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Profit sustainability and social responsibility of companies listed in the media and publishing sector in the Stock Exchange of Thailand

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ABSTRACT

The media and publishing business in Thailand enters into advanced technological era and is faces with the possibility of recession. These situations affect the operations of the business. So, maintaining profit of the business is a key factor for its continued existence. Moreover, an important factor that creates more profit for business is the company's corporate social responsibility. If companies invest and act more responsibly, they will increase their popularity and loyalty from their customers. As a result, customers will purchase more goods from those companies; which will result in higher profits. The researchers are interested in finding and analyzing compositions for the sustainability of the media and publishing business's profit and corporate social responsibility in Thailand. The objective of this thesis is to find the compositions for the sustainability of media and publishing business's profit and corporate social responsibility in Thailand and to analyze the status and forecasting the trend of profit and corporate social responsibility of the business. This study focuses on only the companies which are listed in the media and publishing sector in the Stock Exchange of Thailand. The researchers use the Model of Sustainable profit and corporate social responsibility developped by Sudtasan and Suriya (2013) and collects the costs and profit of the companies listed in the media and publishing sector in the Stock Exchange of Thailand. Data from 3 years (2010-2012) of 26 companies in the sector were collected. From the calculation of the data, the researchers can calculate only 4 companies as follows; WAVE, LIVE, SE-ED and AQUA.

WAVE has the best compositions of unit profit and *ln* of corporate social responsibility at 0.0000000026 baht and 11.381 baht per year respectively; LIVE has the best compositions of unit profit and ln of corporate social responsibility at 0.0000002535 baht and 13.447 baht per year respectively; and SE-ED has the best compositions of unit profit and ln of corporate social responsibility at 0.0000010574 baht and 12.500 baht per year respectively. The researcher forecasts that all 3 companies may achieve the sustainability of profit and corporate social responsibility eventually. Another company is AQUA that also has the best compositions of unit profit and ln of corporate social responsibility at 0.0000000125 baht and 11.101 baht per year respectively. However, AQUA may not achieve sustainability of profit and corporate social responsibility in the future because AQUA has diverging trend from the long - run equilibrium. So, AQUA should improve its policy to ensure its sustainability in long – run.

Keywords: Theory of the firm, mathematical modeling, phase diagram, sustainable development, corporate social responsibility.

JEL Classification: D21, C62, O12

1. Introduction

Thailand's economy has been affected by the global economic chain which has resulted in the financial position of the Publishing Industry slowdown in the fourth quarter of 2008, (Tarisa and Nuts, n.d.). The uncertainty of the economy can affect the operation of the companies and could affect the company's goal of making a profit of products, funding and growth rates of the companies in the industry. Technological change also made a change of habits of consumers. Factor in production costs, which are the main factors, directly affect the business or the media and publications business. Profitability of the Media & Publishing industry can be generated from the operation of the product, investing in the stock market, and distribution of goods and services to consumers. So, consumers are an important market who play a role in the purchase of goods and services from local businesses. Revenue from purchasing of goods and services by consumers, it will be part of the profits when less cost in operating activities of the business. This net profit is the goal of the business. It can make the businesses grow up. Moreover, Thailand consumers begin to understand and recognize that the social responsibility of businesses is important. Consumers will choose to purchase goods and services from businesses who behave, act and invest social responsibility, (Marketeer, 2007).

However, being socially responsible comes at on extra a cost which is the cost of the activity in order to obtain a good image and creates the business benefits. These costs are allocated to the activities which organizations have activities planned. Therefore, Media and Publishing industry is necessary to try to make a sustainable profit generation and sustainable spending to social responsibility. If a company aims to make only profit, it would not be able to spend as much to society and if they focus on spending to society too much, profit margins will have been reduced. Therefore, it is necessary to find the perfect combination of sustainability of profit and social spending sustainable as well.

2. Literature review

Sudtasan and Suriya (2014) proposed an empirical method to estimate the model of sustainable profit and corporate social responsibility originated**.** It suggests analysts to use data from official financial statements of companies which may be reported to the Stock Exchange in a particular country. The pooled cross-section and time series data from companies in the same industry may allow the construction of a set of panel data. These methods aim at locating the position of a company or a group of companies onto a phase diagram and calculate the steady state indicating the sustainability of profit and corporate social responsibility. By comparing the location of companies to the steady state, analysts can predict the direction of the firms in the long-run.

SMEs Knowledge Center (2011) have articles about Thailand's publishing businesses in the context of the world economic that Thailand's publishing businesses has expanded because of the opening platform ASEAN. Being of electronic media social can influence for the businesses because lots of advertising has increasingly choice and decreasingly costs. So, businesses can distribute advertising data more comprehensive. Entrepreneurs have to adapt and understand online media to reflect the lifestyle of a new generation. Moreover, analysts also predict that the publication industry will have continued high growth.

HongWoranun (2012) said that CSR is not only intended to make the organization more profitable or have a better image of the organization but it is the show of focuses on the social responsibility as an integral part of society, especially, increasing the chances that it has been recognized by global business organizations.

3. Methodology

This study refer to Suriya and Sudtasan (2014) that proposes the estimate of Sustainable Profit and Sustainability model can do by using the econometric method. So, we use two methods which is Ordinary Least Squares and Panel data analysis.

Method 1: Ordinary Least Squares

The equation of Ordinary Least Squares will be as follow.

$$\beta = (X'X)^{-1}(X'Y)$$

These estimates have definition that it's depends on the number of data we have collect. In this study, we use 26 data of Media and Publishing Company. This number is appropriate for estimate all of company in the Media and Publishing industry. Then, Ordinary Least Squares is used with Heteroscedasticity Consistent Estimator (HCE) in making sure that the results of the estimation are not biased anymore.

Method 2: Panel data analysis

When we use 26 data of Media and Publishing Company, we have to select the same year data and there are all companies in the same period for calculate and estimate the results. Or we can say that these data is the cross-sectional data.

Panel data analysis has two options which are the fixed effects model and the random effects model. (Suriya, 2011).

a. Fixed effects model

The setting of model can be written as follows.

$$Y_{it} = (\alpha_0 + \theta_i D_i) + \beta_0 X_{it} + \varepsilon_{it}$$

According to Sudtasan and Suriya model of sustainable profit and corporate social responsibility, constant will be the logarithm of profit per unit of Media and Publishing Company. So, the fixed effects analysis is able to separate the unit profit of each company in the group.

There are only thing that is different is constant for each group but other all the companies in the Media and Publishing Industry is the same.

b. Random effects model

The setting of model can be written as follows.

$$Y_{it} = \alpha_0 + \beta_0 X_{it} + \varepsilon_{it}$$

where $\varepsilon_{it} = \lambda_{it} + \gamma_{it}$

then $$Y_{it} = \alpha_0 + \beta_0 X_{it} + (\lambda_{it} + \gamma_{it})$$

and $$Y_{it} = (\alpha_0 + \lambda_{it}) + \beta_0 X_{it} + \gamma_{it}$$

Constant of companies can change when time passes. It demonstrates that the company's profit per unit can be calculated in each year.

For the estimation and selection between fixed effects model and random effects model, we will use Hausman testing. If the result from the testing fails, we will use the R-sq value. The R-sq is used in calculations to get the steady state. However, the estimation of these two options should give the independent variables with the same parameters in every company and only constant that would be differing.

4. Model of sustainable profit and corporate social responsibility

The study of profit sustainability and social responsibility of companies listed in the media and publishing sector in the Stock Exchange of Thailand refer to Sudtasan and Suriya (2013) model that proposed the model of sustainable profit and corporate social responsibility (CSR). The steady state or equilibrium of Sudtasan and Suriya (2013) model means that firms can operate their profit and social responsibility with sustainability in the long run. Therefore, this equilibrium is the intersection of two functions, sustainable profit and sustainable CSR expenditure.

Moreover, it can define to phase diagram that has four areas, warm glow area, frozen area, charitable area and decayed area. The important condition would be the sustainable profit as $\dot{\boldsymbol{\pi}} = 0$ and the sustainable corporate social responsibility as $\dot{\boldsymbol{S}} = 0$.

5. Estimation problem

We estimate the value by using Suriya and Sudtasan (2014)'s model, which suggests the form of models as follows.

Step 1: Logarithm of S that can be observed clearly from the financial status of the company.

Step 2: Assessing the profit per unit (Φ) must refer to profit equation in Sudtasan and Suriya (2013).

Moreover, the variables (X_j) indicate macroeconomic environments and dummy of significant events. It can effect to the profit of the firm and might force to the operation of company. So, we have to put all of variables (X_j) that involve in firm's operating profit and social responsibility in the equation as following order to specify which factor of X can effect to firm's operation. Then, we can refer to the macroeconomic environments in describing the results.

6. Data

The data of the profit and costs of the firms can be collected from media sector official financial statements. By law, listed companies in the Stock Exchange of Thailand must report the financial statements to the authority. The report is called Form 56-1. It is downloadable from the official website of Stock Exchange of Thailand (*www.settrade.com).*

7. Results

7.1 Result from econometric models

We analyze data in the stata order to realize the relationship between macroeconomic factor and the media and publishing company's profit. We found that no macroeconomic factors affect the profit of companies.

Table 1. The results for the fixed effects model with panel1

fixed - effect regression				Number of obs		52
Group variable : id				Number of groups		2
R-sq	within	0.7831		obs per group	min	26
	between	1.0000			avg	26.0
	overall	0.7788			max	26
corr(u_i, Xb)		-0.0985		F(1,49)		176.94
				Prob>F		0.0000
lnZ	Coef.	Std.Err.	t	P> | t |	[95% Conf.	Interval]
lnlnS	13.80485	1.037809	13.30	0.000	11.711929	15.88904
cons	-16.09548	2.807366	-5.73	0.000	-21.7371	-10.45387
sigma_u	0.1154556					
sigma_v	0.58812701					
cons	0.03710773	(fraction of variance due to u_i)				
F test that all u_i =0		F(1, 49) = 0.00		Prob > F = 1.0000		

Table 2. The results for the random effects model with panel1

Random - effects GLS regression				Number of obs		52
Group variable : id				Number of groups		2
R-sq	within	0.7831		obs per group	min	26
	between	1.0000			avg	26.0
	overall	0.7832			max	26
Random - effects u_i ~ Gaussian				Wald chi2 (2)		177.04
corr(u_i, X)		0 (assumed)		Prob > chi2		0.0000
lnZ	Coef.	Std.Err.	z	P> | z |	[95% Conf.	Interval]
lnlnS	13.80485	1.037809	13.30	0.000	11.77078	15.83892
x3	-3.06E-13	3.07E-13	-1.00	0.319	-9.07E-13	2.96E-13
cons	-15.8764	2.794286	-5.68	0.000	-21.3531	-10.39971
sigma_u	0					
sigma_v	0.58812701					
cons	0 (fraction of variance due to u_i)					
	coefficients					
	(b)	(B)	(b-B)		sqrt(diag(V_b-V_B))	
	fixed	.	Difference		S.E.	
lnlnS	13.80485	13.80485	-3.88E-12		.	

From the analyzing of data with panel1 and using Hausman testing (Table 1, 2), we found that the result from the testing fails. So, we use the R-squared value to compare both models. It is found that the random effects model offers a higher R^2.

Table 3. The results for the fixed effects model with panel2

fixed - effect regression				Number of obs		52
Group variable : id				Number of groups		2
R-sq	within	0.7676		obs per group	min	26
	between	1.0000			avg	26.0
	overall	0.7468			max	26
corr(u_i, Xb)		-0.1725		F(1,49)		161.88
				Prob>F		0.0000
lnZ	Coef.	Std.Err.	t	P> | t |	[95% Conf.	Interval]
lnlnS	13.52453	1.062989	12.72	0.000	11.38837	15.66069
cons	-15.0833	2.852785	-5.29	0.000	-20.81618	-9.35041
sigma_u	0.24715209					
sigma_v	0.59253447					
cons	0.14819731	(fraction of variance due to u_i)				
F test that all u_i =0		F(1, 49) = 0.00		Prob > F = 1.0000		

Table 4. The results for the random effects model with panel2

Random - effects GLS regression				Number of obs		52
Group variable : id				Number of groups		2
R-sq	within	0.7676		obs per group	min	26
	between	1.0000			avg	26.0
	overall	0.7676			max	26
Random - effects u_i ~ Gaussian				Wald chi2 (2)		161.89
corr(u_i, X)		0 (assumed)		Prob > chi2		0.0000
lnZ	Coef.	Std.Err.	z	P> | z |	[95% Conf.	Interval]
lnlnS	13.52453	1.062989	12.72	0.000	11.44111	15.60795
x3	8.41E-12	4.01E-12	2.09	0.036	5.42e-13	1.63E-11
cons	-19.03828	3.682375	-5.17	0.000	-26.2556	-11.82095
sigma_u	0					
sigma_v	0.59253447					
cons	0 (fraction of variance due to u_i)					

From the analyzing of data with panel2 and using Hausman testing (Table 3, 4), we found that the result from the testing fails again. So, we use the R-squared value to judge the better model. Random effects which offers a better R^2 is then a model.

7.2 Result from calculations

Table 5 Results from calculations for media and publishing companies

Name	lnS star	Phi star at lnS star	Phi at lnS from data	Phi from separation	lnS2012
AQUA	11.10162617	0.0000000125	-0.0000006010	0.0000000808	13.76551642
LIVE	13.44732695	0.0000002535	0.0000004573	0.0000000593	14.54689239
SE-ED	12.50043583	0.0000010574	0.0000095829	0.0000001487	15.97824548
WAVE	11.38125666	0.0000000026	-0.0000001342	0.0000000533	13.15560858

From the calculation all data (table 5); all of four companies have the best compositions of unit profit and ln of corporate social responsibility in the positive way. Moreover, status of operation's company is also positive. Or we can say AQUA, LIVE, SE-ED, and WAVE can get more profit and also spend for social responsibility.

The researchers can calculate only 4 companies as follows;

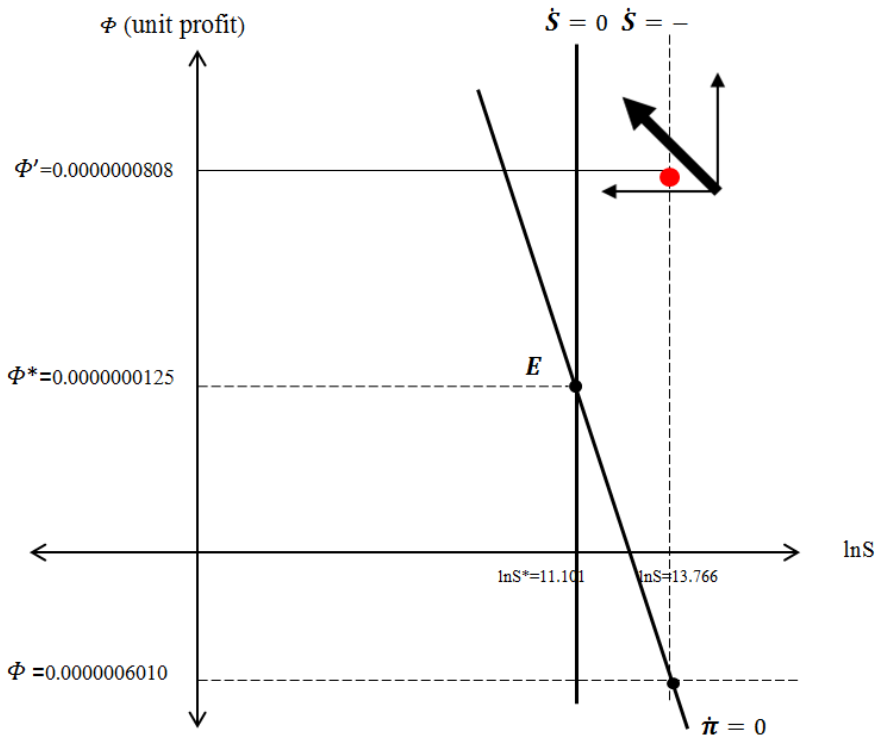

Figure 1 Position and direction of AQUA

AQUA is in warm glow area, AQUA has the best compositions of unit profit and ln of corporate social responsibility at 0.0000000125 baht and 11.101 baht per year respectively. AQUA may not achieve sustainability of profit and corporate social responsibility in the future because AQUA has a diverging trend from the long - run equilibrium. So, AQUA should reduce the unit profit but they can continue corporate social responsibility policy in their way.

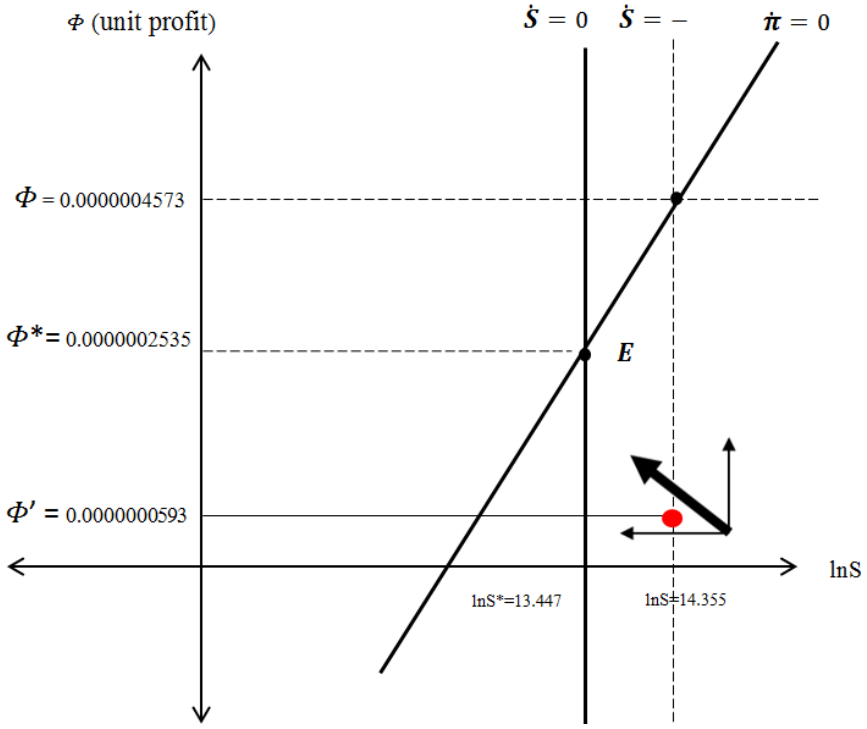

Figure 2 Position and direction of LIVE

LIVE has the best compositions of unit profit and ln of corporate social responsibility at 0.0000002535 baht and 13.447 baht per year respectively**.** We can forecast that LIVE can achieve the steady state in the long run by reduce spending of corporate social responsibility and increase in profitability.

SE-ED has the best compositions of unit profit and ln of corporate social responsibility at 0.0000010574 baht and 12.500 baht per year respectively. We can forecast that SE-ED can achieve the steady state in the long run by reduce spending of corporate social responsibility and increase in profitability.

WAVE has the best compositions of unit profit and ln of corporate social responsibility at 0.0000000026 baht and 11.381 baht per year respectively**.** We can forecast that WAVE can achieve the steady state in the long run by reduce spending of corporate social responsibility and profitability.

However, the factors of corporate social responsibility still are the important factor in development of country, such as subsidies from companies or all of that money as cycle in the economy. It will improve the society of the country.

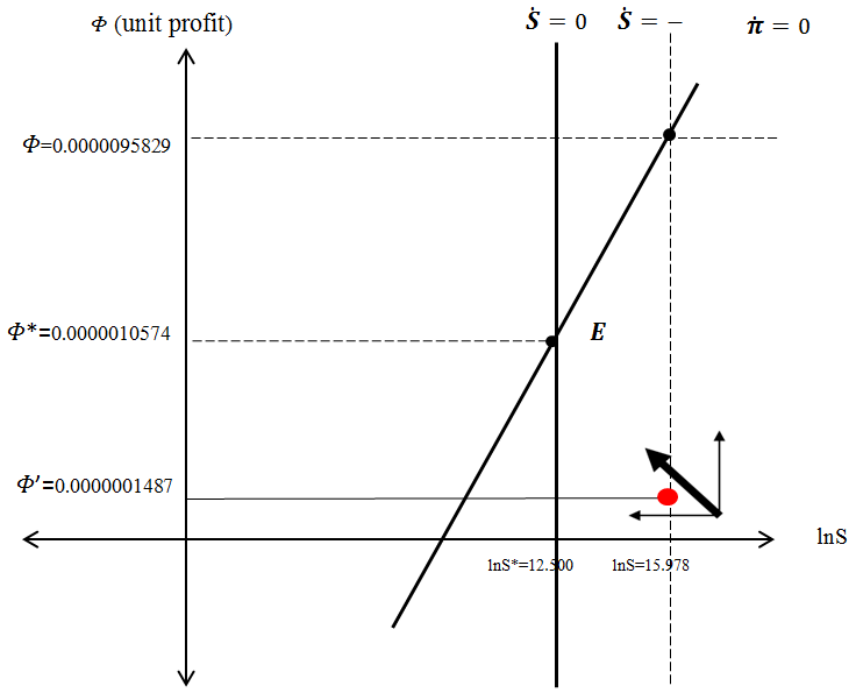

Figure 3 Position and direction of SE-ED

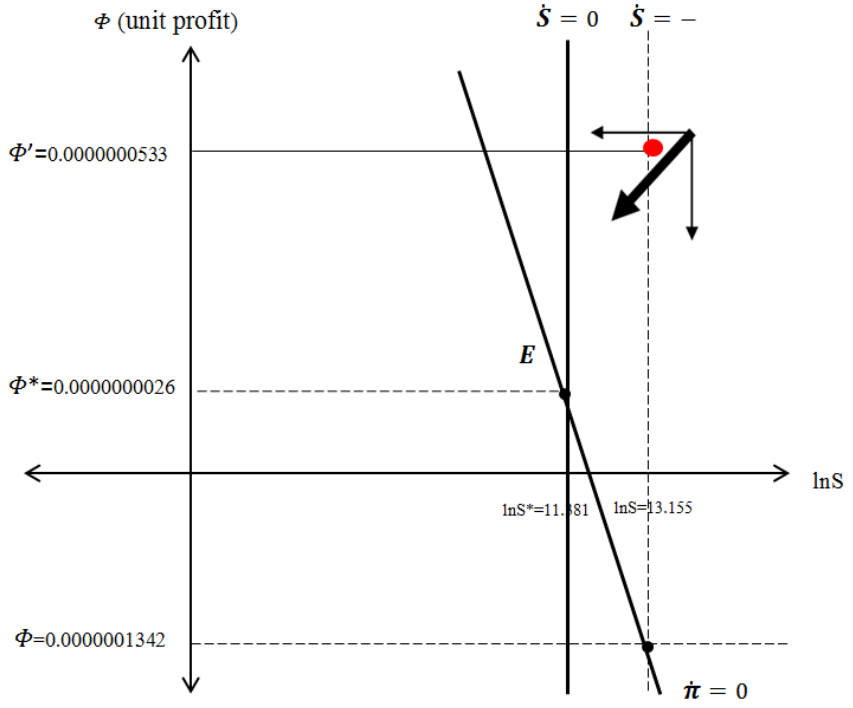

Figure 4 Position and direction of WAVE

8. Conclusions

In the past, the situation of media and publications sector enters into an advanced technological era and is faced with recession. These situations affect the operations of the business. Therefore, maintaining profit margins of the business is a key factor for its

survival. Moreover, an important factor that creates more profit to business is its corporate social responsibility. If companies are willing to pay for social responsibility, they will become more popular and high brand loyalty from its customers. As a result customers will purchase more goods from those companies, in turn will increase their profit. The researchers are interested in finding and analyzing compositions for the sustainability of the media and publishing business's profit and corporate social responsibility in Thailand. This study focuses on only the companies which are listed in the media and publishing sector of the Stock Exchange of Thailand. The researchers use the Model of Sustainable profit and corporate social responsibility developped by Sudtasan and Suriya (2013) and collects the costs and profit of the companies listed in the media and publishing sector in the Stock Exchange of Thailand. Data were collected from 3 years (2010-2012) of 26 companies in the sector. From the calculation of the data, the researchers can calculate only 4 companies. WAVE, LIVE, and SE-ED can achieve the steady state with their original policy but only AQUA have to change the policy for adjust the way to reach the sustainability in long run.

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