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INTELLECTUAL CAPITAL AND FIRM VALUE: EVIDENCE FROM INDONESIA

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Abstract

This study aims to see how the relationship and correlation among variables Intellectual capital, human capital, structural capital, relational capital, firm value on 20 companies listed on the Stock Exchange for the 2011-2016 financial year. This study uses descriptive statistic analysis, correlation analysis and multiple regression analysis. From the study that has been done can be explained how the relationship between the variables in carefully correlated and significant for the results of multiple regression tests. And the value of skewness and kurtosis in the normal distribution is not zero and the distributed data pattern is tapered. This study uses STATA-supported statistic software.

Keywords: Intellectual capital, human capital, structural capital, relational capital, firm value

INTRODUCTION

Fontaine, MA et, all (2004) Many companies change their management system from a labor-based business, into a knowledge-based business, so that the characteristics of the company become one of the companies the science-based Jelčić, K. (2007). If using science and technology, will be obtained how to use resources from others, effectively and efficiently, and economically, which later can be used as a tool to compete Firer, S., et, all. (2003). Business people have realized the importance of innovation, as well as information systems, and organizational and human resource management, as current competitiveness lies not solely in the possession of intangible assets. In Belkaoui, (2003) Therefore, companies as business organizations, increasingly feel the importance of knowledge assets, which is regarded as one form of intangible assets.

This study focuses on the measurement of intellectual capital, which is expected in the future to reveal the information available in the company, as contained in the financial statements. If a Company with a substantial portion of its assets is intellectual capital and does not disclose it, it may mislead decision makers and may influence the policies adopted by the company later Chen, MC, et, all (2005) and Guthrie, J., et, all. (2004). The research undertaken investigates how the relationship between intellectual capital is within the firm, using a cointegration model of panel data. One that distinguishes the novelty of this research from previous studies, lies in the analysis tools used and the year of Fontaine research, M. A. et, all (2004).

INTELECTUAL CAPITAL THEORY

In Jelčić, K. (2007) and Firer, S., et, all. (2003) explains how to manage knowledge or knowledge of management systems in the company, it is necessary to measure and initiate. In Berzkalne et al (2013), Chen, MC, et, all (2005) and Guthrie, J., et. All (2004) when measuring the performance of a knowledge management in the firm, companies tend to monitor and evaluate especially human-blessed capital, which is only the baseline. In the complex assessment of knowledge management, it is better to use the Intellectual Capital model, which evaluates the knowledge structure of assets from the point of view of value creation. The essence of intellectual capital is the creation of values that can be understood as complex, such as an intangible property, or commonly referred to as the knowledge, talents and skills possessed, the process of becoming, the experience and the use of some of the technologies that exist within the enterprise, so that man can ensure his competitive advantage. Intellectuals can basically be measured through knowledge and human performance itself, and can also through indicators that are tested in a structured manner.

In Papulová, Z. et, all (2007) says that the capital of a company includes employees or employees they own, and includes all employees with all individual and collective knowledge, organizational capability, ability to behave, capacity capability, ability to behave, and ability to have experience and manage and emotion. And according to Belkaoui, (2003), Firer and Williams (2003) make it clear that it does not automatically represent human beings themselves, if employees and employees change their Knowledge, and their abilities, into actions that can in accordance with the business strategy, and contribute to the creation of firm value directly, it is like a company has intangible property. As value added, the presence of new consumers, good imaging, performing an effective and efficient work organization system, create innovative products. But in Rehman, UW, et al (2012), Fontaine, MA et, all (2004) and Mouritsen, J. et, all (2005) employees and employees in the company are the most intelligent human beings, who will be the capital if the employee do not know how to contribute to the company they work for. Employees who are in the company, are considered to have potential in creating more value, but not all employees can succeed in the usual way. Infrastructure contained in the company, considered as a factor supporting other companies that are invaluable, in short it is the result of human activity in the period to time. With the intellectual capital, it can make an employee's knowledge to grow.

HYPOTHESIS DEVELOPMENT

In this study, using modified hypothesis development variables based on the proposed model by Belkaoui, (2003), Firer and Williams (2003), Chen et al (2005):

H1: Human capital is correlates to firm value

H2: Structural capital is correlates to firm value

H3: Relational capital is correlates to firm value

H4: Intellectual capital is correlates to firm value

DATA AND RESEARCH METHOD

In this research use descriptive statistic test model and correlation test of panel data. This research uses Value Added Intellectual Coefficient (VAIC) analysis through calculation formula and aims to determine the actual size of the method. This hypothesis is tested against 20 financial statements of companies listed on the Stock Exchange from the year 2011 to 2016. Type of data used is secondary data and downloaded from www.idx.co.id, Sampling is done using purposive sampling method, with criteria such as :
1. The Company issues annual reports and audited financial statements for 2011-2015

2. The Company has active stocks traded in 2011-2016
3. The Company did not merge or acquire during 2011-2016

RESEARCH RESULT

The use of some models of descriptive statistic analysis such as the results below, makes the results of the study done to be better. First use of Descriptive Statistics. Descriptive statistics are methods related to the collection and presentation of a data cluster so as to provide useful information. Classification into descriptive statistics and inferencing statistics is done based on the activities undertaken. Here are the results of the analysis for this study using the proposed model:

Table 1 : Result for descriptive statistic

	STVA	_VACA_	_VAHU_	_VAIC__	NP
Mean	0.496287	2.029258	2.538924	5.064469	6.000115
Median	0.485563	1.018325	1.939700	3.636138	3.820000
Maximum	4.237500	11.12600	9.392300	12.62350	22.95000
Minimum	-3.858400	0.207600	-0.308900	-1.947500	0.083000
Std. Dev.	0.650524	2.766541	1.816498	3.113475	6.212889
Skewness	-0.891530	2.038763	2.017147	0.911983	1.113111
Kurtosis	28.58473	6.091125	6.925349	2.934972	3.249266
Jarque-Bera	3288.790	130.9064	158.4195	16.65540	25.09101
Probability	0.000000	0.000000	0.000000	0.000242	0.000004
Sum	59.55440	243.5110	304.6709	607.7363	720.0137
Sum Sq. Dev.	50.35854	910.7961	392.6600	1153.554	4593.398
Observations	120	120	120	120	120

Source : Proceed by author

The output table above shows the number of measurements (N), minimum (Minimum), Maximum, Mean, Standard deviation (Std.), Skewness,(Sasikala et al 2017) and Kurtosis values of each variable. Skewness value is a measure of histogram symmetry, whereas kurtosis is a flat or histogram size. Ideally the value of skewness and kurtosis in the normal distribution is zero. Therefore: If the skewness value is positive then the data distribution is "tilted to the left of the normal distribution" (there is a high frequency value to the left of the normal distribution center), otherwise if the skewness is negative then the data distribution is "tilted to the right of the normal distribution" (left for we see it). If the value of the kurtosis is positive then the distribution of the data is "tapered" (there is one value that dominates), otherwise if Negative Kurtosis then the distribution of data "slope" (big variance). The following study results for the correlation model:

Table 2 : Result for correlation test

	STVA	_VACA_	_VAHU_	_VAIC__	NP
STVA	1	-0.0864274811187	0.234715879117	0.269081749077	-0.0629110281667
VACA	-0.0864274811187	1	-0.191675205243	0.758682872801	-0.40168680668
VAHU	0.2347158791171	-0.191675205243	1	0.462155184562	-0.164412254118
_VAIC__	0.2690817490775	0.758682872801	0.462155184562	1	-0.465994601413
NP	-0.0629110281667	-0.40168680668	-0.164412254118	-0.465994601413	1

Source : Proceed by author

To interpret the strength of the relationship between two variables done by looking at the correlation coefficient of calculation result using criteria are:
• If the correlation coefficient number shows 0, then the two variables have no relationship
• If the correlation coefficient number is close to 1, then the two variables are stronger
• If the correlation coefficient number is close to 0, then the two variables are weaker
• If the correlation coefficient number is equal to 1, then both variables have a perfectly positive linear relationship.
• If the correlation coefficient number is equal to -1, then both variables have a perfectly negative linear relationship.
In this tsudy correlation among variable weaker not stronger. And the last result of study analysis with regression proposal model:

Table 3 : Result for regression test

Dep. Var : _STVA_				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	6.320015	3.010015	2.099282	0.0380
VACA	-1.000000	1.740015	-5.750004	0.0000
VAHU	-1.000000	1.940015	-5.150014	0.0000
_VAIC__	1.000000	1.710015	5.850014	0.0000
NP	-4.150016	1.970016	-2.105054	0.0375
R-squared	1.000000	Mean dependent var		0.496287
Adjusted R-squared	1.000000	S.D. dependent var		0.650524
S.E. of regression	1.180014	Sum squared resid		1.590026
F-statistic	9.110028	Durbin-Watson stat		1.357327

Prob(F-statistic)	0.000000			

Source :Proceed by author

From the output tesebut then the regression equation is:

$$Y = 6{,}320015 - 1{,}000000X1 - 1{,}000000X2 + 1{,}00000X3 - 4{,}150016X4 + e$$

To see whether a free variable has a significant / can not be seen from the value of t or from its significance. If a dependent variable has a sig smaller than 0.1 or 10% it can be said that the independent variable is significant at the level of 10%, if smaller than 0.05 or 5% then it can be said that independent variables are significant at level 5 %, if it has a sig smaller than 0.01 or 1% then it can be said that the variable is significant at 1% level. If stated significant then the hypothesis that we have formulated can be accepted.

CONCLUSION

From the study that has been done, can explain how the relationship between intellectual capital owned on the value of the company, it can be seen from the results of statistical analysis in table 1, 2 and table 3. Table 1 is the result of statistical analysis descriptive, table 2 is the result of correlation analysis and table 3 for the results of regression analysis study the influence between the variables in carefully. Thus the study carried out, can provide an overview of the analysis of how the relationship between the variables in carefully, during the time interval of data used for research.

REFERENCES

Belkaoui, Ahmed Riahi. (2003) Intellectual Capital and Firm Performance of US Multinational Firms: a Study of The Resource-Based and Stakeholder Views. Journal of Intellectual Capital.Vol. 4 No. 2. pp. 215-226

Berzkalne, Irina dan Elvira Zelgalve, (2013).Intellectual capital and company value. Journal of Social and Behavioral Sciences 110 (2014) 887 –896

Chen, M.C., S.J. Cheng, Y. Hwang. (2005). ''An Empirical Investigation of the Relationship Between Intellectual Capital and firms' Market Value and Financial Performances''. Journal of Intellectual Capital Vol. 6 No. 2.pp. 159-176.

Firer, S., and S.M. Williams.(2003). Intellectual Capital and Traditional Measures of firm performance.Journal of Intellectual Capital.Vol.4 No.3.pp.348-360.

Fontaine, M. A. & Millen, D. R. (2004). Understanding the Benefits and Impact of Communities of Practice InP. H. Hildreth& Ch. Kimble (Ed.) Knowledge networks: innovation through communities of practice. London, England: Idea Group Publishing

Guthrie, J., Petty R., Yongvanich K. &Ricceri, F.(2004). ''Using Content Analysis as a ResearchMethod to Inquire into Intellectual CapitalReporting''.*Journal of Intellectual Capital*.page 282

Jelčić, K. (2007). Intellectual Capital.Handbook of IC Management in Companies. Intellectual Capital Center Croatia. Retrieved from http://www.vaic-on.net/download/Handbook%20-%20%20IC%20Management.pdf

Mouritsen, J. & Larsen, L. T. (2005). The 2ndwave of knowledge management: The management control of knowledge resources through intellectual capital information. In Management Accounting Research (pp. 371–394). Frederiksberg, Denmark: Elsevier. 4.

Papula, J. &Weberová, D. (2007).Knowledge Management in Compliance with Organization Strategy. In The 10th International Conference Society for Global Business & Economic Development (SGBED) "Creativity & Innovation: Imperatives for Global Business and Development" (pp. 1057–1065). Kyoto, Japan.

Papulová, Z. &Mokroš, M. (2007).Knowledge Management and Organizational Performance. In The 10th International Conference Society for Global Business & Economic Development (SGBED) "Creativity & Innovation: Imperatives for Global Business and Development" (pp. 1045–1056). Kyoto, Japan.

Petty,P. dan J. Guthrie. (2000). "Intellectual capital literature review:measurement, reporting and management". Journal of Intellectual Capital.Vol.1 No.2.pp. 155-75

Pulic, A. (1998)."Measuring the Performance of Intellectual Potential in Knowledge Economy". Paper presented at the 2nd McMaster Word Congress on Measuring and Managing Intellectual Capital by the Austrian Team for IntellectualPotential.

Rehman, U.W., Rehman U.H., Usman. M. &Asghar N. (2012), "A Link ofIntellectual Capital Performance with Firm Performance: ComparativeStudy from Banking Sector in Pakistan", Vol. 3 No. 12

Sasikala.D, Roshiniya.R, Sarishnaratnakaran and Tapati Deb, "Texture Analysis Of Plaque In Carotid Artery", International Journal of Innovations in ScientificandEngineering Research(IJISER), ISSN: 2347-971X(online), ISSN: 2347-9728(print), Vol.4, no.2, pp.66-70, 2017, http://www.ijiser.com/.
Rajesh, M., and J. M. Gnanasekar. "Annoyed Realm Outlook Taxonomy Using Twin Transfer Learning." International Journal of Pure and Applied Mathematics 116 (2017): 547-558.
Rajesh, M. & Gnanasekar, J.M. Wireless Pers Commun (2017),https://doi.org/10.1007/s11277-017-4565-9
Rajesh, M., and J. M. Gnanasekar. "GCCover Heterogeneous Wireless Adhoc Networks." Journal of Chemical and Pharmaceutical Sciences (2015): 195-200.
Rajesh, M., and J. M. Gnanasekar. "CONGESTION CONTROL IN HETEROGENEOUS WANET USING FRCC." Journal of Chemical and Pharmaceutical Sciences ISSN 974: 2115.
Rajesh, M., and J. M. Gnanasekar. "GCCover Heterogeneous Wireless Ad hoc Networks." Journal of Chemical and Pharmaceutical Sciences (2015): 195-200.
Rajesh, M., and J. M. Gnanasekar. "CONGESTION CONTROL USING AODV PROTOCOL SCHEME FOR WIRELESS AD-HOC NETWORK." Advances in Computer Science and Engineering 16.1/2 (2016): 19.
RAJESH, M. "TRADITIONAL COURSES INTO ONLINE MOVING STRATEGY." The Online Journal of Distance Education and e-Learning 4.4 (2016).
Rajesh, M. "Object-Oriented Programming and Parallelism."
Rajesh, M., K. Balasubramaniaswamy, and S. Aravindh. "MEBCK from Web using NLP Techniques." Computer Engineering and Intelligent Systems 6.8: 24-26.