MỐI QUAN HỆ GIỮA QUẢN LÝ CHI PHÍ VÀ DOANH THU TRONG CÔNG TÁC KẾ TOÁN VÀ PHÁT TRIỂN BỀN VỮNG - NGHIÊN CỨU TÌNH HUỐNG NGÀNH VẬT LIỆU XÂY DỰNG Ở VIỆT NAM

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Tóm tắt

Bài báo nhằm mục đích xác định yếu tố nào ảnh hưởng đến sự phát triển bền vững của một công ty vật liệu xây dựng điển hình (DCT) tại tỉnh Đồng Nai, Việt Nam, từ các yếu tố chi phí và doanh thu ảnh hưởng đến doanh thu thuần của công ty DCT qua các năm 2011-2020. Tác giả phân loại các yếu tố ảnh hưởng đến sự phát triển doanh nghiệp bền vững thành 3 nhóm chính: 1) nhóm các yếu tố quản lý chi phí; 2) nhóm các yếu tố quản lý doanh thu; và 3) nhóm các yếu tố vĩ mô. Với phương pháp định tính, quy nạp và tổng hợp, diễn dịch, định lượng - hồi quy tuyến tính OLS, kết quả nghiên cứu cho thấy các yếu tố bên ngoài như lãi suất cho vay, GDP, CPI có tác động mạnh đến tăng trưởng doanh thu thuần của doanh nghiệp. Bên cạnh đó, sự gia tăng chi phí bán hàng, quản trị công ty và quản lý tài sản-lợi nhuận có thể thúc đẩy doanh thu. Ngoài ra, nghiên cứu này cũng đề xuất một số giải pháp quản trị và chính sách vĩ mô nhằm hỗ trợ thúc đẩy phát triển doanh nghiệp bền vững ở nước ta.

Từ khóa: *quản lý chi phí, quản lý doanh thu, kế toán, phát triển bền vững, xây dựng, Việt Nam*

RELATIONSHIP BETWEEN COST AND REVENUE MANAGEMENT IN ACCOUNTING AND SUSTAINABLE DEVELOPMENT - A CASE STUDY IN CONSTRUCTION MATERIAL INDUSTRY IN VIETNAM

Abstract

The paper aims to address what are factors that affect sustainable development of a typical construction material company (DCT) in Dong Nai province, Vietnam, from cost and revenue factors affecting net revenue of DCT company over years 2011-2020. The author categorizes factors affecting sustainable firm development (SFD-sustainable firm development) into 3 main groups: 1) group of cost management factors; 2) group of revenue management factors; and 3) group of macro factors. With qualitative, inductive and synthetic, deductive, and quantitative methods - linear regression OLS, the research results show that external factors such as lending rate, GDP, CPI have a strong impact on growth in net sales of enterprises. In addition, increases in selling expenses, corporate governance, and profit-assets management can boost revenue. In addition, this study also proposes some macro-policy and governance solutions to support the promotion of sustainable firm development in our country.

Keywords: *cost management, revenue management, accounting, sustainable development, construction, Vietnam.*

JEL classification: M21, G30, G32, G38.

1.Introduction

First, we recognize the importance of Many guidelines and policies that have been promulgated, implemented and initially put into life, achieving certain results. The Prime Minister issued Decision No. 153/2004/QD-TTg dated August 17, 2004 on Orientation for Sustainable Development in Vietnam, which outlines the main orientations to improve the quality of growth. towards sustainable development: i) Maintaining the stability of the macro-economic environment through perfecting financial policies, balancing the budget, stabilizing the currency, controlling inflation; ii) Shifting the economy from growth mainly in breadth to development mainly in depth on the basis of effective use of advanced scientific and technological achievements to increase labor productivity and improve health; strong; compete for goods and services, improve the efficiency of the economy in general and the efficiency of investment capital in particular.

Next, the document of the 10th Party Congress continued to affirm: Rapid development must go hand in hand with sustainable development, both sides impact each other, reflected in both the macro and micro scale, both short and long term term. Growth in quantity must go hand in hand with improving quality, efficiency and competitiveness of the economy. While exploiting the factors of breadth development, special importance must be given to the elements of depth development.

Therefore, in any industry or sector of the Vietnamese economy, we need to take advantage of these concepts in sustainable development, for example in this study we will mention the factors that affect the sustainable development in a specific case of construction material Company (DCT -stock code).

DCT- Dong Nai Building Materials Roofing Joint Stock Company, formerly known as Asbestos Cement Factory, invested and built by the construction material industry group ETERNIT of the French Republic. The company was transformed from a state-owned enterprise into a joint stock company in October 2000. Business lines: manufacturing and trading cement products, roofing and construction; trade services, import and export of supplies, raw materials...enabling sale of products globally.

All internet data such as stock price, exchange rate, inflation, GDP growth, risk free rate we take from reliable internet data sources , esp. from website of State Bank of Vietnam, Bureau of Statistics, Ministry of Finance, banks, etc.

We structured our paper with an introduction, literature review, methodology, key findings, discussion, and conclusion.

2. Literature review

Haliti et al. (2016) published the data with SPSS version 21, and the hypotheses were tested by correlation and linear regression methods. Research results have demonstrated that commercial banks in Kosovo can increase their profits by increasing the level of bank lending and other investments, except with proper risk and liquidity management.

Last but not least, Huy, DTN et al (2020) measure the impact of external factors on the bank's stock price in the case of a large listed bank in Vietnam - Vietcombank has left the bank. direction for further studies on measuring the impact of internal factors.

Furthermore, Gupta (2019) points out that Information Systems (IS) are important in most of the all functional areas of any bank i.e. HR, Marketing, Finance etc. It also helps with risk management and cash management along with long-term customer retention.

And Hang, T.T.B, Nhung, D.T.H, & Huy D.T.N (2020) said that Vietnam's tourism industry has risks after the global crisis that need to be controlled. In addition, Huy, D.T.N et al (2020) show that risks also occur in the banking sector, so it is necessary to control macro policies.

Ahmad and Ramzan (2016) said that investors want to know what factors, abnormal movements of macro factors affect the performance of stocks and portfolios.

Furthermore, Gupta (2019) clearly indicates that Information Systems (IS) are important in almost all functional areas of any bank, i.e. Human Resources, Marketing, Finance, etc. It also helps with risk management and cash management along with maintaining long-term customer relationships.

And last but not least, Sibanda et al (2020) mentioned that digital technology has transformed the bank from a classical model to an innovative Fintech partnership model.

Sustainable development concepts. Therefore, we draw the concept of sustainable development, that is, sustainability needs to be addressed in short, medium and long term goals/targets, with specific measures.

In the tourism industry, there are factors affecting its sustainable development such as: CPI, GDP, lending interest rate (external factors) and cost management and revenue management factors (factors). inside).

In Vietnam's conditions and context, economic development must go hand in hand with ensuring socio-political stability; Socio-political stability is a prerequisite and condition

for rapid and sustainable development (source: Communist Party of Vietnam, 2006; Document of the 10th National Congress of Deputies; www.cpv.org.vn).

Last but not least, AIAqeed (2012) stated the factors affecting the sustainable development of enterprises in the figure below:

Figure 1: Sustainable business development
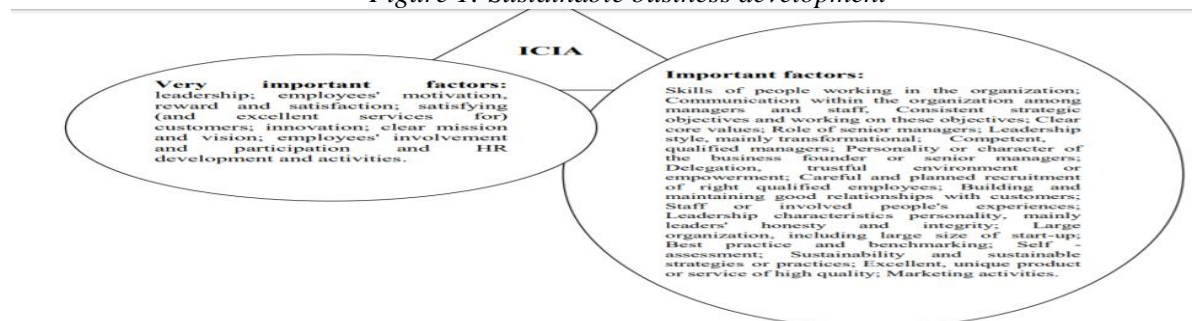
ICIA: Integrated continuous implementation approach

3. Methodology

Method and Data

This study mainly uses a combination of quantitative and qualitative methods including synthesis, induction and interpretation. And it emphasizes once again the important role of internal factors (costs and revenue) and external macro factors (CPI, R, GDP) affecting the sustainable development of the company. tourism through a measure or a company's business performance.

For the quantitative analysis, the study was supported with OLS regression.

Independent variables: Admin expense, sale cost, COGS, total revenue, net profit, ROE, ROA, R, Rf, CPI, G

Dependant variable: Net revenue of DCT

Data is collected from reliable internet sources and websites. All internet data such as stock prices, exchange rates, inflation, GDP growth, risk-free rates, we take from reliable internet data sources. from the website of the State Bank of Vietnam, Department of Statistics, Ministry of Finance, banks, etc

Our model of sustainable firm development (SFD) can be illustrated in the figure below:

(1)Cost factors management group (sale cost, COGS, admin expense)

(2)Revenue factors management group (ROE, ROA, total revenue, net profit)

(3)External factors (G, CPI, R, Rf)

Looking at the descriptive statistics tables below, we see that:

- Standard deviations of COGS and admin expense are higher than sale cost (Figure 2)

- Standard deviation of net profit is higher than ROA and ROE (figure 3)

- The standard deviation of CPI and R is higher than that of Risk free rate (Figure 4)

Figure 2: Cost elements descriptive

	NETREVE...	ADMIN_EX...	COGS	COST_INC...	R	SALE_COST
Mean	332.1000	13.20000	308.0000	0.925600	0.115260	4.350000
Median	309.0000	13.00000	298.0000	0.950500	0.100000	3.850000
Maximum	531.0000	19.40000	492.0000	1.067000	0.190000	8.000000
Minimum	244.0000	6.500000	218.0000	0.715000	0.080000	0.600000
Std. Dev.	81.28749	4.962302	76.73475	0.117654	0.039225	3.172889
Skewness	1.518953	-0.035380	1.285510	-0.429429	1.138882	0.030657
Kurtosis	4.678203	1.459184	4.522007	1.967452	2.705184	1.347613
Jarque-Bera	5.018850	0.991300	3.719439	0.751579	2.197970	1.139227
Probability	0.081315	0.609175	0.155716	0.686747	0.333209	0.565744
Sum	3321.000	132.0000	3080.000	9.256000	1.152600	43.50000
Sum Sq. Dev.	59468.90	221.6200	52994.00	0.124582	0.013847	90.60500

Source: authors calculation and stock exchange

Figure 3: Revenue elements descriptive

	NETREVE...	NETPROFIT	ROA	ROE	TOTALREV...
Mean	332.1000	-53.25000	-0.058200	-0.682900	334.6000
Median	309.0000	-47.50000	-0.051000	-0.018000	309.0000
Maximum	531.0000	32.00000	0.027000	1.917000	531.0000
Minimum	244.0000	-134.0000	-0.165000	-7.818000	250.0000
Std. Dev.	81.28749	57.89180	0.063140	2.635206	81.17909
Skewness	1.518953	-0.033851	-0.276975	-2.181723	1.480882
Kurtosis	4.678203	1.641501	1.916684	6.767078	4.475602
Jarque-Bera	5.018850	0.770876	0.616848	13.84606	4.562270
Probability	0.081315	0.680153	0.734604	0.000985	0.102168
Sum	3321.000	-532.5000	-0.582000	-6.829000	3346.000
Sum Sq. Dev.	59468.90	30163.15	0.035880	62.49881	59310.40

Source: authors calculation and stock exchange

Figure 4: External macro factors descriptive

	NETREVE...	CPI	G	R	RF
Mean	332.1000	0.053530	0.061090	0.115260	0.046905
Median	309.0000	0.038150	0.064800	0.100000	0.053350
Maximum	531.0000	0.181300	0.070800	0.190000	0.065350
Minimum	244.0000	0.006300	0.029100	0.080000	0.012200
Std. Dev.	81.28749	0.048052	0.012441	0.039225	0.018595
Skewness	1.518953	2.051303	-1.843628	1.138882	-0.570545
Kurtosis	4.678203	6.308044	5.524584	2.705184	2.017240
Jarque-Bera	5.018850	11.57272	8.320575	2.197970	0.944960
Probability	0.081315	0.003069	0.015603	0.333209	0.623454
Sum	3321.000	0.535300	0.610900	1.152600	0.469050
Sum Sq. Dev.	59468.90	0.020781	0.001393	0.013847	0.003112

Source: authors calculation and stock exchange

4. Main results

4.1. Overall results

From below figures we see that:

- Correlation between net revenue and COGS higher than that between net revenue and R (figure 5)

- Correlation between net revenue and ROA higher than that between net revenue and ROE (figure 6)

- Correlation between net revenue and G higher than that between net revenue and Rf (figure 7)

Figure 5: Cost factors correlation

Correlation Matrix						
	NETREVE...	ADMIN_EX...	COGS	COST_INC...	R	SALE_COST
NETREVE...	1.000000	0.158690	0.883855	-0.181455	0.498465	0.164287
ADMIN_EX...	0.158690	1.000000	0.283715	0.331905	0.555471	0.973935
COGS	0.883855	0.283715	1.000000	0.297354	0.341066	0.323059
COST_INC...	-0.181455	0.331905	0.297354	1.000000	-0.285703	0.386817
R	0.498465	0.555471	0.341066	-0.285703	1.000000	0.570010
SALE_COST	0.164287	0.973935	0.323059	0.386817	0.570010	1.000000

Source: authors calculation and stock exchange

Figure 6: Revenue factors correlation

Correlation Matrix					
	NETREVE...	NETPROFIT	ROA	ROE	TOTALREV...
NETREVE...	1.000000	0.162297	0.199107	0.070035	0.999289
NETPROFIT	0.162297	1.000000	0.971690	0.283929	0.181918
ROA	0.199107	0.971690	1.000000	0.189864	0.216108
ROE	0.070035	0.283929	0.189864	1.000000	0.083285
TOTALREV...	0.999289	0.181918	0.216108	0.083285	1.000000

Source: authors calculation and stock exchange

Figure 7: External factors correlation

Correlation Matrix					
	NETREVE…	CPI	G	R	RF
NETREVE…	1.000000	0.063169	0.511668	0.498465	0.227298
CPI	0.063169	1.000000	0.099628	0.744833	0.509105
G	0.511668	0.099628	1.000000	0.095911	0.426732
R	0.498465	0.744833	0.095911	1.000000	0.678900
RF	0.227298	0.509105	0.426732	0.678900	1.000000

Source: authors calculation and stock exchange

4.2. OLS Regression results

After run OLS regression for single factor, From below figures we analyze that:

- With coefficient positive of 0.93, if COGS increases, net revenue will go up (figure 8)

- With coefficient of 4.2 (positive), if sale cost goes up, net revenue will increase (figure 9)

- With coefficient positive of 1032, if lending rate goes up, net revenue will climb up. (figure 10)

- With coefficient of 2.5, if admin expense goes up, net revenue will increase (figure 11)

Figure 8: OLS for COGS factors

```
Dependent Variable: NETREVENUE
Method: Least Squares
Date: 07/01/21   Time: 18:08
Sample: 1 10
Included observations: 10
```

Variable	Coefficient	Std. Error	t-Statistic	Prob.
COGS	0.936295	0.175191	5.344434	0.0007
C	43.72124	55.44538	0.788546	0.4531

R-squared	0.781199	Mean dependent var	332.1000
Adjusted R-squared	0.753849	S.D. dependent var	81.28749
S.E. of regression	40.32963	Akaike info criterion	10.40891
Sum squared resid	13011.83	Schwarz criterion	10.46942
Log likelihood	-50.04453	F-statistic	28.56297
Durbin-Watson stat	1.010891	Prob(F-statistic)	0.000690

Source: authors calculation and stock exchange

Figure 9: OLS for sale cost factor

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Dependent Variable: NETREVENUE
Method: Least Squares
Date: 07/01/21   Time: 18:08
Sample: 1 10
Included observations: 10
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Variable	Coefficient	Std. Error	t-Statistic	Prob.
SALE_COST	4.208929	8.934752	0.471074	0.6502
C	313.7912	47.26391	6.639128	0.0002

R-squared	0.026990	Mean dependent var	332.1000
Adjusted R-squared	-0.094636	S.D. dependent var	81.28749
S.E. of regression	85.04692	Akaike info criterion	11.90114
Sum squared resid	57863.82	Schwarz criterion	11.96166
Log likelihood	-57.50570	F-statistic	0.221911
Durbin-Watson stat	2.197968	Prob(F-statistic)	0.650166

Source: authors calculation and stock exchange

Figure 10: OLS for lending rate

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Dependent Variable: NETREVENUE
Method: Least Squares
Date: 07/01/21   Time: 18:09
Sample: 1 10
Included observations: 10
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Variable	Coefficient	Std. Error	t-Statistic	Prob.
R	1032.992	635.1724	1.626318	0.1425
C	213.0373	76.93088	2.769204	0.0243

R-squared	0.248467	Mean dependent var	332.1000
Adjusted R-squared	0.154526	S.D. dependent var	81.28749
S.E. of regression	74.74359	Akaike info criterion	11.64286
Sum squared resid	44692.83	Schwarz criterion	11.70338
Log likelihood	-56.21430	F-statistic	2.644911
Durbin-Watson stat	2.347946	Prob(F-statistic)	0.142534

Source: authors calculation and stock exchange

Figure 11: OLS for admin expense

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Dependent Variable: NETREVENUE
Method: Least Squares
Date: 07/01/21   Time: 18:09
Sample: 1 10
Included observations: 10
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Variable	Coefficient	Std. Error	t-Statistic	Prob.
ADMIN_EXPENSE	2.599495	5.718171	0.454602	0.6615
C	297.7867	80.13645	3.715995	0.0059

R-squared	0.025182	Mean dependent var		332.1000
Adjusted R-squared	-0.096670	S.D. dependent var		81.28749
S.E. of regression	85.12589	Akaike info criterion		11.90300
Sum squared resid	57971.33	Schwarz criterion		11.96351
Log likelihood	-57.51498	F-statistic		0.206663
Durbin-Watson stat	2.227335	Prob(F-statistic)		0.661477

Source: authors calculation and stock exchange

Here, we run OLS for 3 groups of factors as follows:

As we infer from below tables:

- admin expense increase will cause net revenue increases

- CPI increases will make net revenue decreases

- ROA increases will cause net revenue increases

Table 1: Regression OLS for multi factors

	Coefficient		
	External factors	**Internal factors (cost)**	**Internal factors (revenue)**
Admin expense		2.6	
COGS		1.09	
Sale cost		-3.3	
Net profit			-0.06
R	3003	-23.1	
Rf	-3064		
CPI	-1241		
Cost-income ratio		-342	
G	4867		
ROE			-0.18
ROA			33.9
Total revenue			1.003
R-squared	0.89	0.99	0.99
Akaike info criterion	10.2	4.8	5.5

Source: authors calculation and stock exchange

Then, we run OLS for 5-6 factors mixed:

Table 2: Regression OLS for 5-6 factors

	Coefficient	
	5 factors	**6 factors**
Admin expense	1.86	2.26
COGS	0.96	0.92
Sale cost	-4.6	-5.9
Net profit	0.39	0.3
R	393	554.3
CPI		-117
R-squared	0.93	0.93
Akaike info criterion	10.1	10.2

Source: authors calculation and stock exchange

We can infer from the above table that R and CPI have highest impacts in case of DCT net revenue whereas COGS and net profit have lowest impacts, measured by coefficients.

Next, we run OLS for 7-8 factors mixed:

Table 3: Regression OLS for 7-8 factors

	Coefficient		
	7 factors	**8 factors**	**8 factors**
Admin expense	2.05	1.8	-4.9
COGS	1.1	1.06	1.4
Sale cost	-1.6	-1.8	17.8
Net profit	0.03	0.01	-2.07
R	-117	-1.13	-1282
Rf			-3017
CPI	49.8	-21.3	1613
Cost-income ratio	-339	-339	
G		168	
ROE			2300
ROA			2407
R-squared	0.99	0.99	0.98
Akaike info criterion	4.3	3.4	8.9

Source: authors calculation and stock exchange

5. Discussion

With cost management factors: we note that the coefficient of COGS and sale cost affecting net revenue is positive, and coefficient of admin expense is negative. Focusing on increasing the cost of sale can promote the increase of revenue.

With revenue management factors: we note that the coefficient of ROA affecting net revenue is positive, and coefficient of net profit is negative. Focus on increasing ROA can boost revenue growth.

With macro factors: we note that the coefficient of CPI affecting revenue is positive, and coefficient of R and Rf are negative. Focusing on increasing lending rate can cause net revenue declines.

In the scope of this paper we would like to present three (3) main streams that affect firm sustainability as below figure:

Figure 12 - Three streams of factors affecting sustainability

Moreover we can compare some financial ratios in in construction material industry as follows:
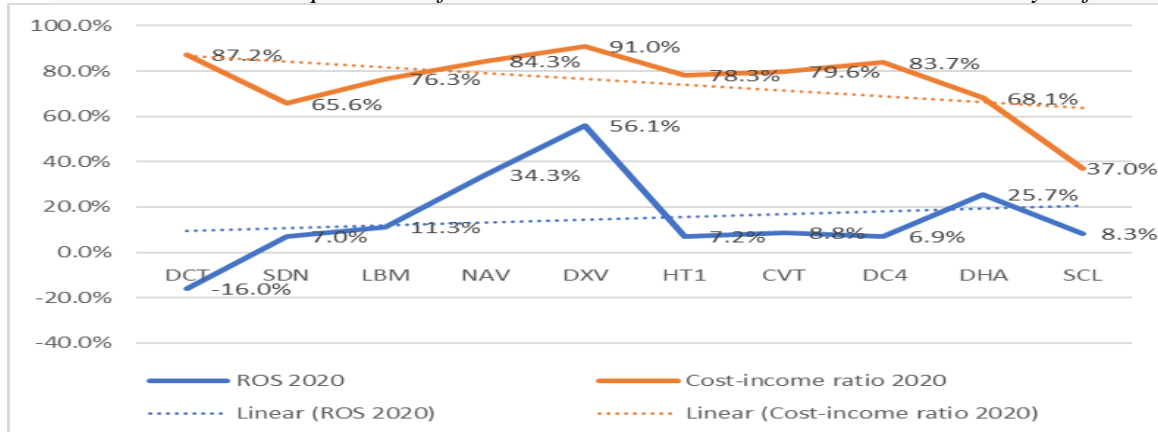

Chart 1 - Financial ratios in 2020 for 10 firms in the same industry (sample size 10 firms)

Source: authors calculation and stock exchange

Table 4: Comparison of financial ratios of 10 construction material firms

No.	Cons_material firm	ROS			Cost-income ratio		
		2018	2019	2020	2018	2019	2020
1	DCT	-0.3%	1.6%	-16.0%	82.0%	81.0%	87.2%
2	SDN	4.1%	3.8%	7.0%	65.3%	66.0%	65.6%
3	LBM	10.3%	10.4%	11.3%	77.8%	78.9%	76.3%
4	NAV	16.9%	13.3%	34.3%	87.6%	94.3%	84.3%
5	DXV	44.5%	-2.4%	56.1%	92.6%	91.3%	91.0%
6	HT1	7.2%	7.9%	7.2%	78.5%	78.2%	78.3%
7	CVT	10.4%	10.4%	8.8%	75.0%	74.8%	79.6%
8	DC4	4.1%	6.2%	6.9%	92.5%	88.6%	83.7%
9	DHA	22.2%	20.2%	25.7%	69.0%	69.2%	68.1%
10	SCL	-35.9%	-2.3%	8.3%	79.5%	38.9%	37.0%

Source: authors calculation and stock exchange

We see: DCT (and DC4) are 2 firms with high cost/income ratio (>80%) in 3 consecutive years 2018-2020. However ROS of DC4 still > 0 while ROS of DCT negative < 0 in 2018 and 2020. Hence, DCT need to pay attention to cost management and cost/income ratio better in coming years otherwise ineffective outcomes (see table 1). Also we recognize ROS of DCT still lower than average ROS of 10 firms in industry, and cost/income ratio of DCT higher than average ROS. (see chart 1).

Ontorael et al (2017) stated that external environmental factors had a positive and significant influence on internal environmental factors. Similarly, external and internal environmental factors also had a positive and significant influence on business performance.

6. Conclusion and policy implications

Suggestions for cost management

Since COGS and sale cost have a positive effect (positive coefficient) on net revenue, construction (material) enterprises such as DCT Company in Dong Nai can consider increasing reasonable costs to promote revenue growth.

Suggestions for revenue management

On the other hand, because ROA has a positive effect on revenue, businesses need to promote profit growth and asset management to increase revenue.

The firm also need to improve cost/income ratio (lower) as it still higher than average of sample (see chart 1).

Macro policy suggestions

Besides, because lending rate and risk free rate have a negative effect on revenue, macro policies to control R and Rf at low level will increase the revenue of enterprises.

Limitation of research

Authors can expand research model for other markets and industries.

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