South African tertiary education sector experienced several social protests by students, which led to physical conflict between students of different racial groups on university campuses (Quintal, 2016:1). In addition, vandalism of apartheid era and colonial statues started in March 2015, some of the statues that were vandalised include the British colonialist Cecil John Rhodes (#Rhodesmustfall campaign), the British monarch Queen Vitoria I and Paul Kruger a former president in pre apartheid South Africa (Smith, 2015:1). Labour- and social unrest in a country can cause foreign investors to be wary of investing in such countries, which could lead to a funds deficit for the maintenance of the country's infrastructure (Wakefield, 2015:1). This is especially applicable in a developing country such as South Africa, as one significant concern is

the lack of funds to invest in the country's infrastructure (The Institute of risk Management, 2015:17). Furthermore, South Africa has been classified as being under high risk for social unrest together with volatile countries such as Iran, Mexico, Tunisia and Pakistan (The Economist Intelligence Unit, 2015:10).

Safety of tourists

According to several authors (Dimitrov, 2009:890; Dwyer & Kim, 2003:397; Hussain, Ekiz, Bouchon & Kumar, 2015:2), elements of tourist safety include low crime rates, visual policing and effectiveness of crime prevention units. Tourists become victims of crime as they are usually relaxed, off guard and unaware of local crime hot spots (Omisore, Badiora, & Fadoyin, 2013:210). Ensuring the security of tourists can be seen as a precondition for a thriving tourist destination (Chauhan & Khanna, 2009:4; Elliot, Papadopoulos & Kim, 2011:522; Korstanje, 2009:70; Moyo & Ziramba, 2013:4). Destinations with an unsafe tourist reputation can be easily substituted for a destination with a "safer" tourist image (Chauhan & Khanna, 2009:4). South Africa's four major cities (Cape Town, Port Elizabeth, Durban and Johannesburg,) have become notorious as high crime tourist destinations (Nwabugo, 2015:10).

South Africa has a high crime rate for murder, assault, rape and other violent crimes with approximately 50 people murdered each day (Habarta, 2015:4). Crime, especially in the form of car hijackings, sexual crimes, murder and kidnapping have been found to have a long- and short term negative impact on inbound travel to South Africa (Moyo & Ziramba, 2013:4). Violence is however a central part of the South African history and society (Bob, Swart & Turco, 2006:17). George (2010:810) cautions that high levels of crime in South Africa threaten the growth of the tourism industry. To contribute further to the problem there is a lack of visual policing in South Africa especially at tourist attractions (Moyo & Ziramba, 2013:4).

Safety of tourists can therefore be seen as a factor that restricts and confines people's movement, options, participation in activities and opportunities (Swart, Bob & Turco, 2010:226). The fear of crime and safety concerns significantly influences the image of destinations and therefore affects decisions potential tourists make regarding destination selection (Perry & Potgieter, 2013:103). Therefore, tourists who have felt threatened or unsafe are not likely to return to the destination, and they are less likely to recommend the destination to others (George, 2010:815). The element of fear and risk associated with decision-making is more evident in services such as tourism (Blackwell, Miniard & Engel, 2006:123). Furthermore, the media also influence visitation and the profiling of a tourist destinations, as negative impersonations and attention can prevent potential tourists from visiting a destination (Perry & Potgieter, 2013:103). South Africa has received some negative publicity for example, South Africa was described in the British media as the most violent society in the world, with the highest rate of violent murders and rapes where tourists are seen as

soft targets by criminals which have easy access to weapons (Flanagan, 2016:1). This was due to the violent rape and murder of two British citizens in 2015 (Telegraph Media Group Limited, 2016:1). In the Norwegian press South Africa was described as the country with the highest rate of rape incidents in the world, it was estimated that a women is raped every few minutes in South Africa (Inquirer, 2013:1). This media report occurred after a Norwegian teenager was raped and robbed at gunpoint by two armed men in one of the country's top tourist cities, Cape Town (Inquirer, 2013:1). The American Presidential candidate, Donald Trump, tweeted in 2015 "South Africa is a total - and very dangerous - mess" (Channel 24, 2015:1).

THE INFLUENCE OF A NEGATIVE POLITICAL CLIMATE ON GLOBAL TOURIST FIGURES

From the preceding discussion it can be deduced that political instability, public turmoil and touristy safety can to a considerable extent influence the tourism industry in a specific country as it depict a less favourable image of the country and can thus deter potential tourists from visiting (Morakbati, 2013:378). The influence of a negative political climate on a destination's tourism sector can be immediate and/or potentially long-lasting (Haddad *et al.*, 2015:1). Furthermore, tourists are very susceptible to news of violence and political unrest in tourist destinations (Neumayer, 2004:260).

In Egypt, the Arab Spring and toppling of President Mubarak in 2011 saw tourist arrivals decline by nearly a third to 9.5 million from 14 million in 2010. In 2013, when political turmoil in Egypt led to the ousting of President Mohammed Morsi, it led to a decline in tourist arrivals from 11.5 million trips in 2012 to 9.5 million in 2013 (Haddad *et al.*, 2015:1). Lebanon saw a decrease of 7.2% in tourist arrivals due to violent political unrest and public turmoil in 2008 (Haddad *et al.*, 2015:1). In Thailand, the country's army ousted the government in a coup in 2014, and consequently due to the political unrest the number of visitors decreased approximately by 5% (Arnold, 2014:1). Other examples include Yugoslavia, Northern Ireland, South Korea, Ukraine, Russia, Fiji, Gambia, Zimbabwe, Mozambique and Zambia, where a negative political climate caused a decrease in tourist arrivals (European Travel Commision, 2014:12; Haddad *et al.*, 2015:1; Ingram, Taberi & Watthanakhomprathip, 2013:94; Nyaruwata, Mhizha & Mandebvu, 2013:50).

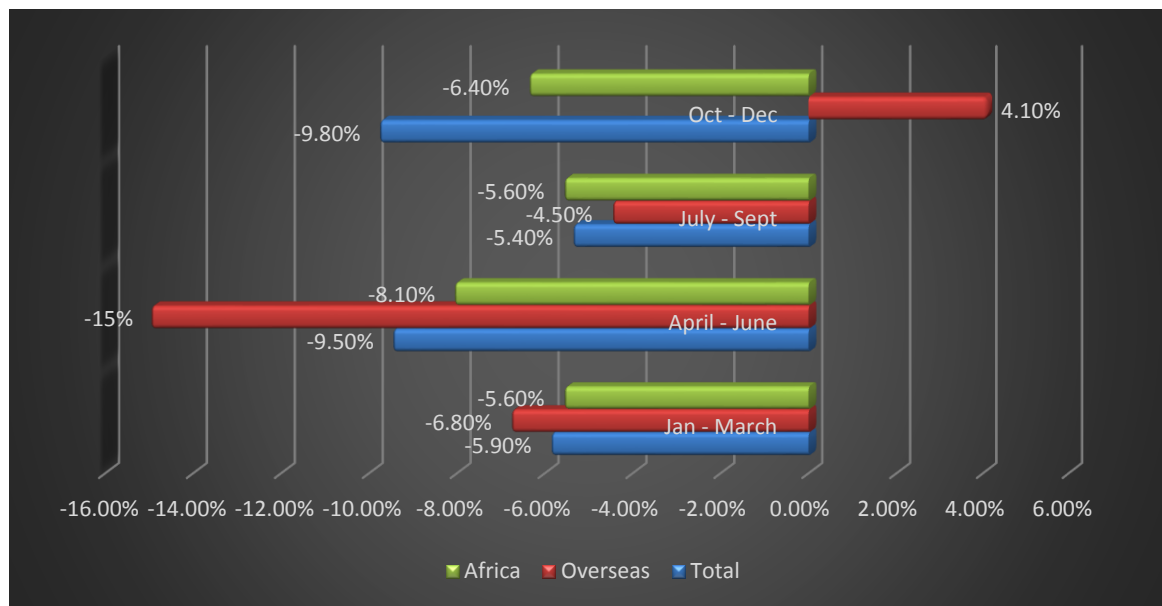
In the following section tourist arrivals to South Africa for 2015 will be investigated.

DECLINE IN TOURIST ARRIVALS IN SOUTH AFRICA

In the first decade of democracy the country has rarely experienced a decline in tourist arrivals. In the second decade a small decline was recorded in the first quarter of 2004 (-1%) and the first quarter of 2009 (-3%) (Grant Thornton, 2015:1). The South Africa tourism industry experienced a volatile year in 2015, with

events including xenophobic attacks, crime against tourists, political tension, labour- and social unrest and changes in visa regulations (Cohen, 2016:1; Dodgson, 2016:1; Flanagan, 2016:1; Mapenzauswa, 2015:1; Maylie, 2015:1; Mnguni, 2016:1; Wakefield, 2015:1). Figure 1 indicates the changes in tourist arrivals in the different quarters between 2015 and 2014.

Figure 1: Changes in tourist arrivals quarter 2015 on quarter 2014



Source: Adapted from Grant Thornton (2016:1).

What is however concerning, as can be seen from Figure 1, overall South Africa experienced a significant decrease in tourist arrivals in 2015. As per Figure 1, the first quarter (January – March) in 2015 recorded a decrease of 5.8% in total arrivals. This decline reflects a loss of 150 000 tourists for this period and a loss in tourist expenditure of approximately R1.6 million to the South African economy (Grant Thornton, 2015:1). The second quarter of 2015 (April – June), recorded the biggest drop in overseas arrivals for the year 2015 at -15%. Overseas tourists refer to all foreign tourist excluding those from African countries. Interesting to note is that the second quarter of 2015 recorded the highest levels of overall decline, during this period xenophobic attacks, vandalism of statues and poor government decision making plagued South Africa. Therefore, one can assume that the decrease in tourist arrivals in this period, especially from African countries can be attributed to the xenophobic attacks and the travel warnings issued by foreign governments not to travel to South Africa. As per Figure 1, quarter 3 of 2015 (July to September), also recorded a decline in tourist arrivals with tourist arrivals from Africa decreasing by 5.6% and total arrivals reduced by 5.4%. Although there was an increase in the 4th quarter of 2015 (4.1%) in overseas tourists, the total number of arrivals have dropped by 9.8%.

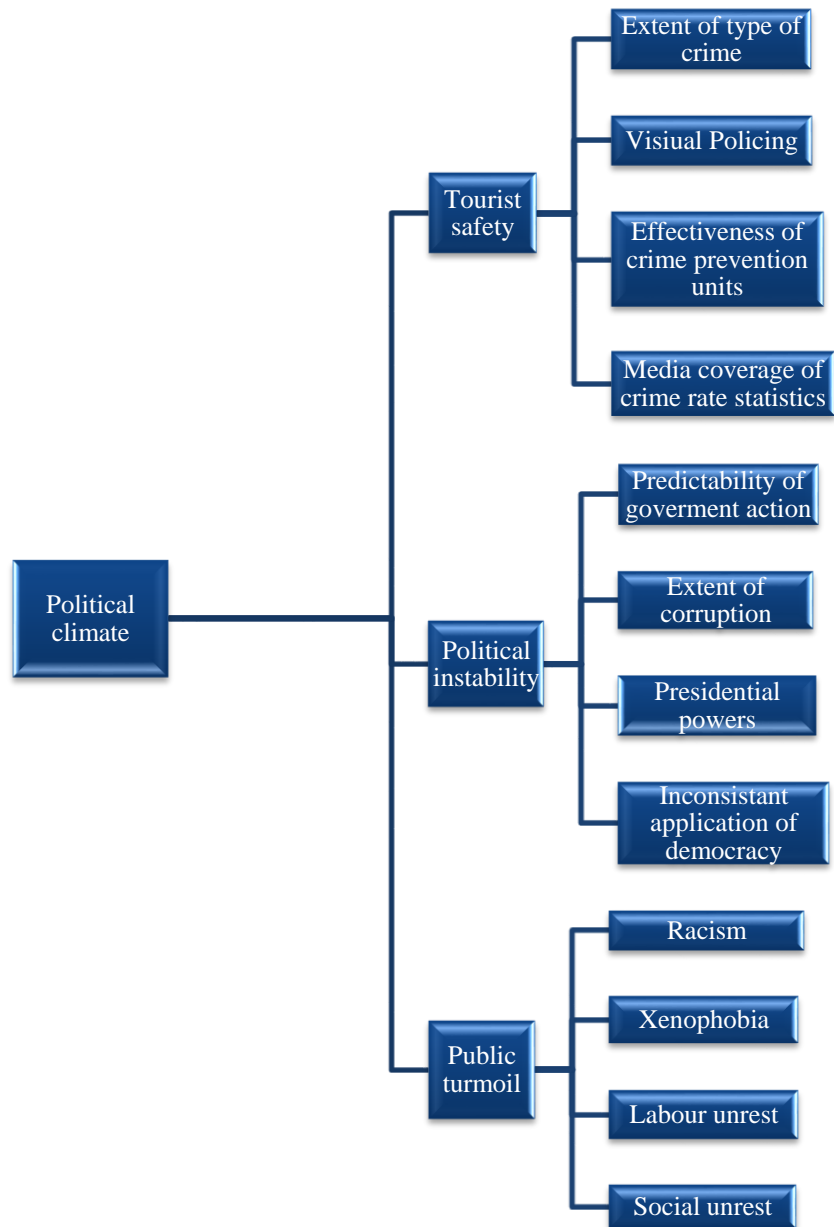
In the month of April 2015, overseas tourist arrivals recorded a significant decline of 24% as compared to April 2014 (Reed, 2015:1). The following countries recorded a decline for April 2015: China (-31%), India (-13%), UK (-10%), Germany (-9%), and USA (-7%) (Reed, 2015:1). The countries that recorded the biggest decrease in arrivals in tourist to South Africa in 2015 were Brazil (-25%), Ghana (-18%), Uganda (-13%), Nigeria (-10%) and Italy (-10%) (Grant Thornton, 2016:1).

South Africa introduced stricter visa regulations at the end of 2014, which may have had an influence on the tourist arrivals to the country. However what should be noted is that visa-exempt countries such as USA, UK and Brazil also indicated tourist arrival declines to South Africa (Nortje, 2015:1). Therefore, one can assume that the negative political climate in South Africa in 2015 may have influenced the decline in tourist arrivals. Based on the desktop research a proposed hypothesised model was constructed for the influential variables of political climate on tourism demand in South Africa.

PROPOSED MODEL ON THE INFLUENCE OF POLITICAL CLIMATE ON TOURISM IN SOUTH AFRICA

A proposed model on the influence of political climate on tourism in South Africa has been developed based on the extant literature in the previous sections and is shown in Figure 2.

Figure 2: Proposed hypothesised model on the influence of political climate on tourism in South Africa.



Source: Researchers own construct

As can be seen from Figure 2, the three main variables that can influence the political climate in South Africa have been identified. The first variable tourist safety is influenced by the extent of type of crime, visual policing, effectiveness of crime prevention units and media coverage of crime rate statistics. The second variable political instability is influenced by predictability of government action, level of corruption, presidential powers and inconsistent application of democracy. The third variable public turmoil is influenced by racism, xenophobia, labour unrest and social unrest.

CONCLUSION, LIMITATIONS AND FUTURE RESEARCH

This study explored how the political climate in South Africa can influence the tourism industry. Three main variables were identified from the extensive literature review namely tourist safety, political instability and public turmoil. Tourist safety in a South African context refers to the extent of type of crime, visual policing, effectiveness of crime prevention units and media coverage of crime rate statistics as these variables can deter a potential tourist from visiting a destination. Political instability is influenced by by predictability of government action, level of corruption, presidential powers and inconsistent application of democracy as these variables could either deter or lure tourist to a destination, with regard to how these variables are perceived, either positive or negative. Public turmoil focuses on racism, xenophobia, and labour- and social unrest. Although terrorism was discussed in the literature, no evidence of it within the South African context was found for the year 2015. However, South Africa can be vulnerable to these attacks in events such as the Iron Man triathlon and the Two Ocean Marathon.

When considering the limitations of the study, it is important to note that although this study focused on providing an extant literature overview on the political climate variables that influences the tourism industry in South Africa, it may be possible that other non-political variables may have an influence, but this was not the focus of this paper. It is also acknowledged that many of the variables are generic and can be applied to any other developing country, not just South Africa. Developed countries may also experience some of the political climate variables as was seen in the literature review. This study adds to the debate and literature on the influence of political climate on tourism.

A variety of internet sources had to be utilised in this article as current information could not be sourced from academic journals, as the majority of these issues have not been explored in academic journals yet. In spite of these limitations relevant and current information was presented, which could be useful for testing the hypothesised model. It is suggested that the proposed hypothesised model be empirically tested by means of a quantitative study, and surveyed to ascertain the perceptions of both South Africans and non-South Africans.

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THE MOTIVATION FOR AIRLINE SAFETY IMPROVEMENTS AFTER ACCIDENTS: A GAME THEORY APPROACH

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ABSTRACT

Abstract—Most of accidents are serious, so it usually arouses huge public concerns and responses. Recently, two fatal air crash events happened in Taiwan with the same airline, TransAsia Airways. The GE222 Accident in Penghu on July 23, 2014 and the GE235 Accident in Taipei on February 4, 2015, had a strong impact on public safety perception toward the airline. Customers are not willing to use the airline because of public fear of flying and safety concerns, but owing to abating of worries, passengers may return again. Therefore, if there is less airline rivals and the airline can pass the impact duration, they may not be motivated to spend extra costs for safety improvement. It is important that if airlines improve safety to rebuild market confidence, social benefits may increase to ensure to lower possibility of accidents. But if the government is not strict, airlines may only satisfy the lowest requirement. Moreover, airlines are considering maximum of profits, making it a trade-off with safety. The purpose is to make a game to analyze the interaction between one airline and customers and provide a prospective to specify the safety problem. To describe this phenomenon, a non-cooperative game theory composing two players with two strategies respectively (airline: do, undo; customers: use, don't use) is adopted to analyze the airline strategy and customer behaviors. This is a game with imperfect information because airlines cannot precisely predict passenger's willingness to use, and customers normally are not familiar with what airlines have done for safety. It's also a game with incomplete information because airlines don't know passengers' preference for mental relief or airline selectivity. The model is illustrated with an extensive structure. Analysis shows customers' attitude control airlines' motivation, and communication between multiple stakeholders is necessary to make win-win condition.

Keywords—Aviation Accident, Game Theory, Safety Improvements

INTRODUCTION

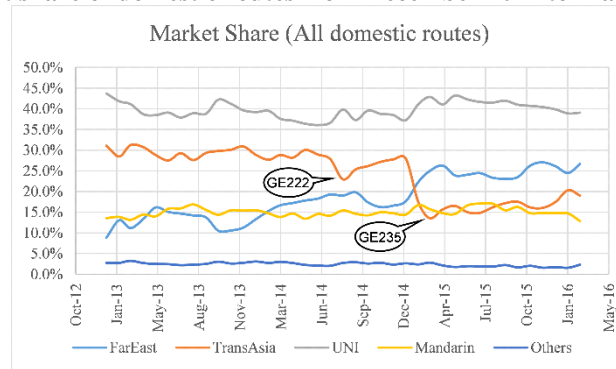
1.1. Accident History and Passenger Decrease: Case in Taiwan

On average, an accident occurs during or just before an off-peak period, the involved airline may face 22.11% monthly traffic decline, and other airlines may also lose 5.62% of passengers monthly because of public fear of flying in Taiwan [1]. Based on public safety concerns, recent accidents can be inferred to reduce customers' confidence toward the aviation market, and to change people's airline selection criteria. Nevertheless, according to data from Civil Aeronautics Administration, the Ministry of Transportation and Communications (MOTC) of the Republic of China (Taiwan), market share among airlines after these two accidents show different outcomes in Figure 1. Currently there are five airlines operating domestic routes in Taiwan, and market share of airlines for domestic routes indicates that TransAsia Airways lost customers right after the GE222 Accident, but recovered in half a year. Another accident (GE235) occurred to the same airline, and induced a serious decline since then, revealing a big difference of two accident social influences. This explains the second accident had much stronger impacts on people's behaviors than the

first one. It also shows that one accident does not change the market performance much, while repeated accidents strongly and continuously discouraged people to use the airline.

Therefore, it can be inferred that customers are still willing to use the involved airline after one accident, but risk of accidents still exists, resulting in a repeated accident. There were several airlines suffering from financial crisis or bankruptcy after air crash events including Pan American World Airways (Pan Am), Swissair, and Malaysia Airlines. Previous experiences and the above-described phenomenon in Taiwan expressing the differences after accidents motivated us to explore the relationship between airlines' consideration and customers' perception.

Figure 1
Market share of domestic routes from December 2012 to March 2016



1.2. Problem Statements

This research brings up a problem that the level of safety may be affected by public perception change in Figure 2. If there are few rival airlines and limited flight alternatives, particularly for the domestic aviation market, customers have less airline choices but use it. Some who are not sensitive to safety issues are still willing to use it regardless of accident records. As long as the involved airline could maintain financial balance to pass impact duration of an accident, the airline may not spend extra expense for safety measures after accidents if customers return after a period due to abating of worries or flight schedule limitation, resulting in safety problems.

Aviation safety is a concept of risk, which is a combination of possibility and consequence. If airline companies can implement safety management thoroughly and continuously, the risk of accident occurrence would be lower, ensuring long-term safety for future air transport. Nevertheless, for small-scale or new airlines which have inadequate budget and cannot obtain the financial support from the government, a loss of passengers may lead to bankruptcy. Consequently, it is not socially beneficial for long-term aviation development.

Figure 2
Problem process of airline's safety motivation

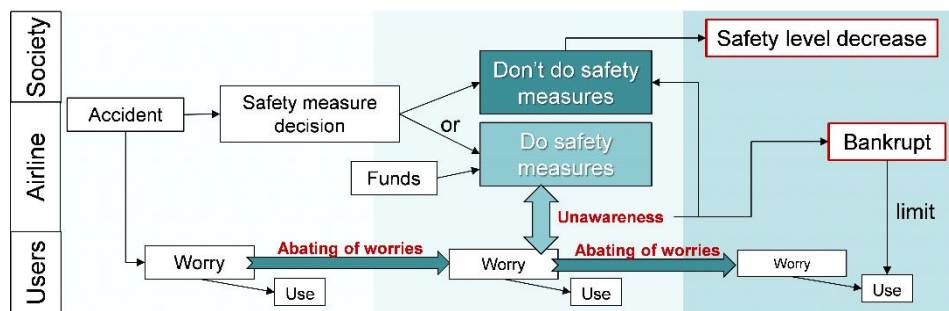


Table 1
Airline's consideration for safety improvements

	Decision Making	Consideration	Constraint	Hypothesized Consequences
Airline	Don't do safety measures	Users' abating of worries, choice limitation	Capital turnover, few airline rivals	Safety level decrease
	Do safety measures	Safety upgrade	People's unawareness [2]	Bankruptcy

Table 1 summarizes the consequences of two decisions. If the airline does not conduct safety measures after accidents, level of safety will decrease. But if the budget of safety upgrade system cannot be reimbursed from customer recovery, it may face financial problem and then bankrupt. Therefore, there is a problem for aviation safety and market performance that should be clarified.

1.3. Objectives

After accidents, airlines are supposed to conduct safety measures to reduce risk. For their own safety, some of customers will select an airline according to their safety perception to reduce worries. However, people's worries will decline over time, making safety perception less dominant of airline choice criteria. Also, those who are not sensitive to safety issues or due to airline choice limitation, customers do not have other alternatives but use the airline. Therefore, the airline may not conduct costly safety measures to enhance level of safety, instead, they can give airfare discount and improve service to attract customers, because they assume passengers will return due to abating of worries over time.

This makes a tradeoff of safety and profit between the airline and customers, and can be expressed with a non-cooperative game. For sustainable and sound development of aviation industry, safety improvements are considered to be very important. Airlines are expected to improve safety after accidents. As a result, we would like to use this game to discuss to interaction between the airline and customers, and provide a prospective for policy makers to find the situation that is beneficial for both and the society.

This study is aimed to build a structure to demonstrate the interaction between customers and airline companies. Therefore, consideration for diverse stakeholders can be defined to find a solution to motivate airlines to upgrade safety management system after accidents for safe and sound development of aviation market, to help people better understand aviation safety, and to provide a scheme for airlines to implement safety measures.

LITERATURE REVIEW

Game theory is widely used for decision making with different player's strategy and the utility. The players of the game are the main portion to make decisions, and they are involved to participate in a game for getting maximum benefits in a suitable action. The main elements in a game are players, information, strategy and payoff functions. Game theory provides a framework for interpreting the interaction among decision-makers for determining the outcome jointly. Game theory is to model conflict and cooperation among independent players, and is a powerful tool in understanding the relationships such as competition and cooperation.

In transport or administrative field, it was firstly used to model behavioral hypothesis for route choice, and after that diverse application has been addressed. Roumboutsos and Kapros [3] extended game theory to the issue of integration within urban public transport networks provided by service operators. Wang and Yang [4] used a game theoretical approach to model the strategic interactions between the operators in a deregulated bus market, taking into consideration competition over price and service frequency. Sun and Gao [5] modelled passenger's choice of route and mode by applying game theory. Dong et al. [6] found there are conflicts of the interest for cleaner production between a local government and a potentially polluting firm, and used game theory and add some policy variables to change the payoffs, which can improve the current policies. Talebpour et al. [7] compared the difference for players with complete and incomplete information with an example of the Nash non-cooperative game. A full literature review of game theory applied to transport modelling has been summarized by Hollander and Prashker [8].

GAME OF SAFETY IMPROVEMENTS

3.1. Game Formulation

Hypothesis of this game is both of the airline and customers have two strategies, making it possible to create a non-cooperative game to interpret the interaction among decision-makers for determining maximum benefit for individuals and the outcome jointly. The game composes two players with two strategies respectively in Table 2 is adopted to analyze the airline strategy and customer behaviors.

Table 2
Game formulation.

Player		Objective	Constraint	Strategy
Player A: The airline		<ul style="list-style-type: none"> • air transport service supply • maximum profits 	<ul style="list-style-type: none"> • budget • authority audit • don't know B • policy making timing 	active action: do safety measures
Player B: Customers				passive action: airfare discount use the airline
[B type I] safety > service	[B type II] service > Safety	<ul style="list-style-type: none"> • air transport demand • less worries • better service 	<ul style="list-style-type: none"> • limited choices • know B's type, but don't know A 	don't use the airline

- Player A: the airline which had one accident occurred

In order to attract passengers to use the airline again, Player A has strategies of active or passive action: the airline can conduct safety measures to rebuild market confidence and to reduce accident risk; or assume passengers will return gradually, so provide airfare discount and improve service to attract customers.

- Player B: customers/potential passengers

Customers are considering to use the airline or not to use the airline. Furthermore, there are two kinds of people should be divided. People who are sensitive to safety issues are type I, while those who regard all airlines are safe and consider service as priority including price attraction, operation satisfaction, flight schedule preference, limitation of seats, airline choice, etc. belong to type II.

3.2. Game Assumption

The big problem is that airlines do not do safety measures, but customers are still using. Our target is to find the condition when airlines do safety measures and customers use the airline. To support the hypothesis, there are several conditions and assumptions for this game, and are summarized as follows.

First, this phenomenon may potentially happens in developing countries, where aviation safety law is not well equipped. These airlines consider safety improvement is much more expensive, even affordable, than financial loss during impact period; also, if the government aviation authority is not strict on safety standards, as long as the airline satisfies the lowest requirement, there is no needs for them to expend expense for extra investment. Second, for domestic routes in one country, if airfare is not much different from airlines and also affordable, price won't be a dominant of airline choices. In most of cases, few airlines are operating in the same route, so for customers there are also few airline alternatives for them to select. Third, what customers perceive is different for individuals. Worries will be relieved over time. Some people are willing to take the airline even they feel unsafe due to limited flight choices and lower airfare. Therefore, these factors can be included into service perception, representing price attraction, limitation of provided seats, flight schedule preference, airline choice, etc. Tradeoff of worries and service quality can be two strategies for customers as well. Forth, if the airline found there is no sign that passengers will return, they may change their strategies to conduct safety measures. Timing of implementation is an important factor for airline decision making, because customer confidence may still remain low even the airline has already made efforts, inducing a long-term challenge. Lastly, airlines have to control budget and estimate the cost performance to get maximum profits for long-term plan. For poor airlines, it is highly possible to avoid expensive safety measures due to budget limitation, if they didn't receive supports from the government.

GAME MODELIZATION

4.1. Game Setting

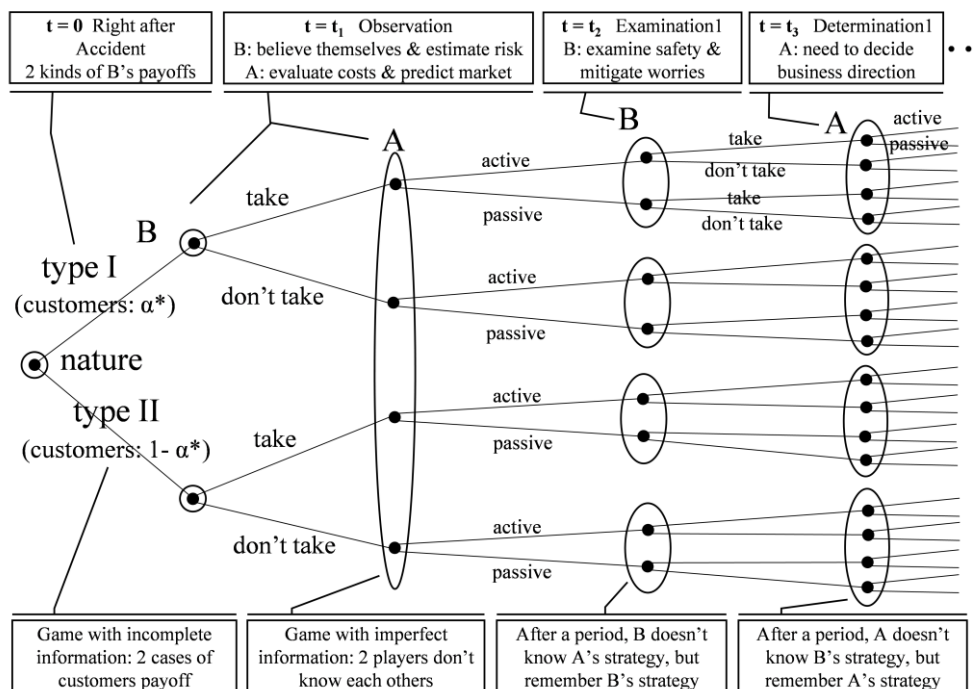
Lay people are not familiar with aviation safety, so their perception are totally different from experts in some conditions [2]. Customers' continual usage regardless of accident records may make airlines not to improve safety, while their unawareness of aviation safety may let one airline lead to bankruptcy, resulting in an unbalanced aviation market. Therefore, it is possible to create a multi-players game, covering two players, the airline and customers, to explore the interaction.

Customers can be regarded as one group, because they have similar characteristics, and be divided into two types, becoming a two-player game. We aim to let customers, regardless type I or II, can use the airline, and the airline conducts safety measures. Several game setting are described in Table 3. Extensive form in Figure 3 can make it clear to observe decision making process.

Table 3
Game setting

Two-person non-zero-sum game	Nash equilibrium exists.
A game with imperfect information	Because the airline cannot predict customers' willingness, and customers normally are not familiar with safety measures, meaning two players make decisions at the same time.
A game with incomplete information	Airline cannot specify what customers consider such as preference for safety perception or airline service, so a random nature to divide groups into type I and type II is necessary. Information asymmetry problem may also happen.
Repeated game	It can be finitely or infinitely, but using a discount factor δ can represent people's abating of worries with time passing, making the game continual.
Game with perfect recall	Both players A and B remember their previous decisions, and then make the next one.

Figure 3
Extensive form of the game



4.2. Information Asymmetry

Because of information asymmetry, customers know which type they belong while the airline does not, resulting in adverse selection problem. Akerlof [9] firstly addressed in second-hand car market. Our game of safety improvements can be compared with lemon market, because both examples are cases of information asymmetry.

In lemon market, if the dealers don't know the quality of cars, they are only willing to pay a fixed price (p_{avg}) to buy the car, which could be lemon (bad car) or peach (good car). Car owners know the quality, and they will sell the car when they hold lemon ($p_{lemon} < p_{avg}$) or withdraw the deal when their car is peach ($p_{peach} > p_{avg}$). Hence, adverse selection problem may happen because of market mechanism and information asymmetry, making high-quality cars from the market. In the same way, the airline pays a fixed price (p_{avg}) to buy the customer's usage (type I or type II). Customers sell the usage when they are type II (improved service quality and airfare discount) or withdraw the deal when they are type I (they are only willing to use when the airline takes safety measures), making type I customers from the market.

Consequently, airlines won't improve safety, and only type II customers are possible to use the airline, unless type I customers surrender to low safety perception airline. Because of asymmetry that player B has more while player A has less information, market isolation effect may occur, explaining the necessity of communication. Several countermeasures are drafted. For example, customers can express their consideration thought the media, and airlines can conduct a survey to understand what customers are thinking. By doing so, this motivation for airlines to implement safety measure can be enhanced and meanwhile customers are willing to use them.

CONCLUSIONS

After accidents, safety investment is necessary for airlines to improve safety management system, but how people think and perceive are different from the industry, and alter the level of safety. For the involved airlines, if there is no/less other airline rivals and if they have already met safety standard, they may not be motivated to spend extra expense for safety improvements, because customers still have to use air transport due to choice limitation and continual usage. This research summarized this phenomenon to specify safety problem with game theory approach. Because each player only considers personal maximum benefits, turning it to be a non-cooperative game.

Two players (the airline, customers) have two strategies respectively, and meanwhile customers can be divided to type I and type II. Several characteristics and assumption have been explained and defined to make an extensive form. According to comparison of information asymmetry example with lemon market, type I customers (those who consider safety perception as priority) will be isolated from the market in the future. Several reasons have been summarized as follows: (i) safety measures are not well explained and clearly demonstrated to people; (ii) many people are unwilling to use the involved airline because of their distrust toward this company and frequent accidents; (c) people are not familiar with aviation safety, inducing their concerns and misunderstanding. Hence, communication between airlines and customers is needed to solve this problem.

Our results provide a prospective for policy makers to understand this problem. For long-term and sustainable development of air transport, if airlines improve safety, people will start to trust the airline again, and their worries would decrease as well. This makes win-win for multiple stakeholders, and meanwhile level of safety can be enhanced.

However, there are some issues should be further pursued. Payoff analysis for two players can be conducted to quantify their benefits via data collection, and then Nash equilibrium can be explored to identify the situation. Also, to summarize and evaluate airlines' safety measure performance is recommended. Several safety measures have be drafted by airline companies, but details and expected performances are not well propagandized to the public. Airlines may quantify the efficiency of safety measure with some methods, but how it defines and how it represents for the whole safety are also unknown. Factors of safety measure implementation include: cost, period, performance (expected results),

priority, depreciable life, etc. of each measure. Therefore, to make an estimation considering diverse scenarios is desired.

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