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Faculty of Economics and Business
Diponegoro University

DEAN'S WELCOME

Assalamu'alaikum!

Dear participants,

Welcome to Bali, Indonesia. We are very sure that The Second International Seminar on Finance held by IFMA and Faculty of Economics and Business Diponegoro University will provide a perfect forum for you to have an academically-challenging conference. It is indeed great to see that this conference has attracted many participants from around the world.

I am personally pleased and felt deeply honored that many experts from the field of finance can gather here to disseminate the up-dated researches. We also honored as Prof Maureen O'Hara (Cornell University) and Prof. Marti Subrahmanyam (New York University) will join with us as a keynote speakers.

We hope that this conference not only provide a forum for disseminate current research but also act as a room to increase networking as well as exploring opportunities for future collaboration.

Again, I wish you a fruitful conference and a pleasant stay in Bali, Indonesia.

Thank you,

Anis Charirie, PhD

Acting Dean,

Faculty of Economics and Business

Diponegoro University, Central Java, Indonesia

PATRONS

KEYNOTE SPEAKERS

Maureen O'Hara (Cornell University)

Marti Subrahmanyam (New York University)

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Yuanto Kusnadi	(Singapore Management University)
Yupana Wiwattanakantang	(NUS)

PROGRAM

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Monday, December 15	16.15-18.00	Registration
Tuesday, December 16	08.00-15.00	Registration
	08.30-10.30	Concurrent Sessions I
	10.30-10.45	Coffee Break
	10.45-10.55	Welcoming Speeches
	10.55-11.45	Keynote Speech by Marti Subrahmanyam Bale Banjar Ballroom
	11.45-13.15	Lunch
	13.15-15.15	Concurrent Sessions II
	15.15-15.30	Coffee Break
	15.30-17.30	Concurrent Sessions III
	19.00-22.00	Dinner
Wednesday, December 17	07.30-10.00	Registration
	08.00-10.00	Concurrent Session IV
	10.00-10.10	Coffee Break
	10.10-11.00	Keynote Speech by Maureen Ohara Bale Banjar Ballroom
	11.00-11.10	Best Paper Award and Closing
	11.30-13.00	Lunch
Thursday, December 18	08.30-night	Tour

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Session chair	Adrian Lee (University of Technology Sydney)	Juliana Malagon (Durham University)	Irwansyah (Universitas Mulawarman)	Putu Agus Ardiana (Udayana University)	Sonny Hersona (Universitas Negeri Singaperbangsa Karawang)
	"Differential Access to Price Information in Financial Markets" David Easley (Cornell University) Maureen O'Hara (Cornell University) Liyan Yang (University of Toronto)	"Information Transfer Effect of Bond Rating Downgrades within the Industry and along the Supply Chain: Evidence from CDS Market" Feng-Tse Tsai (Asia University) Jung-Hsien Chang (National Chi Nan University)	"How are Proceeds from Seasoned Equity Offerings Used?" E. Han Kim (University of Michigan) Heuijung Kim (Sungkyunkwan University) Yuan Li (Tsinghua University) Yao Lu (Tsinghua University)	"Optimal Hedge Ratio Estimations and Hedging Effectiveness: Case Study in Asia's Commodity Futures Exchange" Tanachote Boonvorachote (Kasetsart University) Vatinee Chotinuchittrakul (Kasetsart University)	"Determinasi tingkat pengungkapan pada bank syariah di dunia" Krisno Septyan (UPN "VETERAN" JAKARTA) Erna Hernawati (UPN "VETERAN" JAKARTA)
Discussant	Arze Karam (Durham University)	Jeffrey L. Callen (University of Toronto)	William Megginson (University of Oklahoma)	Harjum Muharam (Diponegoro University)	Moh. Nofal (Tadulako University)
	"Market quality and informed liquidity supply: Insights into Nasdaq market makers' behavior" Arzé Karam (Durham University)	"Short Interest and Stock Price Crash Risk" Jeffrey L. Callen (University of Toronto) Xiaohua Fang (Georgia State University)	"Prestige without purpose: Reputation, differentiation, and pricing in U.S equity underwriting" Chitru S. Fernando (University of Oklahoma) Vladimir A. Gatchev (University of Central Florida) Anthony D. May (Wichita State University) William L. Megginson (University of Oklahoma)	"The Impact of the Domestic Interest Rates, Exchage Rate, World Oil Prices, World Gold Prices, DJIA, Nikkei 225 and HSI on the JCI" Faris Hamam Syarofi (Diponegoro University) Harjum Muharam (Diponegoro University)	"Identifikasi variabel penyebab kurang optimalnya penyaluran kredit perbankan periode tahun 2008 – 2012 (Studi pada PT. Bank Pembangunan Daerah (BPD) Konvensional di Indonesia)" Siti Puryandani (Universitas Diponegoro) Eka Handriani (Universitas Diponegoro)
Discussant	Terry Walter (Unversity of Sydney)	Quentin C. Chu (University of Memphis)	Heuijung Kim (Sungkyunkwan University)	Tanachote Boonvorachote (Kasetsart University)	Krisno Septyan (UPN "VETERAN" JAKARTA)
	"Do Frictions Associated with Market Microstructure Explain the Ex-Dividend Day Anomaly?" Andrew Ainsworth (University of Sydney) Adrian Lee (University of Technology Sydney) Terry Walter (University of Sydney)	"The Flow of Inflation Information and the Pricing of Maturing TIPS" Quentin C. Chua (University of Memphis) Pawan Jain (Central Michigan University)	"The Organization of Bank Affiliates; A Theoretical Perspective on Risk and Efficiency" Elisa Luciano (University of Torino) Clas Wihlborg (Chapman University)	"Superstition and prices in residential real estate transactions" Danika Wright (University of Sydney)	"Is External Finance Enhance Profitability ? An Empirical Evidence From Ficheries MicroBusiness in Cenral Sulawesi" Moh. Nofal (Tadulako University)
Discussant	Chongwu Xia (Nanyang Technological University)	Gilbert V. Nartea (Lincoln University)	Abdullah Mamun (University of Saskatchewan)	Budi Frensidy (University of Indonesia)	Siti Puryandani (Universitas Diponegoro)
	"Social Networks, Alliance, and the Informational Efficiency of Stock Prices" Zhanhui Chen (Nanyang Technological University) Jiang Luo (Nanyang Technological University) Chongwu Xia (Nanyang Technological University)	"Do extreme returns matter in emerging markets? Evidence from the Chinese stock market" Gilbert V. Nartea (Lincoln University) Ji Wu (Xiamen University) Zhaohua Li (Lincoln University)	"Are Banks Using Credit Derivatives to Reduce Loan Rates to Borrowers?" Nimita Azam (North South University) Abdullah Mamun (University of Saskatchewan) George F. Tannous (University of Saskatchewan)	"The performance of undiversified portfolio in Indonesia stock exchange" Budi Frensidy (University of Indonesia)	
Discussant	David Easley (Cornell University)	Feng-Tse Tsai (Asia University)	Clas Wihlborg (Chapman University)	Danika Wright (University of Sydney)	-

Room	BALE KUTA	BALE PASEBAN III	BALE PASEBAN IV	BALE PESAMUAN	BALE BANJAR (INDONESIA LANGUAGE SESSION)
Session chair	Margaret Rui Zhu (City University of Hong Kong)	Lu Liu (Lund University)	Shin S. Ikeda (National Graduate Institute for Policy Studies)	Craig L. Israelsen (Utah Valley University)	Moh. Nofal (Tadulako University)
	"Insights on the global macro-finance interface: Structural sources of risk factors fluctuations and the cross-section of expected stock returns" Claudio Morana (Università di Milano Bicocca)	"The Influence of Individual Investors on Ex-Dividend Day Returns" Andrew Ainsworth (University of Sydney) Adrian D. Lee (University of Technology Sydney)	"Returns and Doubling Times" Richard Philip (University of Sydney) Peter Buchan (University of Sydney) Graham Partington (University of Sydney) Steve Satchell (University of Sydney)	"The increasing of financial performance with ownership structure" Maya Indriastuti (Sultan Agung Islamic University)	"Desain Model Pembelajaran Audit Berbasis Risiko Sebagai Strategi Peningkatan Kualitas Calon Auditor" Suzy Noviyanti (Universitas Kristen Satya Wacana) Supatmi (Universitas Kristen Satya Wacana)
Discussant	Ole Wilms (University of Zurich)	Hitoshi Takehara (Waseda University)	Theo Vermaelen (INSEAD)	Pristina H. Setianingrum (STEI)	Budhi Pamungkas Gautama (Universitas Pendidikan Indonesia)
	"Solving Asset-Pricing Models with Recursive Preferences" Walter Pohl (University of Zurich) Karl Schmedders (University of Zurich) Ole Wilms (University of Zurich)	"Price Discovery Process before and after the Introduction of "arrowhead" Trading System at Tokyo Stock Exchange" Keiichi Kubota (Chuo University) Hitoshi Takehara (Waseda University)	"Buybacks Around the World: Market Timing, Governance and Regulation" Alberto Manconi (Tilburg University) Urs Peyer (INSEAD) Theo Vermaelen (INSEAD)	"The effect of foreign exchange rate, inflation rate and market return on return of bank perseros' stock" Doddi Prastuti (STEI) Pristina H. Setianingrum (STEI)	"Perancangan standar biaya pendidikan berbasis activity-based costing dalam meningkatkan mutu pendidikan di perguruan tinggi" Budhi Pamungkas Gautama (Universitas Pendidikan Indonesia)
Discussant	Claudio Morana (Università di Milano Bicocca)	Elvis Jarnecic (University of Sydney)	William L. Megginson (University of Oklahoma)	Maya Indriastuti (Sultan Agung Islamic University)	Uun Sunarsih (STEI)
	"The Idiosyncratic volatility anomaly: Corporate investment or investor mispricing" Juliana Malagon (Durham University) David Moreno (University Carlos III) Rosa Rodriguez (University Carlos III)	"Towards A New Theory of Over-the-Counter Markets – The Role of Relationships in Price Formation" George Issa (University of Sydney) Elvis Jarnecic (University of Sydney)	"Whence the Privatized Firm Dividend Premium?" Abhinav Goyal (University of Liverpool) Shrikant P. Jategaonkar (Southern Illinois University Edwardsville) William L. Megginson (University of Oklahoma) Cal B. Muckley (University College Dublin)	"The influence of intellectual capital toward financial performance, growth and market value of the company" Luluk Muhimatul Ifada (Sultan Agung Islamic University) Marsudi (Sultan Agung Islamic University)	"Analysis of the performance of Islamic mixed mutual funds in Indonesia by using sharpe, treynor, and Jensen: the period 2010-2012" Uun Sunarsih (STEI) Andriyanto (STEI)
Discussant	Romora Edward Sitorus (Universitas Siswa Bangsa Internasional)	Jos van Bommel (University of Luxembourg)	Graham Partington (University of Sydney)	Putu Agus Ardiana (Udayana University)	Suzy Noviyanti (Universitas Kristen Satya Wacana)
	"Stock prices informativeness, financial crisis and liquidity commonality: Evidence from Asian stock markets" Wahyoe Soedarmono (Universitas Siswa Bangsa Internasional) Romora Edward Sitorus (Universitas Siswa Bangsa Internasional) Robert Joliet (Université Catholique de Lille)	"Estimating the Proportion of Informed Trade in Call Auctions" Jos Van Bommel (University of Luxembourg)		"Arbitrage profit potential in stock option trading: case of Australia" Putu Agus Ardiana (Udayana University)	
Discussant	Juliana Malagon (Durham University)	Adrian Lee (University of Technology Sydney)		Luluk Muhimatul Ifada (Sultan Agung Islamic University)	

Room	BALE KUTA	BALE PASEBAN III	BALE PASEBAN IV	BALE PESAMUAN	BALE BANJAR (INDONESIA LANGUAGE SESSION)
Session chair	Adrian Lee (University of Technology Sydney)	Clas Wihlborg (Chapman University)	Nicholas Apergis (Curtin University)	Jhonni Sinaga (Universitas Mulawarman)	Siti Puryandani (Universitas Diponegoro)
	"Does Diversification Really Reduce Risk?" Thomas Kim (University of California Riverside)	"The Case for Incomplete Markets" Lawrence E. Blume (Cornell University) Timothy Cogley (New York University) David A. Easley (Cornell Unniversity) Thomas J. Sargent (New York University) Viktor Tsyrennikov (Cornell University)	"The Government as a Large Shareholder: Impact on the Voting Premium" Marcelo Fernandes (Queen Mary University of London) Walter Novaes (PUC-Rio)	"The effect of fundamental factor on dividend policy on firms listed in Indonesia stock exchange" Gatot Nazir Ahmad (State University of Jakarta) Vina Kusuma Wardani (State University of Jakarta)	"Reaksi pasar modal Indonesia terkait pengumuman saham bonus oleh emiten sebagai sebuah sinyal" Tarsisius Renald Suganda (Universitas Ma Chung) Lydia Angela Natasya (Universitas Ma Chung)
Discussant	-	Sean Foley (University of Sydney)	Wayne W. Yu (Hong Kong Polytechnic University)	Dista Amalia Arifah (Sultan Agung Islamic University)	Robiyanto (Universitas Diponegoro)
		"Should we be afraid of the dark? Dark trading and market quality" Sean Foley (University of Sydney) Tālis J. Putniņš (University of Technology Sydney)	"Insider Ownership and Analyst Forecast Properties" Jacqueline W. Wang (Hong Kong Polytechnic University) Wayne W. Yu (Hong Kong Polytechnic University)	"The influence of company characteristics and auditor reputation toward the acceptance of going concern audit opinion" Dista Amalia Arifah (Sultan Agung Islamic University) Septi Dewi Wijayanti (Sultan Agung Islamic University)	"Integrasi pasar modal dan contagion effect pada beberapa negara di kawasan ASEAN" Robiyanto (Universitas Diponegoro)
Discussant	-	David A. Easley (Cornell Unniversity)	Elisabeth Megally (University of Zurich)	Gatot Nazir Ahmad (State University of Jakarta)	Tarsisius Renald Suganda (Universitas Ma Chung)
	"Financial access and small business performance: evidence from Malaysia" M. Mohd Rosli (Universiti Malaysia Kelantan) Wee Yu Ghee (Universiti Malaysia Kelantan) Ridhuwan Abdullah (Universiti Malaysia Kelantan) Syamsuriana Sidek (Universiti Malaysia Kelantan)	"Time and Pro-rata Matching: Evidence of a change in LIFFE STIR Futures" Angelo Aspris (University of Sydney) Sean Foley (University of Sydney) Peter O'Neill (University of New South Wales) Drew Harris (University of New South Wales)	"Managerial utility-adjusted asset risk- and debt-taking incentives" Elisabeth Megally (University of Zurich)	"Model Poverty Alleviation Through Qardhul Hasan" Abdul Hakim (Sultan Agung Islamic University)	"Pengaruh pengelolaan keuangan terhadap kinerja keuangan serta implikasinya pada peningkatan PAD pemkab Karawang" Sonny Hersona (Universitas Negeri Singaperbangsa Karawang)
Discussant	-	David Michayluk (University of Technology, Sydney)	Marcelo Fernandes (Queen Mary University of London)	Julisar (Bina Nusantara University)	-
	"A New Periodic Table of Asset Performance: The 7Twelve® Index" Craig L. Israelsen (Utah Valley University)	"Liquidity provision in limit order book markets" Tālis J. Putniņš (University of Technology, Sydney) David Michayluk (University of Technology, Sydney)	"Euro at Risk: The Impact of Member Countries' Credit Risk on the Stability of the Common Currency" Lamia Bekkour (University of Luxembourg) Xisong Jin (University of Luxembourg) Thorsten Lehnert (University of Luxembourg) Fanou Rasmouki (University of Luxembourg) Christian Wolff (University of Luxembourg)	"Erp implementation, adherence to coso, gcg implementation, operational performance as intervening variable to financial performance" Julisar (Bina Nusantara University)	
Discussant	-	Angelo Aspris (University of Sydney)	-	Abdul Hakim (Sultan Agung Islamic University)	

Day 2, 08.00-10.00

Room	BALE KUTA	BALE PASEBAN III	BALE PASEBAN IV	BALE PESAMUAN	BALE BANJAR
Session chair	Tanachote Boonvorachote (Kasetsart University)	Gilbert V. Nartea (Lincoln University)	David A. Easley (Cornell Unniversity)	Budi Frensidy (University of Indonesia)	
	"The global stock exchange and its influence towards the Indonesia stock exchange after the global financial crisis in 2008" Ibnu Khajar (Sultan Agung Islamic University)	"Spatial dependence in international bond markets" Hossein Asgharian (Lund University) Marcus Larsson (Handelsbanken) Lu Liu (Lund University)	"Dynamic Measures of Competition" Margaret Rui Zhu (City University of Hong Kong)	"Long term relationship (co-integration) among the asian's stock market and Jakarta composite indices (JCI)" Alvinatta Santoso (Tarumanagara University) I. Roni Setyawan (Tarumanagara University)	
Discussant	Jhonni Sinaga (Universitas Mulawarman)	Nicholas Apergis (Curtin University)	Toshio Serita (Aoyama Gakuin University)		
	"The determinants of the company value for Indonesia domestic oil palm plantations companies" Anis Rachma Utary (Universitas Mulawarman) Irwansyah (Universitas Mulawarman) Jhonni Sinaga (Universitas Mulawarman)	"Contagion across currency markets: New evidence from eight major currency markets and the recent financial crisis" Nicholas Apergis (Curtin University) Christina Christou (University of Piraeus) Arusha Cooray (University of Wollongong)	"Risk Management of Japanese Firms: A Survey research" Hideki Hanaeda (Chuo University) Toshio Serita (Aoyama Gakuin University)		
Discussant	Ibnu Khajar (Sultan Agung Islamic University)	Lu Liu (Lund University)	Margaret Rui Zhu (City University of Hong Kong)		
		"Corporate Transparency, Product Innovation, and Shareholder Value: Evidence from Korean Pharmaceutical Listings" Paul Moon Sub Choi (Ewha School of Business) Jongkuk Lee (Ewha School of Business) Joonho Richard Hwang (University of Cambridge) Hwanoong Lee (Michigan State University)	"The Demand for Warrants and Issuer Pricing Strategies" Rainer Baule (University of Hagen) Philip Blonski (University of Hagen)	"Does growth options affected in Indonesia stock exchange" Rio Dhani Laksana (Universitas Diponegoro)	
Discussant		Abdul Razak Abdul Hadi (Universiti Kuala Lumpur)	Shin S. Ikeda (National Graduate Institute for Policy Studies)	Benny Budiawan Tjandrasa (Maranatha Christian University)	
		"Examination of ASEAN Stock Market Efficiency with Variations in Crude Oil Price and Macroeconomic Variables in a Panel Data Analysis Approach" Abdul Razak Abdul Hadi (Universiti Kuala Lumpur) Eddy Yap Tat Hiung (Universiti Kuala Lumpur)	"A Contingent Claim Analysis of Suicide" Shin S. Ikeda (National Graduate Institute for Policy Studies)	"The influence of eps to three-factor pricing model" Benny Budiawan Tjandrasa (Maranatha Christian University)	
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THE INFLUENCE OF *INTELLECTUAL CAPITAL* TOWARD FINANCIAL PERFORMANCE, GROWTH AND MARKET VALUE OF THE COMPANY

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ABSTRACT

Nowadays, Intellectual capital (IC) has a key role in the effort to increase the value of various companies. This is due to the awareness that IC is a platform for companies to be more competitive. The purpose of this study is to investigate the influence of the Intellectual Capital of the firms toward their financial performance, growth and market value. Furthermore, the purpose of this study is also to investigate differentiation of Intellectual Capital Performance in each industry. The Value Added Intellectual Coefficient (VAIC ™) method is used to measure the Intellectual Capital. This study uses the data of 112 go-public companies listed in the Indonesia Stock Exchange in the periods of 2006 to 2008. Partial Least Square (PLS) and one-way ANOVA are applied for data analysis. The findings show that: Intellectual Capital positively influences financial performance and growth, but not to market value. Moreover, Intellectual Capital positively influences to company's financial performance in the future. The Performance of Intellectual Capital is different for each industry.

Key words: Intellectual Capital, financial performance, growth, the firm's market value, Partial Least Square (PLS).

JEL classification codes: O16 (Economic Development: Financial Markets; Saving and Capital Investment; Corporate Finance and Governance)

INTRODUCTION

The rapid development in the field of economic gives a massive change in the way of managing the business and its strategies. In order to continue to survive in the era of globalization, technological innovation and intense competition in this century, the business subjects begin to realize that the ability to compete not only in the ownership of tangible assets, but also more in innovation, information systems, management of knowledge and organization of human resources. Intangible assets receive more serious attention if compared to tangible ones.

Terms such as *intellectual capital (IC), knowledge management* and *knowledge organization* start to emerge along with changes in the economic value

of organization (Widyaningdyah, 2008). These terms represent the current paradigm that knowledge has become a powerful weapon to win business competition. The average contribution of knowledge production factor toward the formation of total value of a company is 60%, even with the increasing tendency from year to year (Djedoma, 2009).

The value of a company can be reflected in the price paid by investors on the stocks in the market. The increase of variance in the stock price and book value of assets owned by the company indicate the presence of *hidden value.* Awards over a company given by the investors are believed to be caused by the company's intellectual capital (Chen *et al.*, 2005).

The implementation of *Intellectual Capital* is something new, not only in Indonesia but also in the global business environment. This phenomenon forces accountants to seek more detailed information on matters related to the management of *intellectual capital* which is started from ways of identification, measurement and disclosure of company's financial statements in order to be used by interested parties for decision making.

The precise measurements on *Intellectual Capital* (IC) are still being sought and developed (Chen *et.al*, 2005). For instance, Pulic (1998) proposes an indirect measurement towards IC with a measure to grade the efficiency of added-value as a result of the company's intellectual ability *(Value Added Intellectual Coefficient* - VAIC™). The main component of VAIC™ can be identified from the company's resources, such as *physical capital* (VACA - *value added capital employed), human capital* (VAHU - *value added human capital),* and *structural capital* (STVA - *structural capital value added).*

This study attempts to replicate the study conducted by Solikhah (2010), that is to measure the influence of *intellectual capital* (in this case measured by VAIC ™) toward financial performance, growth and market value of the company for the current year by adding modifications to measure the influence of *intellectual capital* toward the financial performance in future in the range of 1-2 years. This is done because the *intellectual capital* is a long-term capital and something new. Besides that, the influence of the proper application of *intellectual capital* in the company may be more noticeable at longer intervals, not just 1 year.

THEORETICAL FRAMEWORK AND HYPOTHESES DEVELOPMENT

The influence of *Intellectual Capital* toward financial performance

Companies that are able to manage their intellectual resources are believed to be able to create *value added* and *competitive advantage* by doing innovation, research and development that will lead to improve their financial performance. This is in line with the concept of *Resource-Based Theory.*

While in the viewpoint of the *Stakeholder Theory,* it is stated that corporate managers will seek to obtain *value added* to be re-distributed to all *stakeholders.* Therefore, a stakeholder will act as a control in using and managing company resources including intellectual resources .

Most of the study findings, such as the study by Tan *et al.* (2007), Chen *et al.* (2005), Ulum (2008) and Solikhah (2010), explain that the *Intellectual*

Capital/IC positively influences financial performance. Therefore, the first hypothesis proposed is as follows;

H1: There is a positive influence of Intellectual Capital toward financial performance of the company

The influence of *Intellectual Capital* toward the Growth of the Company

The company's growth is expected by both internal and external parties of company because it can provide a positive feedback for them. The growth of the company is a company's ability to increase the *size* (Kallapur and Trombley, 2001 in Solikhah, 2010). According to *Stakeholders* and *Resource-Based Theory,* the growth and sustainability of the company's success will depend on the development of new resources which is like exploiting the old ones (Wernerfelt, 1984). Thus, the effective and efficient utilization of the intellectual resources will encourage the development capabilities of company.

Empirical study by Chen *et al* (2005) and Sholikhah (2010) find that *Intellectual Capital* positively influences the growth of the company. Therefore, the second hypothesis in this study is formulated as follows:

H2: There is a positive influence of Intellectual Capital toward the growth of company

The influence of *Intellectual Capital* toward the Market Value of the Company

The market value is the value of a stock determined by supply and demand in stock market. The study by Chen *et.al* (2005) notes that investors tend to pay a higher rate on company's stock which has more intellectual resources than the less ones.

In its relation with the *stakeholder theory,* it is explained that the entire activities of a company will lead to the *value creation.* In accordance with the opinion, the ownership and utilization of intellectual resources will enable companies to achieve competitive advantage and added-value. In this case, Investors will provide more rewards to companies that are able to create a sustainable value added which is in line with the view of *the Resource-Based Theory.* Based on the description above, the third hypothesis is as follows;

H3: There is a positive influence of Intellectual Capital toward the market value of the company.

The influence of *Intellectual Capital* toward the Financial Performance of the Company in the Future

To improve the financial performance, a company needs to have a *value added* created through managing and improving IC. Since IC is a long-term capital, the effect may be visible or more visible in a longer period. IC (VAIC™) not only influences the performance of the company in current year, but also predicts the future financial performance. Chen *et al.* (2005) use a sample of public companies in Taiwan. It is proven that IC (VAIC ™) positively affects the market value and financial performance of the company. Furthermore, Chen *et al.*

(2005) also prove that the IC (VAIC™) can be one of the indicators to predict the performance of companies in the future.

In line with Chen *et al.* (2005), Tan *et al.* (2007) show a significant finding of the influence of IC (VAIC™) toward the future performance of the company. In Indonesia, a study conducted by Ulum (2008) also shows a significant finding of the influence of IC (VAIC™) toward the financial performance of company in the future.

H4: There is a positive influence of Intellectual Capital toward the financial performance of the company in the future.

The differences of *Intellectual Capital* performance of each industry

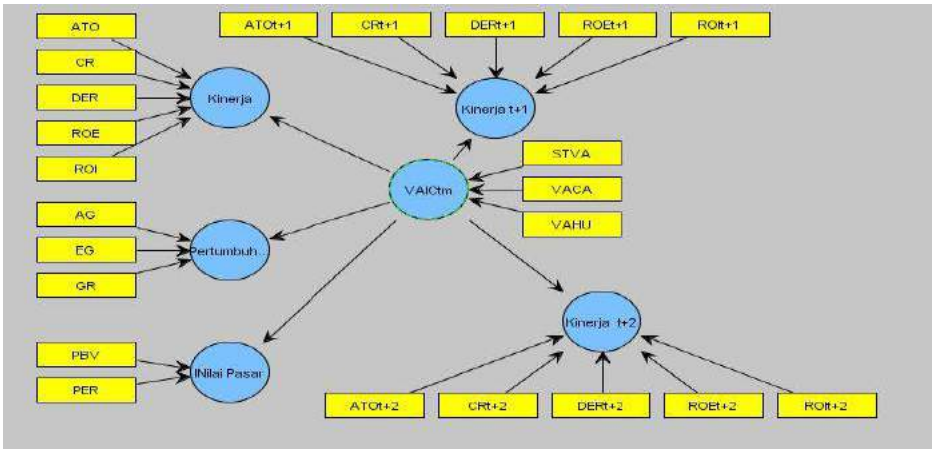
Empirical studies conducted by Pulic (2000) and Tan *et.al* (2007) conclude that the contribution of the intellectual capital of each industry is different. In addition, the study conducted by Solikhah (2010) also has similar finding, there are six types of industries have significant differences and the highest distinction is in the industry of Adhesive and Cables.

Although the IC looks crucial to the success of the company, other assets and capabilities of the company will contribute to the profitability and market value of the company. Therefore, the fifth hypothesis proposed is as follows:

H5: the Performance of Intellectual Capital is different for each industry.

In conclusion, the research model of this study is figured out as follows:

Figure 1. Research Model



In which,
Kinerja : Performance,
Pertumbuhan : Growth,
Nilai Pasar : Market Value

METHODS

Population and Sample

The population in this study is all *go-public* manufacturing company listed in the Indonesia Stock Exchange (BEI) from 2006 to 2008. The selection of

manufacturing sector as object of the study refers to the study of Chen *et al.* (2005) and for the purpose of sample homogeneity to avoid biased results.

Sampling is done with *purposive sampling;* that is a not random sampling technique taken to meet certain criteria or conditions which can be used as a sample in order to obtain a representative sample. The criteria proposed include:

a. The company that will be analyzed is only manufacturing companies listed in the Indonesia Stock Exchange (BEI).
b. The company which regularly publishes its financial report in the range of 2006 to 2008.
c. The required data is available.

Research Variables and Definition of Operational Variables

Independent Variables

The independent variable in this study is the *intellectual capital* measured by VAIC™. The measurement *of intellectual capital* (VAIC™) itself uses three proxies, namely: *Value Added Efficiency of Capital Employed* (VACA), *Value Added Efficiency of Human Capital* (VAHU), and *Proportion of Value Added by the Structural Capital Efficiency* (STVA). Those ratios are calculation of a company's intellectual ability symbolized with *The Value Added Intellectual Coefficient* ™ (VAIC ™).

The calculation formula of VAIC™ is as follows (Ulum, 2008):

a. *Output* (OUT) -Total sales and other incomes.
b. *Input* (IN) - Charges and expenses (exclude employee costs).
c. *Value Added* (VA) - The difference between Output and Input

VA = OUT – IN

d. *Human Capital (HC) - Personnel expenses.*
e. *Capital Employed (CE) - Available funds (equity, net income)*
f. *Structural Capital (SC) - VA - HC*
g. *Value Added Capital Employed* (VACA) - The ratio of VA to CE. This ratio indicates the contribution made by each unit of CE toward the *value added* of organization:

VACA = VA/CE

h. *Human Capital Value Added* (VAHU) - The ratio of VA to HC. This ratio indicates the contribution made by each dollar invested in the HC toward the *value added* of organization:

VAHU = VA/HC

i. *Structural Capital Value Added* (STVA) - The ratio of SC to VA. This ratio measures the amount of SC required to produce 1 dollars from VA and as an indication of how successful the SC in the creation of value is:

STVA = SC/VA

j. *Value Added Intellectual Coefficient* (VAIC™) - Indicates the organization's intellectual abilities. VAIC ™ can also be considered as BPI *(Business Performance Indicator).*

VAIC™ = VACA + VAHU + STVA

The dependent variable

The dependent variables in this study are:

a. Financial performance which is measured by using 5 proxies, namely: Return on Investment (ROI), Total Asset Turn over (ATO), the Current Ratio (CR), Debt to Equity Ratio (DER), Return on Equity (ROE).
b. The growth of the company which is measured by three proxies, namely: Earnings Growth (EG), Asset Growth (AG), Revenue Growth (GR).
c. The market value of a company which is measured by two proxies: price-to-book value ratio (PBV), Price to Earning Ratio (PER)

The operational definition of dependent variables is as follows:

Table 1: Operational definitions of dependent variables

NO	Variables	Formulas	Source
1	**Financial Performance**		
	Current ratio (CR)	Current assets ÷ Current Liabilities	FS & ICMD
	Debt to equity ratio (DER)	Total debt ÷ Equity	FS & ICMD
	Total asset turnover (ATO)	Sales ÷ Total assets	FS & ICMD
	Return on investment (ROI)	Net income ÷ Total assets	FS & ICMD
	Return on equity (ROE)	Net income ÷ equity	FS & ICMD
2	**Growth**		
	Earnings growth (EG)	$\frac{\text{Annual Income to}_t}{\text{Annual Income to}_{t-1}} - 1 \times 100\%$	FS & ICMD
	Asset growth (AG)	$\frac{\text{Annual Assets to}_t}{\text{Annual Assets}_{t-1}} - 1 \times 100\%$	FS & ICMD
	Revenue growth (GR)	$\frac{\text{Annual Income to}_t}{\text{Annual Income to}_{t-1}} - 1 \times 100\%$	FS & ICMD
3	**Market Value of the Company**		
	Price to book value ratio (PBV)	$\frac{\text{Market Price}}{\text{Book Price for stock}}$	FS & ICMD
	Price to earnings ratio (PER)	$\frac{\text{Stock Price}}{\text{Profit per Stock}}$	FS & ICMD

Data Analysis Techniques

Descriptive Statistics

A descriptive statistic test is used to provide description of sample data profile.

Inferential Statistics

The test on 1st, 2nd, 3rd and 4th hypothesis in this study is conducted with *the Structural Equation Model* (SEM) approach by using *Partial Least Square* (PLS) *software*. PLS is a structural equation model (SEM) based on components or variance, in which for present purposes, it is considered as a better technique than the other SEM techniques. Furthermore, the selection of PLS method is based on the consideration that all variables used in this study are latent variables that can not be measured directly.

To answer the fifth hypothesis, that is to determine whether there is a difference in the performance of *Intellectual Capital* (VAIC ™) for each industrial sector or not, the test is performed by analysis of variance, namely *one-way* ANOVA.

FINDINGS AND DISCUSSION

Variable Description

The samples are manufacturing companies listed in the Indonesia Stock Exchange (BEI) in 2006 to 2008. There are 154 companies. As many as 42 companies do not publish their financial statements for 3 years in a row. So that, there are only 112 companies. By using the method of merging the data, the overall amount of data is 112 x 3=336 observational data.

The overall sample (112 companies) is divided into 19 different types of industries based on the products made. The sample included in the Food & beverages industry has the highest percentage of 14%, then, followed by 12% of Automotive industry.

Descriptive Statistics Analysis

VACA average of the sample companies during the years of 2006 to 2008 is 2.8983. VAHU average is 18.7343 and STVA average is 0.0210. The measurement result of financial performance by descriptive statistic analysis obtains the average *return on equity* is 10.0117, the average *return on investment* is -30.4001 and the average *debt to equity ratio* is 4.4437. Moreover, the average of *total asset turnover* is 1.2175 and the average of *current ratio* is 2.2569.

The results of the measurement of the growth variables with descriptive statistics obtain the average *asset growth* of 11.9310, the average *earnings growth* of -293.4816, the average *revenue growth* of 19.4524. Meanwhile, Market value is measured by two proxies, *price earnings ratio* and *price to book value*. The average of *price earnings ratio* is 241.8972 and the *price to book value* is 4.8237.

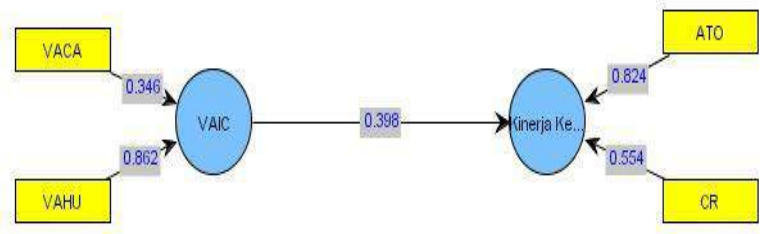
Inferential Statistic Analysis

Test on Hypothesis 1

Test on *Outer model*

Based on test results, it is known that the indicator of VAHU is significant at α 10%, whereas VACA has t-statistic value of 1.257 which is significant at α close to 10%, so the VACA may still be included in the model. Meanwhile, the forming indicator variable of financial performance that is proven to be significant is at ATO variable at α10% and CR closes to α10%. The recalculation is conducted on indicators which is significant and approached to significance. They are VAHU, VACA, ATO and CR as shown in Figure 2.

Figure 2. Outer Model of H1 (Recalculate)



In which,

Kinerja Keuangan : Financial Performance

Test on *Inner Weight*

From the table 2, it is obtained information that the estimated influence of *Intellectual Capital* (VAIC™) on the financial performance is 0.398 with a statistical value of 1.979 which is significant at α 10%. This value can be interpreted that the first hypothesis stating that *intellectual capital* has positive influence on financial performance is accepted.

Table 2. *Result for the inner weights* of H 1

	Original sample estimate	**Mean of subsamples**	**Standard Deviation**	**T-statistic**	**R-square**
VAIC ™ → Financial Performance	0.398	0.589	0.201	1.979	0.158

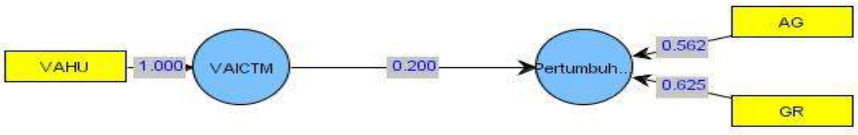
The value of the coefficient of determination (R^2) is 0.158. It means that only 15.8% of the company's financial performance can be influenced by the *intellectual capital* (VAIC™). Meanwhile, the remaining 84.2% can be affected by other variables.

The finding of this study indicates that the *Intellectual Capital (VAIC ™)* positively influences the company's financial performance. Briefly, it means that a company that manages its intelectual resource will be able to create *added value* and *competitive advantage* that will lead to improve its financial performance. This finding supports the *Stakeholder* and *Resource-Based Theory* that states all owners of interests in companies try to maximize their welfare by carrying their role as control for the management and utilize all possessed resources effectively and efficiently so as to contribute to the good achievement of financial performance.

Test on Hypothesis 2
Test on *Outer Model*

Based on test results, it is known that the indicator of VAHU is significant at α 10%, AG at α10% and GR at α close to 10%. The test conducted on VAHU, AG and GR can be seen in Figure 3 below.

Figure 3. Outer Model of H2 (Recalculate)



In which,

Pertumbuhan Perusahaan: The growth of the company

Test on *Inner Weight*

From table 3, it is obtained information that the estimated influence of *Intellectual Capital (VAIC ™)* on the growth is 0.200 with a statistical value of 1.377. The finding is significant at α 10%. Therefore, the second hypothesis is accepted.

Table 3: *Result of inner weights for* H2

	Original sample estimate	**Mean of subsamples**	**Standard deviation**	**T-statistic**	**R-square**
VAIC ™ → Growth of Company	0.200	0.285	0.145	1.377	0.40

The value of the coefficient of determination (R^2) is 0.040. This means that only 4% of the growth of company variable is influenced by the *intellectual capital (VAIC ™)*, while the remaining 96% can be affected by other variables.

The finding of this study indicates the *Intellectual Capital* positively influences the growth of the company. This finding is line with the study by Solikhah (2010) which concludes that *Intellectual Capital* positively influences the growth of company.

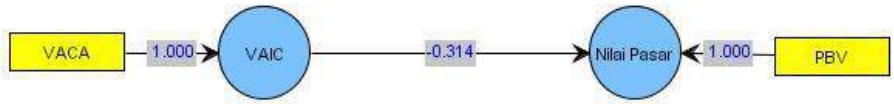
Furthermore, this finding is in accordance with *stakeholder* and *Resource-based theory*, in which the stakeholders have been able to play their role in managing and controlling the company so that the company continues to grow and eventually can improve their welfare. Full utilization of all company resources both tangible and intangible will encourage the growth and sustainable success of the firm (Wernerfelt, 1984). These findings indicate that companies in Indonesia can harness their *Intellectual Capital* to continue to grow and develop.

Test on Hypothesis 3

Test on *Outer Model*

Based on test results, it is known that the indicator of VAC is significant at α 10% and PBV is significant at α 10%. Tests conducted on VACA and PBV indicator appears in Figure 4 below.

Figure 4. Outer Model of H3 (Recalculate)



In which,

Nilai Pasar : Market Value

From the table 4, it is known that the estimated influence of *Intellectual Capital* (VAIC ™) toward the market value is -0.314 with a statistical value of 0.555. The finding is not significant at α 10%. Therefore, the third hypothesis is rejected.

Table 4 *Result for inner weights* of H3

	Original sample estimate	**Mean of subsamples**	**Standard deviation**	**T-statistic**	**R-square**
VAIC → Market Value	-0.314	-0.128	0.565	0.555	0.098

The value of the coefficient of determination (R^2) is 0.098. It means that only 9.8% of the market value is influenced by the *intellectual capital (VAIC ™)*, while the remaining 91.2% can be affected by other variables.

The finding of this study indicates that the *Intellectual Capital* has no positive influence on the market value of the company. This finding is in line with the study by Solikhah (2010). Yet, it is contra with the study by Chen *et al* (2005) in Taiwan. This is because investors have not made the company as an intellectual resource base to invest; they are still focused on the ownership of physical resources of the company. The fact is presumably because *the Intellectual Capital* has not become an interesting theme to be developed in order to create added-value for the company. Investors are still more focused on short-term interests, namely improving financial *return* (Solikhah, 2010).

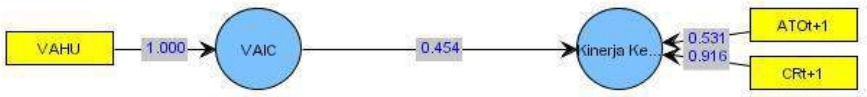
Test on Hypothesis 4

The influence of *Intellectual Capital* toward the financial performance of company in the next 1 year

Test on Outer Model

Based on test results, it is known that the indicator of VAHU is significant at α10%, while the indicator of financial performance which is proven to be significant are ATO $_{t+1}$ and CR $_{t+1}$ which are significant at α 10%. The test conducted on VAHU, ATO $_{t+1}$ and CR $_{t+1}$ indicator appears in Figure 5.

Figure 5. Outer Model H4.1 (Recalculate)



In which,

Kinerja Keuangan : Financial Performance

Test on *Inner Weight*

From table 5, it is concluded that the estimated influence of *Intellectual Capital (VAIC ™)* to financial performance in the next 1 year is 0.454 with a statistical value of 2.351 and significant at α 10%. Therefore, the hypothesis is fully accepted

Table 5 *Result for inner weights* of H4.1

	Original sample estimate	**Mean of subsamples**	**Standard deviation**	**T-statistic**	**R-square**
VAIC → Financial Performance $_{t+1}$	0.454	0.480	0.193	2,351	0.206

The value of the coefficient of determination (R^2) is 0.098. This means that only 20.6% of financial performance in the next 1 year can be influenced by the *intellectual capital (VAIC* ™, while the remaining 79.4% can be affected by other variables.

The influence of *Intellectual Capital* toward the financial performance of company in the next 2 year

Test on *Outer Model*

Based on test results, it is known that the indicator of VAHU is significant at α 10%, While the CR $_{t+2}$ is significant at α 10% and the ATO $_{t+2}$ is significant at α approaching 10%. The test conducted on VAHU, ATO $_{t+2}$ and CR $_{t+2}$ indicators appears in Figure 6.

Figure 6. Outer Model of H4.2 (Recalculate)

In which,
Kinerja Keuangan : Financial Performance

Test on *Inner Weight*

From Table 6, it is obtained that the estimated influence of *Intellectual Capital* (VAIC ™) on the financial performance in the next 2 years is 0.453 with a statistical value of 2.075 and significant at α10%. This finding can be interpreted that the *intellectual capital* has positive influence on the financial performance for the next 2 years.

Table 6. *Result for inner weights* of H4.2

	Original sample estimate	**Mean of subsamples**	**Standard deviation**	**T-statistic**	**R-square**
VAI C ™ Performance → Financial Future t + 2	0.453	0.371	0.218	2.075	0.205

The value of the coefficient of determination (R^2) is 0.205. This means that only 20.5% of financial performance in next 2 years can be influenced by the *intellectual capital* (VAIC ™, while the remaining 79.5% is affected by others.

The finding of this study indicate that the *Intellectual Capital* positively influence the company's financial performance in the future, either for 1 or 2 years. This finding is in line with the study by Ulum (2008) and Tan *et al* (2007). The study by Ulum (2008) concludes that there is a positive influence of *Intellectual Capital* (VAIC ™) toward the future financial performance (with *a range of* 1 year). Moreover, the study by Tan *et al.* (2007) concludes that the higher the *Intellectual Capital* values of a company, the higher the company's future performance will be. However, a study by Kuryanto (2008) shows that the *Intellectual Capital* has no positive influence on the company's financial performance in the future.

These findings indicate that the companies are able to manage their *Intellectual Capital* well. As a result, it will contribute to improve their financial performance in the future. *Intellectual Capital* is a long-term capital that can continue to evolve with the development of science and technology.

Test on Hypothesis 5

ANOVA test results indicate that there are differences in the performance of *Intellectual Capital (VAIC ™)* on each type of industry. This finding is consistent with the study by Solikhah (2010). Mean difference test result of Tukey and Bonferroni is 38.2668; 44.2129 and 48.9725. These results indicate that of the 19 kinds of industries sampled, only 3 industries that have different *Intellectual Capital* performance significantly. This happens because the entire industry is still incorporated in the company's manufacturing sector which is likely to have the same characteristics. Companies from different industries have different range of assets and capabilities to operate their businesses effectively. One certain company will utilize its resources more intellectual than the others. Therefore, it is needed more than just physical and financial assets to be able to continue to grow and evolve.

LIMITATIONS AND RECOMMENDATIONS

Limitation of the study

The limitation of this study is on Pulic model by using data from published financial statements, so that the different characteristics and accounting rules may provide different results in other countries (Tan *et al.,* 2007).

Recommendation

a. To determine the differences in the contribution of *Intellectual Capital,* it is recommended to add object of study with companies from various sectors.
b. Using the measuring tool in addition to Pulic models such as *the Balanced Scorecard, Intangible Asset Monitor, the Skandia IC Report Method,* etc.
c. The influence of *Intellectual Capital* on the financial performance of companies in the future may be more visible not only in 1 and 2 years. The Further study is recommended to examine the influence of *Intellectual Capital* on the future financial performance of the company with a *lag* of 3 years or more. As a result, the observation period also need to be added.

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