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Managers' Characteristics and Employee Productivity

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ABSTRACT

We investigate the effect of top management characteristics on employee productivity. Arguably, the presence of encouraging managers will motivate employee to perform better in term of productivity. We use archival data of Indonesian firms to test our hypothesis. Some demographic factors are employed to measure managers' characteristics. Surprisingly, our results reveal that firms with more educated managers have lower employee productivity. However, we do not find evidence on the effect of managers' age and tenure on employee productivity.

INTRODUCTION

There have been some studies explaining the impact of managers' characteristics, particularly demographic factors, on the choice of strategy at the firm level. It then subsequently would impact on firm performance. According to the upper echelons theory introduced by Hambric and Mason (1984), it is postulated that firm strategy is a reflection of top management team which means that values and beliefs of the upper echelon teams drive the strategy. The exogenous factors of values and beliefs could be seen from the demographic characteristics such as gender, age, education and tenure. Some empirical studies confirm this theory (e.g. Herrmann and Datta, 2005; Zarutskie, 2010; Rivas, 2012)

However, most of previous researches explained earlier focus to relate the characteristics of top management team and the extent to which such characteristics drive managers to design corporate strategy. Some of them then investigate its impact on performance which is measured using accounting (financial) performance and stock market performance. To our knowledge, there is no paper has taken into account the impact of managers' characteristics on the extent to which employees are motivated to perform better. Arguably, encouraging top management team would lead to have a positive impact on the organization atmosphere and environment which subsequently motivate employees to work productively due to they have a power (Smith et al. 2006).

Therefore, taking different perspective, this present paper directly investigates the relation between managers' characteristics on employee productivity. We combine three approaches coming from organization studies, finance literature and strategic perspective to explain why characteristics of managers could have an impact on employee productivity.

We study firms in Indonesia, an emerging country which has been growing significantly. Like in other developing countries, business in Indonesia has grown significantly in the recent years which contribute to an astonishing and stable economic growth. Its capital market is also growing substantially over the recent years.

Few studies have investigated the role of top management team to determine the organization outcomes in the context of Indonesia. Our previous study (Sawitri et al., 2016), by studying Indonesian banks, provides evidence that women in top management is negatively associated with bank performance. It means the more the proportion of women in top management team, the lower the bank performance. The other study is conducted by Untoro et al. (2016) who investigate the impact of organization tenure and bank diversification strategy. They find that more tenured top managers tend to be less aggressive which subsequently have a lower level of diversification. However, no paper employs employee productivity in as an organization outcome.

In this present paper, we answer to important questions. First, we investigate the impact of managers' characteristics on employee productivity which is measured by the ratio of sales to employee. Second, we argue that in the services industry (finance and trading), the impact of top management team's characteristics on employee productivity should be different than other industry due to in the services industry the role of top executives in directing and supervising employees is more important. In other word, it could be argued that industry matters in explaining the difference in the effect of top management team's characteristics on employee productivity.

RESEARCH METHOD

This paper studies the effect of characteristics of top management team on the employee productivity. We study 97 firms (both non-financial and financial firms) listed in the Indonesia Stock Exchange over the period of 2010-2014. Finally, 410 firm-year observations are included in the empirical estimation. We collect the data from various sources. First, financial statements come from the ORBIS database provided by Bureau van Dijk (BvD). Second, data for managers' characteristics are gathered from the annual reports of firms which are published in the website of Indonesia Stock Exchange (IDX).

Our main variables to explain the managers' characteristics are education, age and tenure of managers. We define top management team as the board of directors (president

director, deputy and directors). We do not include board of commissioners due to in the context of Indonesia, such board performs as a supervisor (representative of stockholders) and do not involve in the daily activities of firms. Education (EDU) is the average education of top management team. The average age (AGE) of board of directors is also used. Lastly, tenure is the average tenure of top management team within the firm (TENURE).

Our dependent variable is employee productivity (PROD) which is measured by the ratio of sales per employee (presented in natural logarithm). It reflects the extent to which employees generate organization output. Similarly, Belorgey et al. (2006) measure employee productivity at the country level by dividing output (GDP) with the number of employees.

We take into account some control variables especially the firm specific characteristics including firm size (the natural logarithm of total assets/ LNTA), leverage (the ratio of debt to total assets/ LEV) and firm age (the difference between establishment year and observation year/ FIRM_AGE). Industry differences are also accounted in the model. According to the JASICA (Jakarta Industrial Classification), there 9 industries. However, we cannot introduce all of them simultaneously in the model. Three industries which are agriculture, mining and miscellaneous industries are excluded. Therefore, we only include 6 dummy variables to represent industry differences which are basic industry (BASIC), consumer good (CONSUMER), property and real estate (PROPERTY), infrastructure (INFRA), finance and insurance (FINANCE) and trading industry (TRADING).

The basic empirical model to be estimated is exhibited below:

$$PROD_{it} = \alpha_0 + \alpha_1 EDU_{it} + \alpha_2 AGE_{it} + \alpha_3 TENURE_{it} + \alpha_4 LNTA_{it} + \alpha_5 LEV_i + \alpha_6 FIRM\_AGE_{it} + \varepsilon_{i,t}$$

To estimate the moderating effect of industry on the link between education level of top management team and services industries (finance and trading), we introduce two interaction variables (EDU_FINANCE and EDU_TRADING). Then, the model is presented below:

$$PROD_{it} = \alpha_0 + \alpha_1 EDU_{it} + \alpha_2 AGE_{it} + \alpha_3 TENURE_{it} + \alpha_4 LNTA_{it} + \alpha_5 LEV_i + \alpha_6 FIRM\_AGE_{it} + \alpha_7 BASIC_{it} + \alpha_8 CONSUMER_{it} + \alpha_9 PROPERTY_{it} + \alpha_{10} INFRA_{it} + \alpha_{11} FINANCE_i + \alpha_{12} TRADING_{it} + \alpha_{13} EDU\_FINANCE_i + \alpha_{14} EDU\_TRADING_{it} + \varepsilon_{i,t}$$

EMPIRICAL RESULTS

Table 1 provides the descriptive statistics of variables. The average (median) of natural logarithm of employee productivity is 20.78 (20.67), while the average education is 2.41 which is between undergraduate and master level. The average age of top management team members is 49.55, while those management team members have averagely served as the executives for 9.13 years.

Table 2 exhibits the correlation matrix of variables. Education is found to be negatively correlated with employee productivity, while age and tenure are not significantly correlated with employee productivity.

Table 3 exhibits the regression results. The first column provides result of our basic model (without dummy variables representing industry). Surprisingly, contrary to

our expectation, education has a negative effect on employee productivity. It means the higher the average education of top management team, the lower the employee productivity. We do not find evidence on the effect of age and tenure on employee productivity.

Estimating the difference effect among industry especially between services and non-services industries, we find that the negative effect of education on employee productivity is stronger for trading industry. We do not test the moderating effect of industry on the link between managers' age and employee productivity as well as between managers' tenure and employee productivity due to the insignificant results in the basic model.

Perhaps, the negative result of managers' education on employee productivity could be explained by the argument that the higher the education of top executives, the higher the risk taking strategy of firms. On the one hand, the greater risk taking strategy could lead to better performance when the appropriate projects are successful. However, such strategy could also result in poor performance. Rather than motivating employees, the excessive risk taking strategy of top management could discourage employees due to they work in a highly pressured environment.

Table 1 Descriptive Statistics

	PROD	EDU	AGE	TENURE	LNTA	LEV	FIRM_AGE
Mean	20.780	2.410	49.552	9.130	29.256	0.539	31.032
Median	20.677	2.375	49.750	8.500	29.190	0.517	26.000
Maximum	25.168	7.500	61.500	23.500	34.382	0.940	119.000
Minimum	17.679	1.333	34.750	0.000	23.110	0.000	1.000
Std. Dev.	1.227	0.388	4.355	5.158	2.117	0.244	19.426
Skewness	0.604	5.485	-0.353	0.377	0.149	0.068	1.787
bservations	410	410	410	410	410	410	410

Table 2 Correlation Matrix

	PROD	EDU	AGE	TENURE	LNTA	LEV	FIRM_AGE
PROD	1.000						
EDU	-0.124	1.000					
AGE	0.017	0.044	1.000				
TENURE	0.000	0.060	0.401	1.000			
LNTA	0.019	0.146	0.274	-0.006	1.000		
LEV	-0.088	0.101	0.084	-0.069	0.531	1.000	
FIRM_AGE	-0.099	0.154	0.257	0.249	0.393	0.292	1.000

Table 3 Regression Results.

	Employee Productivity		
	1	2	3
EDU	-0.367**	-0.419***	-0.177
	(0.020)	(0.005)	(0.317)
AGE	0.003	0.004	-0.001
	(0.844)	(0.785)	(0.895)
TENURE	0.004	-0.011	-0.014
	(0.755)	(0.378)	(0.240)
LNTA	0.075**	0.126***	0.134***
	(0.038)	(0.000)	(0.000)
LEVERAGE	-0.562*	-0.377	-0.392
	(0.057)	(0.230)	(0.211)
FIRM_AGE	-0.007**	0.001	0.002
	(0.046)	(0.660)	(0.569)
BASIC		1.671***	1.640***
		(0.000)	(0.000)
CONSUMER		0.028	-0.026
		(0.922)	(0.928)
PROPERTY		0.434	0.391
		(0.111)	(0.149)
INFRA		0.981**	0.937**
		(0.016)	(0.020)
FINANCE		-0.283	0.667
		(0.317)	(0.518)
TRADING		0.837***	3.637***
		(0.002)	(0.000)
EDU_FINANCE			-0.419
			(0.329)
EDU_TRADING			-1.170***
			(0.006)
Constant	Included	Included	Included
Year Dummy	Included	Included	Included
Method	OLS	OLS	OLS
Number of Observation	410	410	410
R-Squared	0.04	0.202	0.218

CONCLUSION

We analyze the relation between managers' characteristics and employee productivity by studying Indonesia firms. Moreover, we test whether such effect would be different across industry particularly finance and trading industries. Contrary to our prediction, firms with more educated top management team have a lower employee

productivity more so those in the trading industry. We do not find the effect of managers' age and tenure on employee productivity.

However, some limitations are admitted. First, we do not introduce the effect of foreign managers in the Indonesian firms. During the recent years, there have been many expatriates serving as in the top management team of Indonesian firms. Second, our proxy to represent education is limited to the degree. Some may argue that education background and international education may matter more to explain the organizational outcomes.

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