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Collaborative Innovation of Economic Society in The Era of Industry 4.0: Accounting & Finance Review

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Preface

For this book, we particularly highlight the issue of collaborative innovation in the era of Industrial Revolution 4.0: Accounting and Finance Review. The book is resulted from The International Seminar on Business, Economics, Social Sciences and Technology (ISBEST) 2018 hosted by The Faculty of Economics Universitas Terbuka. The theme is an adaptation of the technology disruption that has shifted as a result of the Industrial Revolution 4.0. The era is characterized by a fusion of technologies that is blurring the lines between the physical, digital, and biological spheres, which then affects almost every industry globally. The disruption heralds a transformation of the entire systems of production, management, and governance, hence, forcing the economic society to reexamine the way they do business that leads up to continuous innovations.

Disruptive innovation refers to an innovation that creates a new market and value network and eventually disrupts an existing market and value network, displacing established market leaders. Across all industries, there is clear evidence that technologies that underpin Industry 4.0 have a major impact on businesses, customer expectations, product enhancement, and collaborative innovations. In other words, it is all about how new technologies are transforming products and services and increase their value.

Based on these reasons, this book aims to share ideas in the area of accounting and finance, particularly on how collaborative innovations in the economic society could be strengthened to sustain the competitive advantage in the era of the Industrial Revolution 4.0. Through this book, we would like to encourage collaborative innovation in the area of accounting and finance.

Jakarta, December 2018

Amalia Kusuma Wardini

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In the name of Allah, Most Gracious, Most Merciful

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Table of Content

List of Figures

List of Tables

INTRODUCTION

The Fourth Industrial Revolution (Industry 4.0), which is characterised by a combination of technological innovations and human capital, has an important role in developing human's potential. This issue is highlighted in the article written by Amalia Kusuma Wardini entitled *Human Capital and Innovation in IR 4.0*. This paper argues that organizational culture is an asset that becomes the most strategic human capital in the Industrial Revolution 4.0. and this can only be created optimally by incorporating individual and social values. Furthermore, intellectual capital has been proved to have a significant factor in improving company's performance. However, in Indonesia's accounting regulation, intellectual capital disclosures are not mandatory, which results in less informative financial reports that contradicts the investors' expectations. This issue is raised by Noorina Hartati, Rakhmini Juwita, and Antares Firman on the paper entitled *Intellectual Capital Measurement and Disclosure in Indonesia: A Literature Review*. In important decision making that may involve acquisition, stakeholders need to know the actual conditions of a business, and this can be achieved by elaborating the measurement and method of intellectual capital. Whilst in the public sector organizations, there have also been a numerous studies on the implementation of knowledge management to improve organizational performance. This issue is raised by Melissa Intan Cahyawulan and Acwin Hendra Saputra in their research paper with the title: *The Impact of Knowledge Management Capability Mediated by lEarning Organization on the Performance of Public Sector Organizations: A Structural Equation Modelling Approach*. The paper identifies that knowledge management capabilities significantly affect the performance of public sector organizations and mediated by learning organizations.

One of the good governance practices in the public sector is audit practice in university. In order to create good governance at university, an internal audit department has an important role as a watchdog, consultant as well as a catalyst. The role of internal auditors of universities in Indonesia has been raised in the paper written by Halim Dedy Perdana, Nafsiah Mohamed, Corina Joseph and Intiyas Utami with the title *Good University Governance and Whistleblowing: The Role of Internal Audit*. Presented in descriptive qualitative research paradigm, the paper points out that the role of internal auditors in most universities in Indonesia has not been optimized. For auditors to make ethical judgements, variables such as mood and obedience pressure may become a major influence. This issue is addressed in the research paper by Intiyas Utami and Gracella Theotama with the titled *Mood, Obedience Pressure and Ethical Judgment: An*

Experimental Study. The study shows that low obedience pressure and positive mood is an essential condition for auditors to make the most ethical judgement.

Another good governance practice is in banking sector. There was an increasing problem of credit level as well as the decrease of credit quality. This issue is raised in the research paper written by Inneke Putri Widyani and Rediyanto Putra with the title *The Effect of Good Corporate Governance on Financial Performance with Risk Level as Intervening Variable in Banking Companies.* The study shows that Good Corporate Governance has a positive effect on banking performance but has mediating impact on the level of risks.

In the real sector, the reduction of import tariff for environmental goods was imposed by a maximum of 5% in 2015 as pledged by leaders of APEC members. This issue is raised by Made Satriawan Mahendra and Akhmad Solikin in their research paper entitled *Impacts of Import Tariffs and Nontariff Measures on Indonesia's Trade Performances of Environmental Goods: A Gravity Model.* The paper analyzes how the policy has affected Indonesia's trade performance and it is discovered that import tariffs did not affect import performance, but they had a negative effect on export performance. Whilst the budgetary slack in Indonesian taxation context has a significantly negative effect on tax revenues. This issue is investigated in the article by Ali Muktiyanto and Rini Dwiyani Hadiwidjaja entitled: *The Budgetary Slack Practice in Indonesian Taxation.* The study suggests that it is important for tax authority to continue increasing their taxation capacity regarding tax regulation, organization and governance, and human resources.

A key indicator of quality budget planning is the level of accuracy between planning and realization and this is very important in achieving budgeting cycle. This issue is raised by Muhammad Heru Akhmadi and Imam Sumardjoko in their article entitled *The Implications of Planning Assignment Fund on Increasing Output Achievements.* By examining the role of accurate Assignment budget tasks and their implications for achieving economic output, the study indicates that the increase in farmers' exchange rates will be able to boost GDP in Indonesia.

One of the technological breakthrough in Industrial Revolution 4.0 is cloud accounting, which is considered to have a great number of benefits. This issue is raised in the research article by Ratna Marta Dhewi with the title: *Applying Cloud Accounting in Indonesia.* In order to gain its benefits, there are necesary adjustments in terms of Indonesia human resources and regulation. The implementation of e-learning information systems as an emerging innovation in education and training should be evaluated in order to find the determinants of its success and acceptance. This issue is raised by Nyanyu Fathonah and Acwin

Hendra Saputra in their research article with the title: ***Measuring Information System Success and Acceptance at Kemenkeu Learning Center (KLC) in the Ministry of Finance of Indonesia***. The research shows that 1) human and organizational factors respectively and technological factors are positively and not significantly related to the intention to use the system; 2) technological factors, the intention to use the system is positively and significantly related to user satisfaction; 3) intention to use the system and system user satisfaction is positively and significantly related to net benefits; and 4) There is a relationship of compatibility between human, technological and organizational factors with each other.

Another technological breakthrough in Industrial Revolution 4.0 is e-commerce as an enormous platform. There are certain effects that prompt the interest in the use of e-commerce-based accounting information system. This issue is raised by Wildoms Sahusilawane in their paper entitled ***The Effect of Trust, Perceived Ease of Use, Perceived Enjoyment and Risk on the Interest in Using E-Commerce Based Accounting Information System.*** The study demonstrates that perceived ease of use has positive and significant effects towards e-commerce-based accounting information system whereas trust, perceived comfort and risk show the opposite impacts.

HUMAN CAPITAL AND INNOVATION IN THE ERA OF INDUSTRY 4.0

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Abstract

The purpose of this paper is to highlight the important role of human capital (human capital) in the era of Industry 4.0. The industrial revolution has been transformed from mechanical production driven by water to cyber physical systems. This transformation has been driven by innovative human capital. The practice of HC in Industry 4.0 motivated this paper and raised a question around the contribution of HC to develop human's potential. Using the theoretical framework of HC from the perspective of intellectual capital, the study reveals that the innovative human capital is driven by the emerging process of personal value, social value and organizational culture into HC. From an organizational perspective, human capital consists of individual values (behavior, skills, competencies, knowledge, experience) that are embedded in a person, and social values (relationships and social networks) of the people as part of social structure. Organizational culture is structural capital which also considered as the third element that forms human capital. From an accounting perspective, organizational culture is an asset embedded in human capital process. Individual experience, knowledge, skills and education creates individual values. Individual and social values which responsive to innovation will form a robust organizational culture, the most strategic human capital in the Industrial Revolution 4.0.

Keywords: human capital, innovation, Industry 4.0 revolution

1. Introduction

Adam Smith in his seminal book "The Wealth of Nations", published in 1776, defined HC as:

> *The acquisition of such talents, by the maintenance of the acquirer during his education, study or apprenticeship, always costs a real expense, which is a capital fixed and realised, as it were, in his person. Those talents, as they make a part of his fortune, so do they likewise that of the society to which he belongs (p.212).*

Human capital has been extended from the basic domain of economic theory to other social science disciplines, such as accounting, psychology, strategic management, and intellectual capital (depicted in Figure 3). An economic perspective defines HC broadly as the skills, knowledge, and capabilities of the workforce based on the argument that these are the critical inputs to production. While HC in the psychology stream places emphasis on individual-level analyses, the accounting and management stream focus more on organisational outcomes. There are various definitions of HC, however, there is a widely acknowledged view that individuals possess a set of skills, knowledge, and experiences that can be leveraged for their personal or organisational benefits (Ployhart & Moliterno, 2011).

The world has now entered a technological disruption era where the flow of the economic information has become more open, and the economy has shifted from tangible towards information technology based industry (Ratnatunga, Gray, & Balachandran, 2004). World Economic Forum (WEF) (2018) refers the Industrial Revolution 4.0 as revolution based on Cyber Physical System, which is roughly a combination of three domains: digital, physical, and biological. Two hundred years ago, industrial revolution in the west left the labor-intensive mechanical productions, where the more the labor force owned by an organization, the more goods produced and services offered would be. The second Industrial Revolution was supported by electricity and the third Industrial Revolution was supported electronically automatons. Now, we are in the era of Industrial Revolution 4.0, which is driven by human using creative ideas to produce innovative solutions. In line with the information-economic paradigm in this Industrial Revolution 4.0 era, a question arises around the contribution of human capital to provide a competitive advantage for organizations in the era of Industrial Revolution 4.0.

Industry 4.0 is known by the emergence of artificial intelligence functions, mobile supercomputing, intelligent robots, neuro-technological brain enhancements, big data that require cyber-security skills, the development of biotechnology and genetic editing. This digital production network is decentralized, acting independently and is able to control operations efficiently and to respond to environmental changes and strategic targets (Erol, Jäger, Hold, Ott, & Sihn, 2016). Industry 4.0 has created an increase in automation of routine task that has never existed before. The question is then: What competencies are required in the era of Industrial Revolution 4.0?

2. Human Capital as a key element of Intellectual Capital

Human capital is a complex web of intangible resources, which include intellectual capital (IC) and other intellectual assets as depicted in Figure 1 below.

IC includes all forms of intangibles; it is the combination of human, structural and relational resources of an organisation (Sveiby, 1997; Sanchez et al., 2000; Choo & Bontis, 2002). While IC can be categorised into human capital and organisational capital (Petty & Guthrie, 2000), human capital (HC) is argued to be the primary component of intellectual capital (Edvinsson & Malone, 1997; Stewart, 1997; Armstrong & Taylor, 2014) that create value for organisation (Ulrich, 2013; Massingham & Tam, 2015). HC can be described as the organisation's collective capability to extract the best solutions from the knowledge of its individuals. This represents the tacit knowledge embedded in the minds of people in organisations (Choo & Bontis, 2002). While IC is a critical source and a key determinant of competitive advantages, economic success and value creation in organisations (Lev et al., 2005), HC is the most critical asset to achieve and sustain competitive advantage. In other words, amongst the intangible assets of IC, HC is regarded as the most critical element.

HC is defined by Meritum (2002) as the knowledge that employees take with them when they leave an organisation, which includes skills, experience and abilities. Some of this knowledge is unique to the individual, and some is generic. Knowledge generation and transfer are essential sources of an organisation's sustainable competitive advantage, but this essentially depends on individuals' willingness to be involved. As such, if HC can suggest the economic potential of individuals within an organisation, it is also true that the outcomes are intimately connected to motivation. Therefore, managing the motivation for developing competitive advantage is also an important aspect.

Figure 1. Human Capital in Intangible Assets
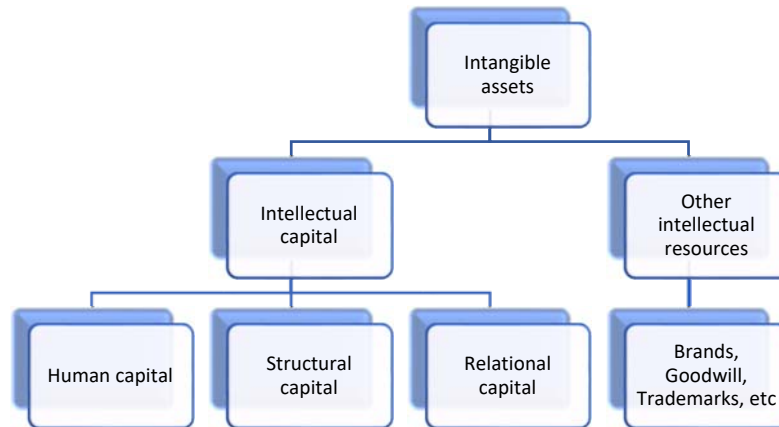
Source: **Mayo (2012, p 34)**

While HC is embedded in people, organisational capital (OC) can be obtained by any organisation. It consists of business processes and systems, commitments to rules, norms and relationship that enable tangible and intangible assets, which are inert by themselves, to be productive. OC is also sub-divided into (internal) structural capital (SC) and (external) relational capital. SC, which is defined as the pool of knowledge that stays with the organisation at the end of the working day after individuals have left (Sanchez et al., 2000) then becomes a supportive infrastructure for HC. This comprises a combination of the organisational routines, procedures, systems, databases, process manuals, strategies, routines, organisational culture, publications and copyrights (Ordonez de Pablos, 2004) that create values for organisations (Chen et al., 2005; Cuganesan, 2005). Some of the elements may be legally protected and copyrighted as an intellectual property, owned by the organisation under a separate title. Examples include organisational flexibility, a documentation service, the existence of a knowledge centre, the general use of information technologies, and organisational learning capacity.

Meanwhile, relational capital (RC) is defined as all resources linked to the external relationships of the organization, which includes customers, suppliers or research and development partners (Sanchez et al., 2000). This comprises the part of human and structural capital dealing with the company's relations with stakeholders (investors, creditors, customers, and suppliers) plus the perceptions

that they hold about the company. Examples include image, customer loyalty, customer satisfaction, links with suppliers, commercial power, negotiating capacity with financial entities, and environmental activities. RC refers to end users' satisfaction and loyalty to the organisation. For any businesses to grow strong and healthy, satisfying stakeholder groups is a necessary condition. While long lasting relationships are one of the sources of competitive advantage (Snehota & Hâkansson, 1995; Campbell et al., 2012), internal customer satisfaction, motivation and commitment have a greater influence on external customer satisfaction, loyalty and retention, which leads to organisations achieving higher levels of productivity (Kaplan & Norton, 2004; Kohtamaki et al., 2013). RC characterises an organisation's formal and informal relations with its external stakeholders and the perceptions that it holds about the organisation, as well as the exchange of knowledge between the organisation and its external stakeholders (Bontis, 1998; Grasenick & Low, 2004). RC is, therefore, important to an organisation because it acts as a multiplying element, creating value for the organisation by connecting HC and SC with other external stakeholders (Ordóñez de Pablos, 2004b; Liu et al., 2010). Although both HC and SC are of equal importance of IC, this paper limits the discussion on HC as the primary component of IC.

3. The Components of HC

According to Mayo (2001), HC can be classified into four main categories: social capital, emotional capital, relational capital and knowledge capital. Social capital includes all activities that promote social relations such as project teams, working groups and seminars. People can be mobilised into groups to create new IC. They will work together if they trust each other and are enthused by the work itself. Meanwhile, emotional capital such as passion, obsession, motivation, desire, innovation and knowledge is critical in creating products and services. It is also important to build relationships, which can then produce lifetime loyalty from key stakeholders such as customers. This emphasises the need to harness intellectual assets through beliefs, enthusiasm, and passion. Then, relational capital, which describes the network relationships that exist within and beyond an organization, is an integral part of HC as it makes the organization function effectively. As for knowledge capital, it is the major contributor to organisation values, which is created by all human, customer and structural elements that work together in a positive environment of organisational learning (Saint- Onge, 1996). It is a major component of overall intellectual capital, which is intricately linked with human capital. However, it should be noted that knowledge is nuanced by its origin.

Knowledge at organisational level is created, resulting in knowledge capital or knowledge assets (Nonaka & Takeuchi, 1995). Knowledge that is accumulated from outside is shared widely within the organisation, stored as part of the organisational knowledge base and utilised by those engaged in developing new technologies and products. Only with this combination of internal and external activity that fuels continous innovation will competitive advantage be created.

Moreover, Mayo (2012) argues that HC includes personal value and social value. Personal value refers to individual characteristics (a set of behaviours, skills, competencies, knowledge, experience) embedded in an individual. Meanwhile, social relations and networks are embedded in people collectively as part of the social structure that exists within, and beyond, an organisation. Flamholtz and Randle (2012) then consider organisational culture as a third element that forms HC. In an accounting sense, organisational culture is an asset; something of value owned or controlled by an organisation that can impact earnings (Flamholtz, 2005). Therefore, organizational culture is an integral part and is embedded in a human capital process. From that understanding, we can see how experience, knowledge, skills and education and organizational culture and individual values are very important, which conclusively emphasizes the importance of HC in the Industrial Revolution 4.0 (Cabrilo, Nesic, & Mitrovic, 2014). There are at least two types of competencies required to be adaptive with the changes in the era of Industrial Revolution 4.0, namely personal competence and social competence. **Personal competencies** can be seen as the ability to develop cognitive abilities and value systems owned by an individual. Digital System, Internet of Things and Network Systems have and will continue to erase some types of work that still exist today (Lanza, Haefner & Kraemer, 2015). Being critical and adaptive to technological developments is a major asset that workers and organizations must possess in Industry 4.0 [11]. **Interpersonal competencies** are embedded in individuals as social beings with their environment. Interpersonal competencies require communication skills and teamwork, as well as building both social connections and social structures with other individuals and groups (Lanza et al, 2015). At the moment, human works are concentrated in an interface where flexibility in problem solving and creativity is quite strategic. Therefore, managers must be able to act as mediators that allow social processes such as reciprocal decision processes, occur not only within the usual organizational boundaries but also across the entire network (Cabrilo, Nesic & Mitrovic, 2014).

4. Competitive Advantage in Industry 4.0

To be able to compete in the global and rapidly changing industrial 4.0 era, organizations must have resources that are able to create organizational values, which contain at least four characteristics. The first is valuable resources that allow organizations to implement strategies to improve efficiency and effectiveness. The second is rare resources that other organizations do not have and if the strategy is implemented, the organization will gain a competitive advantage. The third is imperfectly imitable resources, which are so unique that when other organizations attempt to replicate them, they need to pay at a high cost. The fourth is substitutability resources that other organizations have to replace with other low-cost resources in order to mimic the same effect (Barney & Clark, 2009)

However, there are three situations in which managers may not fully understand their sources of competitive advantage. The first is when the resources and capabilities are taken-for-granted organisational characteristics or invisible assets such as organisational culture (Barney, 1986), teamwork among top managers and relationships with suppliers and customers (Barney, 2007). These characteristics are the social value (Mayo, 2012) and organisational value (Flamholtz & Randle, 2012) of HC. The second is when managers are unable to evaluate which resources and capabilities, alone or in combination, that actually create a competitive advantage. The third is when the resources and capabilities are complex networks of relationships between individuals, groups, and technology. Whenever the sources of competitive advantage are widely diffused across people, locations, and processes in an organisation, those sources of competitive advantage will be difficult to identify and costly to imitate (Barney & Clark, 2007).

In resources-based logic, an organisation is considered to have a 'sustained competitive advantage' when it creates a more economic value than the marginal organisation in its industry and when other organisations are unable to duplicate the benefits of its strategy. If an organisation with a competitive advantage understands the link between the resources it controls and its advantages, other organisations can also learn about that link, acquire the necessary resources (assuming that they are not imperfectly inimitable), and implement the relevant strategies. Thus, organisation's competitive advantages may not be sustained because they can be duplicated. On the other hand, when an organisation with a competitive advantage does not understand the source of its competitive advantage any better than organisations without this advantage, that competitive advantage may be sustained because it is not subject to imitation (Lippman & Rumelt, 1982). However, an organisation that has a sustained competitive advantage does not

mean that its competitive advantage will last forever. Changes in technology, demand, and the broader institutional context within which an organisation operates can all make what used to be a source of sustained competitive advantage no longer valuable (Huang et al., 2015). Some of these sources, in turn, may be sources of sustained competitive advantage in a newly defined industry structure (West & Ibrahim, 2015).

Barney and Clark (2007) argue that organisational culture can be a source of sustained competitive advantage. Organisational culture can be a source of competitive advantage if that culture is valuable, rare, and imperfectly imitable (Barney, 1986). An organisational culture must enable the organisation to do things and behave in ways that add an economic value to the organisation, which is clearly a prerequisite for generating competitive parity (Fiol, 1991). If an organisational culture enables it to behave in ways that are inconsistent with an organisational competitive situation, that culture cannot be a source of superior performance (Balmer & Gray, 1999). Valuable cultures must also be rare to generate sustained competitive advantages. For example, if many universities have similar cultures that allow them to behave and compete in approximately the same way, none will possess a culturally based competitive advantage. The culture driven success of one organisation creates an incentive for other organisations to modify their cultures to duplicate that success. If the culture is perfectly imitable, it cannot give any organisations a sustained competitive advantage. Research on organisational cultures suggests that at least the cultures of some organisations have these characteristics; thus, they can be a source of sustained competitive advantage (Cox & Blake, 1991). This means that not all organisations have these three attributes (Tichy 1983), so organisational culture is not a prime source of competitive advantage for all organisations. Organisations with sustained competitive advantage are typically characterised by a strong set of core managerial values; and tend to have sustained superior financial performance (Freiberg, 2008; Collins & Porras, 2005). These core values foster innovativeness and flexibility in organisations. When they are linked with effective management control, they are thought to lead to sustained competitive advantage.

5. Conclusion

This paper provides evidence of the important role of HC in Industry 4.0. In Industry 4.0, the success and failure of most institutions depends largely on how they manage the human capital they have. This is because Industrial Revolution 4.0 provides room for interactions between human and machines. Industrial Revolution 4.0 features require workers who are not only creative and innovative,

but also have the knowledge and technical capabilities appropriate to the particular environment. In order to enhance the capacities and capabilities of human resources in accordance with the current and future demands, it is necessary to identify the required competencies such as skills, knowledge, attitudes and motivation. In addition, Industrial Revolution 4.0 requires workers who are rooted strongly in technology of things (ToT), human interaction with machines, technology interfaces as well as good understanding of networking systems. Human capital that has competencies with the above characteristics will then create superior, creative and innovative human resources as well as adaptive to change so that they can compete globally in the era of Industry 4.0.

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INTELLECTUAL CAPITAL MEASUREMENT AND DISCLOSURE IN INDONESIA: A LITERATURE REVIEW

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Abstract

Recent global development in the economy has forced stakeholders worldwide to fully acknowledge intellectual capital as an intangible asset. Prior research has proven that intellectual capital is a pivotal factor in improving company's performance. In terms of intellectual capital measurement, Pulics' model (2004), known as VAIC[tm] has been considered as the best practice in measuring the performance of intellectual potential. However, there has been no agreement in justifying the validity of VAIC[tm] model as the best practice in measuring intellectual capital. Meanwhile, according to Indonesia's accounting regulation, intellectual capital disclosure is considered voluntary. There is no specific regulation to determine intellectual capital disclosure as mandatory in the financial report. As a result, many companies do not disclose their intellectual capital elements in their financial report, which, in turn, has reduced its informativeness, as the value stated does not represent the actual condition. Amidst this condition, the investors are looking for actual disclosure in the financial report to make an effective economic decision. Considering this, the paper aims to elaborate the measurement and disclosure method of intellectual capital potential in Indonesia.

Keywords: intellectual capital, VAIC[tm], disclosure, Indonesia

1. **Introduction**

The notion of Intellectual Capital as an intangible asset, which is considered to have more importance than tangible assets, has drawn much stakeholder's attention in the recent years. Intellectual Capital, comprising knowledge, staff competency, good organizational structure, adequate internal control and high-tech literacy is often deemed more valuable in comparison to physical assets such as land, vehicles, buildings and other types of tangible assets. Thus, many business entities have started to shift their focus to employee training program instead of doing business expansion activities such as purchasing lands or building new factories. Secondly, many investors have required intellectual capital disclosures to be taken into consideration in the application of investment decision-making. Therefore, many listed business entities have started to disclose their Intellectual Capital resources and state their efforts in improving Intellectual Capital. Thirdly, in recent global development, Intellectual Capital has become a valuable asset and it has been a challenge for professional accountants to identify, measure and disclose Intellectual Capital in a financial report (Widarjo, 2011). To conclude, it is highly recommended for listed business entities to disclose their Intellectual Capital resources in their annual financial report to inform investors in their investment decision-making.

2. **Grounded Theories**

a. *Resource-based Theory (RBT)*

Resource-based Theory is the advancement of Ricardo's Economic Rent theory and structure-performance-conduct Porter (Barney and Clark 2007). The theory evolved from a strategic question regarding the reasons for a company to surpass other companies and have a sustainable superior performance. Companies that are able to build and manage their own resources are likely to sustain its competitiveness in the future, unlike companies that bought their resources from external parties. A collection of unique resources that a company has can bring sustainable superior performance.

Unique resources, in Resource-based Theory, are valuable resources that met the elements of rarity, inimitability and non-substitutability. Valuable means that it can be used for company activities. Rare means it belongs to a certain company only. Inimitable means that the resource is well protected from any indication of forgery by the competitors. Non-substitutability means that the resource is only possessed by certain companies and that it is irreplaceable by other product (Barney, et al. 2001). This kind of resource can bring competitive advantages to the company.

The Resource-based Theory is rapidly improved in many fields. The initial field of science that developed the Resource-based Theory was strategic management (Spanos & Lioukas, 2001; Schroeder et al., 2002; Ray, et al. 2004). Wernerfelt (1984) states that, under the perspectives of Resource-based Theory, a company will have a competitive advantage over its business competitors and have better financial performance by taking possession, control and use of significant strategic assets, both the tangible and intangible. Belkaoui (2003) states that a potential strategy to improve the performance of the company is by combining its tangible and intangible assets. Resource-based Theory is developing a mindset in strategic management theory and business competitive advantage; in particular the company's belief that to achieve excellence, it needs a superior resource (Solikhah et al, 2010). To conclude, under Resource-Based Theory approach, a resource owned by a company will predispose the performance and eventually added value to the company.

b. Stakeholder Theory

Stakeholder theory states that every stakeholder has the rights to acquire information regarding company's activities that may affect them. Stakeholder theory emphasizes the accountability of the company to be significantly more superior compared to financial performance or simple economy (Deegan, 2004). Stakeholder theory prioritizes the stakeholder due to their power. The stakeholders have become the main reason for companies to disclose/ not to disclose information in a financial report (Ulum et al, 2008). In particular, the stakeholders have the authority to influence the management in the utilization of the whole resources owned by the company. Value added creation can only be achieved through good governance and the utilization of resources. Therefore, the improvement of financial performance and the value of the company are attainable, as they can be intervened by stakeholders.

c. Legitimacy Theory

According to legitimacy theory, an organization will continuously find ways to maintain its existence, but abided by the limitations and norms in the society. An organization will try to ensure that its activities are acceptable for external parties (Deegan, 2004). This theory relies on the statement that there is a social contract drawn up between an organization and the environment where the business is running. A social contract is a way to describe societies expectation on how an organization should run their business. This social expectation is unstable,

as it keeps changing through time so it requires organization to be more responsive to the environment where they run the business (Deegan, 2004).

d. *Signaling Theory*

Signaling theory indicates that organization will try to send positive signals to the potential investors through the financial report disclosures (Miller & Whiting, 2005). Leland and Pyle (1997) state that signaling is an action from the previous owner to communicate the information they have to investors. A previous owner reveals confidential information voluntarily, and they expect that the information will be considered as a positive signal regarding the organization performance and will be able to mitigate any information gaps.

Discussion on Intellectual Capital has been centered on measuring it rather than attempting to discover how it is made. There has not been much research on Intellectual capital but some companies such as Skandia AFS, Dow Chemicals, Coca Cola and IBM, have started to build a distinct report on their Intellectual Capital along with their traditional financial report (Sawarjuwono & Kadir, 2003)

Widarjo (2011) researched on Intellectual Capital in companies that perform Initial Public Offering at Indonesia's stock exchange, known as Bursa Efek Indonesia. The finding reveals that during the initial offering, there were information gaps between the previous owner of the company and the investors, as the former kept much confidential information about the company prospect to themselves and left the investors in the dark, despite the fact that they were about to invest their capital in the company (Hartono as cited in Widarjo, 2011). According to Widarjo (2011), to mitigate the information gaps, the previous owner was supposed to disclose any relevant information about the company offered to the investors. By performing signal analysis sent by the previous owner, investors will be able to find out the company's future prospectus. The more items about the company prospectus included in the Intellectual Capital disclosure, the easier for the investors to discover the company's prospectus and the entire performance. Considering the importance of this information, investors will give higher appraisal to companies that disclose their Intellectual Capital resource.

Investors believe that only reputable companies are willing to disclose their Intellectual Capital, so market can actually differentiate reputable companies from others by examining the Intellectual Capital disclosure. It is essential to make the signal effective and well received by the investors and the signal should be inimitable by other companies (Hartono as cited in Widarjo, 2011).

According to Widarjo (2011), Intellectual Capital disclosure has positive contribution to the value of the company after initial public offering. The high Intellectual Capital disclosure improves the value of the company and will assist investors in valuing the share price of the company. This finding has an implication on policy makers to perform review and evaluation regarding the standard regulation of Intellectual Capital disclosure in company's financial report. Current standard only regulates volunteer Intellectual Capital disclosure. The new standard is supposed to put Intellectual Capital disclosure as mandatory and embedded in the company's financial report. By doing so, the practice of Intellectual Capital disclosures is more comprehensive and well structured and investors will find it easier to perform analysis regarding performance and prospectus of the company, so they can make informed decisions.

Williams (2001) states that voluntary disclosure regarding Intellectual Capital allows investors and other stakeholders to reduce their risks perception, hence improving the value of the company (Miller & Whiting, 2005). Positive signal of the organization will prompt positive feedback from the market, as it will produce competitive advantage and increase the value of the company.

Human resource as part of Intellectual Capital is categorized as an intangible asset. According to Sugiri and Sumiyana (2005), Balance Sheet is incomplete in measuring human resource assets. Human resource is not included in the balance sheet, as the future service cannot be measured in monetary form.

Accounting professionals are usually obliged to disclose the physical capital. The recognition of Intellectual Capital as pivotal factors to the company has made mandatory disclosures cover not only the physical capital anymore, but also the Intellectual Capital. The absence of Intellectual Capital information raises problem in investment decision-making. Therefore, policy makers need to make a guideline for Intellectual Capital disclosure, to protect users' rights. Suhardjanto and Wardhani (2010) research shows that the level of Intellectual Capital disclosures in Indonesia is still low (in average, 34,5 out of 25 items of Intellectual Capital). This is due to company's low awareness of the significance of Intellectual Capital in creating and maintaining competitive advantage and shareholders' value.

3. Measurement of Intellectual Capital

Following Yusuf, et al. (2013), the independent variables in this study are Value Added Intellectual Coefficient (VAICTM) (Pulic, 2004) and its components as the proxies of IC.

The following is the formulae to measure VAIC™:

- Output (OUT) –Total sales and other revenues

- Input (IN) – Expenses (excluding employee expenses)
- Value Added (VA) – Difference between Output and Input

$$VA = OUT - IN$$

- Human Capital (HC) – Employee Expenses
- Capital Employed (CE) – Available fund (equity, retained earnings)
- Structural Capital (SC) – VA - HC
- Value Added Capital Employed (VACA) – Ratio between VA and CE that represents the contribution of each CE to the organization's added value.

$$VACA = VA / CE$$

- Value Added Human Capital (VAHU) – Ratio between VA and HC that represents the contribution of each rupiah invested in HC to the organization's added value:

$$VAHU = VA / HC$$

- Structural Capital Value Added (STVA) – Ratio between SC and VA. This ratio measures the amount of SC needed to generate one rupiah of VA and indicates the ability of SC in value creation:

$$STVA = SC / VA$$

- Value Added Intellectual Coefficient (VAIC™) – indicates the intellectual capability of an organization. VAIC™ can also be considered as BPI (Business Performance Indicator).

$$VAIC™ = VACA + VAHU + STVA$$

HC are employee-related expenses (salaries, employee training and development, and professional fee). HCE is a human capital efficiency coefficient. SC stands for structural capital. SCE is structural capital efficiency coefficient. ICE is intellectual capital efficiency coefficient. CE is the book value of net assets.

CEE is capital employed efficiency coefficient, and VAIC is value added intellectual coefficient.

According to Bontis et al (2000), researchers in general identify three main characteristics of Intellectual Capital: Human Capital (HC), Structural Capital (SC) and Customer Capital (CC). HC is an individual knowledge stock of an organization, represented by employees. HC is a combination of genetic inheritance, education, experience and the attitude of existence and business. SC comprises of the entire non-human storehouses of knowledge within organization. Including database, organizational charts, process manuals, strategies, routines and other aspects that contribute in enhancing the value of the company beyond its material value. CC is inherent knowledge in marketing channels and customer relationship, where the company elaborates the process through the course of business (Bontis et al., 2000). Meanwhile, Pulic (2001) argues that Intellectual Capital comprises employees, organization and its ability to create added value. In general, Intellectual Capital consists of three main aspects, as follows:

1. Human Capital (HC)

   Human Capital is the staple of Intellectual Capital and it is in need of innovation and improvement as it includes knowledge, skills and employee's competence. Human capital is able to improve as long as a company efficiently utilizes and develops the knowledge, skills and competency its employees. Therefore, Human Capital is the main resource to develop a competitive advantage of the company to survive in the dynamic business environment. Having skilled employees, a company can improve its performance and ensure its sustainability. Improving a company's performance is enhancing its market perception. However, it is hard to measure Intellectual Capital (Sawarjuwono & Kadir, 2003) and thus it needs further research and development.

2. Structural Capital (SC)

   Structural Capital is the ability of an organization in meeting its day-to-day operations and in promoting employee's development by providing maximum intellectual and business performance. Structural Capital includes company's operational system, manufacturing process, organizational culture and management philosophy (Sawarjuwono & Kadir, 2003).

3. Relational Capital (RC) or Customer Capital (CC)

   Relational Capital (RC) is a harmonious relationship in terms of association networks between the company and its partners, including suppliers,

customers, government and societies. Relational Capital (RC) is build on external aspects of the company and is able to enhance the value of the company (Sawarjuwono & Kadir,2003).

4.   Disclosure of Intellectual Capital

Wolk, Dodd, and Rozycki (2008) define disclosure in a broader interpretation. Disclosure of information included in the financial report and supplementary communications consists of footnotes, information regarding events after reporting date, management analysis regarding company's future operation, financial forecasting and other details.

Information to be disclosed in the financial report can be categorized into mandatory and voluntary disclosure. Mandatory disclosure is a delivery of information that an issuer has to disclose, and it is arranged by the capital market regulation of a country. Every issuer or listed company is obliged to submit annual financial report periodically and other relevant information to public and government bodies (Bapepam as cited in Nuswandari, 2009). Meanwhile, voluntary disclosure is a delivery of information voluntarily made by a company, distinct from the information in the mandatory disclosure. Voluntary disclosure is information disclosure that exceeds the minimum requirement determined by the incumbent capital market regulation. Companies have their discretion to voluntarily disclose their Intellectual Capital in the annual report and this has resulted in some degree of irregularity in the voluntary disclosures made by companies (Nuswandari, 2009).

Intellectual Capital disclosure in financial reports is an integrated, actual and fair method to explain company's activities. Intellectual Capital disclosure is communicated to internal and external stakeholders, by combining reports in the form of numbers, visualization and narrative. It is intended for value-added creation. Intellectual Capital report consists of financial and non-financial information, such as employee's rotation, job satisfaction, in-service training, customer satisfaction and supply accuracy. This wealth of information is essential for employees to be able to access so that they know how to contribute to creating added value in a company (Ulum, 2009).

Guthrie and Petty (2000) researched 20 listed companies in Australia and the findings are as follows.

a.   Over 95% Intellectual Capital disclosures were presented separately, and they were not in the form of numbers. The findings suggest how difficult it was to quantify intangible assets, in terms of Intellectual Capital.

b. Business entities were likely to disclose their external capital. There was no evidence found in financial reports regarding the inclusions of the three elements of Intellectual Capital.
c. The reporting and the disclosure of Intellectual Capital had only been applied partially.
d. In general, many business entities stated the importance of Intellectual Capital in facing futures global competition, but only poorly supported in the disclosure in their annual reports.

Intellectual Capital is a new phenomenon, in terms of supporting annual report or even as a management concept. Thus far, there are only signs of companies using Intellectual Capital as a supporting document of annual report, and not as a management concept (Sawarjuwono & Kadir, 2003).

Intellectual Capital as an intangible asset is not automatically included as an element of balance sheet in an annual report because Intellectual Capital is difficult to quantify. For that reason, Intellectual Capital is disclosed in the form of a separate supporting document of annual report. Dannish government showed in their research that there was no specific model of Intellectual Capital reporting. This reporting model was incidentally made by business entities as an effort of strategy implementation, not as an actual attempt to develop a model. Processing and measurement method were inseparable factors in Intellectual Capital statement, as they will form the language in Intellectual Capital documentation practices. Intellectual Capital statement does not actually disclose the value of resources that a company has, but it discloses the company's knowledge management and the measurement factors as an integral part of Intellectual Capital Statement (Sawarjuwono & Kadir, 2003).

Investors will be more interested in company's future returns compared to company's potential risks. Profit margin will be used to compensate additional risks that may emerge in the future (Nur, 2008). To gain more added values, a company needs to improve their internal condition. Many factors can contribute to building a company's profile in market perspectives, in addition to its tangible assets. An intangible asset such as a positive stockholder's equity, financial performance strength, intellectual capacity in reducing costs and increasing company's performance to compete in the market, innovations, continuous improvement. All these intangible assets make up Intellectual Capital that can boost company's financial performance and competitiveness (Nur, 2008).

5. Measurement and Disclosure in Indonesia

Indonesia's accounting standards, known as PSAK, standard number 19 states that an intangible asset is an identifiable non-monetary asset without physical substance. The identification criterion is met when the intangible asset is separable (that means it can be sold, transferred or licensed) or when it arises from contractual or other legal rights (Ikatan Akuntan Indonesia, 2009). Meanwhile, according to IAS 38, intangible assets require an entity to recognize an intangible asset, whether purchased or self-created (at cost) if, and only if:

a. It is probable that the future economic benefits attributable to the asset will flow to the entity; and
b. The cost of the asset can be measured reliably

Hence, if intangible assets are acquired in business combination, according to IFRS 3 Business Combinations, such business combinations are accounted for using the 'acquisition method', which generally requires assets acquired and liabilities assumed to be measured at their fair values on the acquisition date.

According to Erdianthy and Djakman (2014), the motivation to disclose Intellectual Capital is supported by local regulation, in particular Indonesia's regulation known as BAPEPAM, number: Kep-38/PM/1996, on 17 January 1996, regarding the format and contents of company's annual report. As a result, the disclosures tend to be mandatory. Furthermore, Healy et al (1999) states that motivation to disclose information will prompt investors to evaluate their judgment on the company's share price and this will increase the share's liquidity. It will also create institutional added values and increase analysis interest on securities. To summarize, the findings indicates high level of capital disclosure will produce accountable information and mitigate investors misjudgment in evaluating company's share price and will increase market capitalization.

6. Conclusion and Suggestion

Various studies in Indonesia prove that Intellectual Factors have influenced financial performance and market. Therefore, significant factors of Intellectual Capital need more attention from the stakeholders, particularly in the economy sectors. There are no specific rules implemented in Indonesia to oblige companies to disclose Intellectual Capital.

We suggest that Intellectual Capital measurement should use another model aside from the original model developed by Pulic (2004), for instance, in-depth interview approach. There is also urgent need to standardize guidance to conduct

in-depth interviews. Policy makers also need to necessitate companies, particularly listed companies, to disclose their Intellectual Capital. Intellectual Capital is believed to have significant influence to improve financial and market performance in Indonesia and it will be able to boost Indonesian economy so that the country will be more ready to face Industrial Revolution 4.0.

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THE IMPACT OF KNOWLEDGE MANAGEMENT CAPABILITY MEDIATED BY LEARNING ORGANIZATION ON THE PERFORMANCE OF PUBLIC SECTOR ORGANIZATIONS: A STRUCTURAL EQUATION MODELING APPROACH

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Abstract

Extensive literature on public sector organizations maintains that the implementation of knowledge management has a positive influence on organizational performance. This study aims to confirm the research model developed by Ngah et al. (2016) to identify the effect of knowledge management capabilities mediated by learning organization on the performance of public sector organizations. The identification of the influence is analyzed from the factors that influence the capabilities of knowledge management, learning organization and organizational performance using the Covariance-Based Structural Equation Modelling (CB-SEM) method at the Financial Education and Training Agency (FETA). Based on the research data collected through questionnaires with 288 employees at managerial and non-managerial levels, it can be concluded that knowledge management capabilities have a positive and significant effect on the organizational performance. Also, the Sobel test to find out the significance of the variables shows that learning organization mediate knowledge management capabilities in influencing organizational performance.

Keywords: knowledge management, organizational performance, learning organization, public sector, structural equation modeling.

1. **Background/ Objectives and Goals**

Technological leaps, economic growth, and the shifted social, political and cultural paradigms over the past few decades have become challenges faced by private and public organizations in realizing sustainable competitive advantage. Organizational development is no longer an option, but an adaptation mechanism that must be done for the organization to last with its competitiveness and adaptability (Cummings & Worley, 2008; Alipour et al., 2011).

Worley and Feyerherm (2003) state that one condition that must be met in realizing organizational development is the ability to learn and transfer knowledge. Most knowledge already exists in the organization, built through continuous improvement along with the maturing process of the organization and embedded as personnel expertise, business processes and good relations with stakeholders. Therefore, knowledge is considered a crucial intangible asset in organizational development strategies and competition in the business environment (Obeidat et al., 2017).

A challenge arises because most knowledge in the organization is tacit and inherent in humans so that organizations, in general, cannot use the knowledge they have optimally (King, 2009). To deal with these challenges, the concept of knowledge management was developed as a strategy for managing knowledge assets to achieve organizational goals (Chiu & Chen, 2016). Knowledge management functions as a framework of thinking on how knowledge in an organization is managed, from the stages of construction, storage and retrieval, transfer to an application (Alavi & Leidner, 2001), so that maximum effectiveness of knowledge assets is positively correlated with organizational performance (Singh Sandhawalia & Dalcher, 2011; King, 2009).

In the development of knowledge management application, there has been a strong emphasis on the importance of placing a strategic focus on developing a learning culture, especially by becoming a learning organization (Senge, et al., 1994; Marsick & Watkins, 2003; Chinowsky & Carrillo, 2007). Learning organization is a condition where organizations experience a process of change and continuous adaptation, learn about the change process itself and allow individual learning at the same time (Pedler et al., 1996). Thus, organizations can continue to transform independently and achieve their goals by using their sustainable competitive advantage. More and more organizations now recognize that effective management of broad and diverse knowledge is the key to sustainable competitive advantage. Public sector organizations are beginning to take essential steps to adopt knowledge management practices in a knowledge-based economy to improve public services (Ngah et al., 2016).

This study aims to confirm the results of previous studies, which showed an indirect influence of knowledge management capabilities mediated by learning organization on the organizational performance (Liao & Chuang, 2006; Liao & Wu, 2009; Ramírez et al., 2011; Ngah, et al., 2016). The study was conducted at FETA as a public sector organization in Indonesia that initiated a knowledge management and learning organization strategy and will be the manager of similar strategic initiatives within the Ministry of Finance of the Republic of Indonesia.

2. Methods

2.1. Population, Samples and Research Data Collection Techniques

The study was conducted using a quantitative explanatory approach in the survey format. This method was chosen because qualitative research with graphic design can explain the relationship, difference or influence between one variable and another using sample and research hypothesis (Mulyadi, 2011). The population of this study was employees at the IRB at all managerial and non-managerial levels. Sampling was taken with a disproportionate stratified random sampling technique that was suitable for non-homogenous and stratified yet non-proportional population (Sugiyono, 2014). The research questionnaire was designed using a Likert scale and divided into four parts: 1) Identity of Respondents; 2) Knowledge Management Capability; 3) Learning Organization; 4) Organizational Performance.

The questionnaire was distributed from the 21st to 31st May 2018 in a hardcopy format for vertical units in the Jabodetabek area as well as in a format of online questionnaire. The number of respondents returning the questionnaire in print format was 186 people, while the number of respondents who chose to fill out the questionnaire online was 127 people, so the total responses collected amounted to 313 response sets. This number has fulfilled the minimum sample size according to Isaac and Michael, as cited in Sugiyono (2014). For a population of 1279 people, the of 5% error rate was 279 respondents.

2.2. Variables and Operational Definitions of Research Variables

This study has an exogenous latent variable called the Knowledge Management Construct (KMC) and two endogenous latent variables called Organizational Performance (OP) constructs and a Learning Organization (LO) construct. The construct of the LO acts as a mediating variable between the construct of KMC and the construct of OP. As an indicator for measuring latent variables, this study used 44 manifest variables, which were manifested in the questionnaire statement items. 20 manifest variables represented the construct of

KMC, 14 manifest variables represent the LO while eight manifest variables represent the OP.

2.3. Hypothesis and Research Model

The research model was built on the theoretical basis that knowledge management capabilities are a direct determinant of organizational effectiveness. Utilizing them in operational activities is essential for organizations to maintain their competitiveness (Gold, et al., 2001; Chiu & Chen, 2016). Gold et al. (2001) review the knowledge management capabilities of an organization from two sides: the infrastructure capability/ Knowledge Management Infrastructure Capability (KIC), which consists of structure, culture and information and communication technology in organizations and process capability/ Knowledge Management Process Capability (KPC) involving the stages of acquisition, conversion, application, and protection of knowledge. Meanwhile, the effectiveness of organizational performance can be measured using the Balanced Scorecard perspective for the public sector, namely: learning and growth perspective, internal process perspective and objective perspective, which represents customer perspective and financial accountability perspective (Kaplan & Norton, 2001; Kaplan, 1999).

UNPAN in *Knowledge Management Basics: Concepts, Objects, Principles, and Expectations* states that learning organizations can be used as a management tool in implementing knowledge management as an organizational strategy. Formalization of this strategy in organizations is more optimal in increasing organizational effectiveness and efficiency compared to management who continually implement change initiatives. These conditions allow organizations to perform autonomous learning and continuous transformations, and support learning on individual and group levels (Pedler et al., 1996; Marsick & Watkins, 1996; Marsick & Watkins, 2003). Considering this, the hypotheses were formulated as follows:

H1: Knowledge management capabilities positively and significantly affect organizational performance.

H2: Knowledge management capabilities affect learning organization positively and significantly.

H3: Learning organization affect organizational performance positively and significantly.

H4: Learning organization mediates the effect of knowledge management capabilities on organizational performance.

Figure. 3.1. Research Model
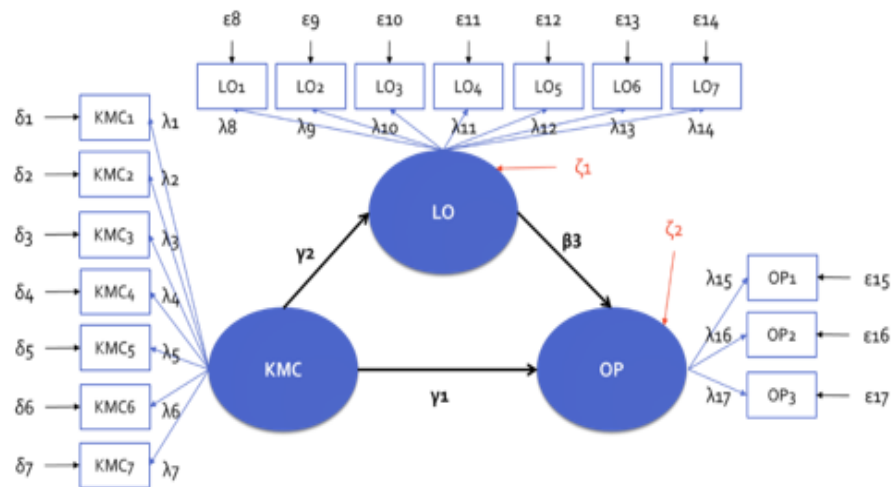
Source: **processed from previous research**

2.4. Research Data Analysis Techniques

This study used Covariance-Based Structural Equation Modeling (CB-SEM) to test the hypotheses. Structural Equation Modeling (SEM) is a statistical method commonly used to test a correlation between independent variables and is bound to more than one metric (Ghozali & Fuad, 2014).

CB-SEM is a type of SEM that requires constructs and indicators to correlate with each other in a structural model (Ghozali, 2005). According to Hair et al. (2007), CB-SEM is suitable to be used to test theories or confirm theories with models in a recursive and non-recursive format with small to medium complexity levels. To simplify the data testing process, LISREL 8.72 software is used for analysis of research models.

3.   Results
3.1. Reliability and Validity Test of Measurement Instruments

Tavakoli and Dennick in Ngah, et al. (2016) states that the validity and reliability of measurement instruments are two things that need to be taken into consideration when testing the relationships between variables of Structural Equation Modeling (SEM).

Table 3.1.
Validity Test Results and Measurement Indicator Reliability

Construct	Indicator Validity		Indicator Reliability	
	r table	Remarks	Cronbach α	Remarks
Knowledge Management Capability	0,402*-0,888**	Valid	0,955	Reliable
Learning Organization	0,713**-0,920**	Valid	0,970	Reliable
Performa Organizational Performance	0,750**-0,968**	Valid	0,963	Reliable

* : Valid at *p-value* 0,01 ** : Valid at *p-value* 0,05

Validity test in this study was carried out using the Product Moment correlation approach for each item statement (Ghozali & Fuad, 2014). The statement points that had a calculated r value greater than the critical value of Pearson's r (r table) at the significance value (p-value) <0.05 were declared valid. Based on the value of the degrees of freedom df = 29 (31-2) and alpha 0.05, the r-value of the table was 0.355. The calculation results in Table 1 show that the indicators in the questionnaire have r <0.05 so that measurement instruments can be declared as valid.

Reliability test was done by Cronbach Alpha testing method for each construct to measure the degree of consistency and stability of data or findings. Nunnally in Ghozali and Fuad (2014) states that a constructor variable is declared reliable if it gives a Cronbach Alpha value > 0.70. The results of the third Cronbach Alpha calculation construct in this study ranged from 0.955 to 0.970, indicating that the overall statement point of the measurement instrument was reliable.

3.2. Overall Model Fit Test

Testing the overall model fit for the estimation results of the measurement of Confirmatory Factor Analysis (CFA) was carried out on each construct and the full model. The overall model fit-test of each construct aimed to test whether the hypothesized indicators were an excellent indicator to present a construct in the study while the overall model fit-test for the full model aimed to test whether the hypothesized model was a good model for presenting the results of the study.

Table 3.2.
Goodness of Fit Statistics for Overall Model Fit Test

Criteria	Cut off	KMC	LO	OP	Full Model
Absolut					
Chi square	p > 0,05	1,00	0,72	0,89	1,00
GFI	> 0,90	0,76	0,77	0,90	0,67
RMSEA	< 0,08	0,00	0,00	0,00	0,00
RMR	< 0,05	0,061	0,049	0,040	0,048
SRMR	0 ≤ SRMR < 0,05	0,073	0,057	0,049	0,057
Incremental					
TLI/ NNFI	> 0,90	1,01	1,00	1,00	1,01
NFI	> 0,90	0,99	0,99	1,00	0,99
AGFI	> 0,90	0,70	0,72	0,79	0,64
IFI	> 0,90	1,01	1,00	1,00	1,01
CFI	> 0,90	1,00	1,00	1,00	1,00
Parsimoni					
PGFI	0,60 ≤ PGFI ≤0,90	0,61	0,60	0,49	0,61
PNFI	0,60 ≤ PNFI ≤ 0,90	0,88	0,86	0,71	0,94
ECVI	< saturated and independence	0,87	0,59	0,18	3,77
CAIC	< saturated and independence	1194,78	852,10	256,57	3674,09
AIC	< saturated and independence	1008,26	702,89	181,96	3249,76

The estimation results of CFA on each construct did not show a perfect fit result as indicated by a p-value <1.00. The overall model fit-test for the three constructs was carried out by referring to the values of the statistical goodness of fit. Table 2 shows that the simple match criteria are represented by chi-square and RMSEA, the incremental criteria are represented by TLI, NFI, IFI, and CFI, the parsimony criteria are represented by PNFI, ECVI, and CAIC. All these constructs met the specified cut-off criteria. The results of the overall model fit-test for the full model also showed that eleven criteria of the three types of suitability criteria could be declared proper fit. Thus, each construct and research model as a whole could be declared pass the overall model fit-test (Latan, 2012).

Table 3.3.
Validity and Reliability of each construct for testing *Measurement Model Fit*

Construct	Validity			Reliability		
	t-values	λ	*Remarks*	CR	AVE	*Remarks*
Knowledge Management Capability	3,20-18,24	0,55-0,73	Valid	0,93	0,42	Reliable
Learning Organization	6,23-24,41	0,66-0,84	Valid	0,95	0,54	Reliable
Organizational Performance	4,63-20,87	0,65-0,83	Valid	0,92	0,59	Reliable

Validity of an indicator can be evaluated using the level of parameter significance (t-values) and standardized loading factors (λ). An indicator is of a good validity level on its latent variables if it has a parameter value (t-value) ≥ 1.65 and standardized loading factors (λ) ≥ 0.50. The estimation results of CFA measurements in Table 3 show that all indicators in the construct of KMC, LO, and OP constructs have t-value of ≥1.65 and standardized loading factor > 0.50. Thus, all indicators in the construct can be declared valid.

Model reliability testing was run by measuring the value of construct reliability (CR) and average variance extracted measure (AVE). A reliable indicator has a value of construct reliability (CR) ≥ 0.70 and the value of the average variance extracted (AVE) was ≥ 0.40. The calculation results, summarized in Table 3, show indicators in the construct of KMC, LO and OP capabilities have CR value of ≥ 0.70 and the AVE value of ≥ 0.40 so that the three constructs can be declared reliable.

3.3. Structural Test of Fit Model, Hypothesis Test, and Findings Analysis

The structural model fit-test aims to confirm whether empirical data obtained through research instruments support the relationships between variables hypothesized in the model. According to Ghozali and Fuad (2014), three things need to be considered in the structural model test: the direction of interconnection relations, determination coefficient (R2) and parameter significance (t-value).

The structural model in Figure 3.2 shows that the overall gamma and beta values are positive and the whole arrow has a recursive relationship. Thus, the relationship between the results of the estimation of empirical data can be considered following the model built on the initial hypothesis of the study.

Figure 3.2. Structural Model
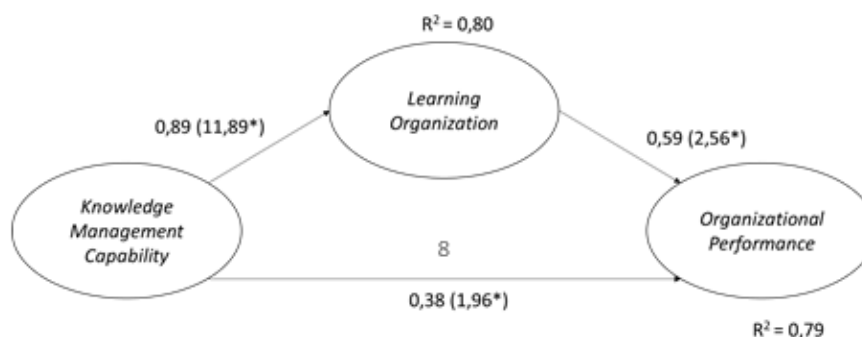
The coefficient of determination (R2) in the estimated structural equation indicates the amount of variance in the endogenous construct that can be explained simultaneously by exogenous constructs. As can be seen in Figure 3.2, the construct of KMC contributes 80% in building the LO construct while the KMC and LO contribute 79% in forming OP constructs. In other words, exogenous constructs can explain endogenous constructs through equations structurally well. The test based on the significance of the parameters (t-value), direct effect, indirect effects and the total effect of the interconnection was run to determine the acceptability of the four research hypotheses as summarized in Table 3.4.

The findings analysis was carried out on each research construct by comparing the value of loading factors, standardized loading factors and determination coefficients (R2), and estimating the structural model of each indicator as presented in Annex 2.

Table 3.4.
Results of Testing Research Hypotheses

Code	Path	Direct Effect	Indirect Effect	Total Effect	T-value	Decision
H1	KMC→OP	0,38	-	-	1,96	Accepted
H2	KMC→LO	0,89	-	-	11,89	Accepted
H3	LO→OP	0,53	-	-	2,56	Accepted
H4	KMC→LO→OP	-	0,47	0,86	2,46*	Diterima

*) t-value measured using Product of coefficient method

The analysis was carried out separately in each construct and aimed at identifying which indicators were the most powerful in influencing the research

constructs. The results of the analysis of influences on each construct are as follows:

1) Knowledge Management Capability

   The most significant influence of infrastructure capability was in the indicators that measured respondents 'perceptions of organizational capability in facilitating knowledge creation processes; whereas the greatest influence of process capability was in the indicators that measured respondents' perceptions of organizational capabilities in utilizing knowledge to solve a problem.

2) Learning Organization

   The biggest influence of individual-level learning was shown in the indicators that measured respondents' perceptions of the availability of access to resources needed to support the learning of each individual in the organization. In terms of group-level learning, the biggest influence was shown in the indicators that measured respondents 'perceptions of the awards given by the organization for the achievement of a team/ group while at the organizational-level learning the greatest influence was found in the indicators that measured respondents' perceptions on encouragement given by organizations in various perspectives when solving a problem.

3) Organizational Performance

   The biggest influence of organizational performance was reflected in indicators that represented an internal process perspective, namely the quality of decision-making, the quality of teamwork and the quality of business processes. Meanwhile, the biggest influence from the objectives perspective was shown in indicators that measured respondents 'perceptions of the development/ improvement of service quality consistently. Lastly, the biggest influence from the learning and growth perspective was shown in the indicators that measured respondents' perceptions of improving the quality of learning for employees.

3.4 Acknowledgments and Legal Responsibility

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GOOD UNIVERSITY GOVERNANCE AND WHISTLEBLOWING:
THE ROLE OF INTERNAL AUDIT

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Abstract

The internal audit function is a crucial aspect in the implementation of good university governance. The international paradigm of the role of internal audit in corporations is shifting. Internal audit does not only act as a watchdog, but also as a consultant and catalyst. One aspect that becomes the task of internal auditors is to conduct whistleblowing in the event of fraud. The research aims to identify the role of internal auditors of universities in Indonesia as a whistleblower for fraud as seen from the various regulations that govern and the audit charter established. The research method used is descriptive qualitative by taking ten best state universities in Indonesia in 2018. The results of this study indicate that the position and role of internal auditors in Indonesian higher education are in accordance with international standards listed in the audit charter of each university. However, the role and function of internal auditors as a whistleblower for fraud has not been implemented optimally. This is because the supervision and inspection processes conducted by internal auditors have not led to the five internal control pillars recommended by COSO. The audit carried out so far is still a compliance audit and is still based on financial management risk so that it still does not fully lead to fraud prevention. Other factors such as the failure of internal controls and the absence of a supervisory body make recommendations and suggestions from internal auditors possible to not be followed up by management.

1. Introduction

The Higher Education is an educational institution that has a strategic role in the achievement of the objectives of education. Therefore, the role of universities as centers of education by developing and transform of science, knowledge, technology and the arts through Tri Dharma of Higher Education (education, research and community service) requires a good governance in order to improve the quality and value of higher education.

One of the concepts currently being a concern in the Higher Education is the concept of Good University Governance (GUG). This concept is actually a derivative of the concept of a more general governance is often called good governance. If higher education can be categorized as a public or private goods goods? This is a very pressing matters related to how should the management organization of the Higher Education.

Demand for corporate governance can no longer charged to the institution itself. The higher education should embrace the concept of governance. This is in line with the organization in the field of industry and universities are facing the increasing need for accountability (Chamberlain, Gordon, and Plunkett, 1993). For example: students need a strong institutional commitment to top-quality learning; politicians and watchdog agency wants the conviction that academic institutions contributed to the definition of public goods (economic development) in accordance with the law and procedural rules; donor agencies ask for proof that their investment and contributions have been well used related agenda and priorities of the organization; and alumni wanted confidence that the reputation of the alma mater is increased so that their value continues to grow (Kearns, 1998). Based on the terms of the management of higher education in Indonesia must give attention to balanced against the process and institutional governance mechanisms (Balderston, 1974).

Internal audit to be one of the keys in order to encourage good governance in the organization (Ali Abdul Kadir, 2000). Therefore, the management of institutions of higher learning should realize the importance of the internal audit function in all its institutions.

Nowadays, the development of internal audit proceeded very quickly along with the changing times in the era of globalization. It also occurred in Indonesia, the development emphasis and internal audit mechanisms have been undergoing a

shift. In the past the role of internal auditors is as a "watchdog" in your organization or company, whereas, in the present and future of modern internal audit process into "internal consultant" who give input in the form of ideas and thoughts in order an improvement over the system that runs, and acts as a "catalyst" that provides services to management through advice that is constructive and can be implemented for the progress of the organization but is not participating in the operational activities of the in your organization, including higher education. There is some mention of the internal auditor's term in the Higher Education, such as Internal Oversight Unit (SPI), Internal Quality Audit (AMI), and units of the Internal Auditors (SAI). While in college overseas such as the United States called the Internal Auditing and Compliance.

In addition, internal audit cannot be quality assurance system apart from that carried out by universities in Indonesia. For example, the internal auditor at the University of Gadjah Mada in the execution of his duty shall, in cooperation with the quality assurance Office that provides services in the form of internal quality audits.

There are some things that show still weak implementation of internal audit in higher education Indonesia among others: first, an internal auditor position in the organizational structure of several universities in Indonesia are still under the command of Vice-Chancellor of academics not being under the Rector or the University Senate. Second, the role of the audit Charter is contained in a standard Operational Procedure (SOP) the internal auditor's respective universities in Indonesia that is far from the optimal words, effective and efficient in terms of its implementation. Third, the existence of the phenomenon of occurrence of fraud involving executive management higher education in Indonesia as an example: the former Rector of the University and caught by the corruption eradication Commission (KPK) over the corruption of the construction of the hospital Airlangga University education.

This study aims to compare (comparison) the position and role of internal auditors between universities in Indonesia are good University Incorporated Law (PTBH), University of public service Bodies (PTBLU) and University as unit of work (PT-Satker) seen from the side position of the internal auditor on the structure (SOTK) colleges as compared to International Standards for The Professional Practice of Internal Auditing (IPPF) as an international audit standards. In addition, this research aims at identifying the functions and the role of internal auditor in the face of potential fraud activity in Indonesian Universities.

2. Theoretical Framework

2.1 Internal Audit and Good University Governance

Internal audit according to The Institute of Internal Auditors (IIA 2016), namely "internal auditing is an independent, objective assurance and consulting activity designed to add value and improve an organization's operating. It helps an organization accomplish its objectives by bringing a systematic, disciplined, approach to evaluate and improve the effectiveness of risk management, control and governance process ". Internal audit of these definitions it can be concluded that the internal audit is basically the activities of guarantors (assurance) and consulting (consulting) are independent and objective. This sense is in tune with the sense of internal audit the Internal Audit Profession Standards (SPAI 2004), that internal audit assurance and consulting activities is independent and objective, designed to deliver added value and improve the activities of the organization. Internal audit helps the organization to achieve its objectives, through a systematic and orderly approach to evaluate and improve the effectiveness of risk management, control, and governance processes.

Good corporate governance in higher education is necessary to encourage the creation of efficiency, transparency and consistency with the legislation. The implementation of good corporate governance needs to be supported by three interrelated pillars, namely the State and its apparatus as a regulator, the College as market participants and the community as stakeholders and users of the universities product/service. There are four principle of good corporate governance Policy National Committee according to Corporate Governance (KNKCG) enhanced year 2001, namely transparency, independence, accountability, responsibility and equality and fairness. These principles are required in Indonesian Universities to achieve continuous performance by remaining attentive to the stakeholders.

2.2 Three Lines of Defense

In the model of three lines of defense introduced three lines of defense for an organization in order to achieve good corporate governance. First, control of management and internal control. Second, the risk control and compliance functions are formed by management. Third, the belief is independent of the internal audit. Based on three, it can be seen that an internal auditor provides confidence in the effectiveness of governance, risk management and internal controls (IIA, 2013).

2.3 Fraud Triangle

According to Cressey (1950) the fraud occurred because of 3 things, i.e. pressure, opportunity and rationalization. If one is not met then the fraud activity will not occur. Pressure can come from internal/personal be urging economic needs, externally in the form of pressure from the leadership in achieving a specific goal and work stress (Lister, 2007). Specifically, 95% of the total cases of fraud are influenced by financial pressures (Albrecht et al., 2006). Based on Hooper and Pornelli (2010), the pressure can be a positive or negative force. At the time of the goal can be reached then the pressure gives creativity, efficiency and competitive. These opportunities are explained by the Rae and Subramaniam (2008) as the ability to realize the weakness of the system and use it to commit fraud. Indication of refers to rationalization to mitigate fraud (Tuanakota, 2014). Perpetrator usually set the moral justification before committing to cheating (Abdullahi & Mansor, 2015). Some rationalization informed by the respondent that "that's just not done by us", "everyone has to do it", and "this will help others and for good purpose." This is a general rationalization used by perpetrators (Albrecht et al., 2011).

3. Research Method

This research uses qualitative descriptive approach. The data in the form of ten universities in the ranking of the top 10 in Indonesia in the year 2018. This method is done by comparing between the internal auditor's role and position in university stated in the Audit Charter by IPPF as standard international audit. After bench-marking, do the results over the synthesis and identification of the function and the role of internal auditor in the face of potential fraud activity in Indonesian Universities.

4. Result and Discussion

4.1 Comparison of the Position and Role of the Internal Auditor of Higher Education

Internal audits are carried out in diverse legal and cultural environments; For organizations that vary in purpose, size, complexity, and structure; and by people inside or outside the organization. Although differences can affect internal audit practices in each environment, in accordance with IPPF, it is very important in fulfilling the responsibilities of internal auditors and internal audit activities. The objectives of these standards include: 1) guiding compliance with mandatory elements in the International Professional Practice Framework; 2) providing a framework for carrying out and promoting various internal audit services of value added; 3) establishing the basis for internal audit performance evaluation; and 4)

encouraging the process and the organization's operations are better. Standards that are principles-based are required to have requirements consisting of: a statement of core requirements for internal audit professional practice and for evaluating the effectiveness of performance that applies internationally at the organizational and individual level and interpretation of clarifying the terms or concepts in the standard.

The IPPF consists of two main categories: performance attributes and standards. The standard attribute handles the attributes of organizations and individuals who carry out internal audits. While performance standards describe the nature of internal audits and provide quality criteria where the performance of these services can be measured. Both of these categories apply to all internal audit services.

In standard attributes including: clear objectives, authorities and responsibilities stated in the internal audit charter; independence and objectivity; professional expertise and care; and quality assurance and improvement programs. Performance standards consist of: management of internal audit activities; nature of work; engagement planning; implementation of engagement; communication results; monitor progress; and communicate risk acceptance.

The results of observation and review of the audit charter of several universities in Indonesia such as: Universitas Gadjah Mada (UGM), Universitas Brawijaya (UB) and State Islamic University Sunan Ampel (UIN Sunan Ampel) show that most of the standards contained in the IPPF have been adopted. The audit charter has included standard attributes in the form of vision, mission, internal audit objectives and expertise and due professional care. However, there are universities that still have not explicitly included independence and objectivity in their audit charter, such as UIN Sunan Ampel. While almost all performance standards are listed in the college audit charter. This shows that universities in Indonesia are trying to carry out an internal audit process that starts from the management of internal audit activities to communicate audit risk.

In addition, internal auditors called SPI based on Minister of Education Regulation No. 47/2011 concerning Internal Audit Unit functions to conduct supervision in the Ministry of National Education environment with its duties: 1) preparation of supervision programs; 2) supervision of policies and programs; 3) supervision of management of personnel, finance and state property; 4) monitoring and coordinating the follow-up of internal and external audit results; 5) financial report assistance and review; 6) giving advice and recommendations; 7) preparation of supervision report; and 8) implementation of evaluation of supervision results.

In general, the role of internal auditors is in accordance with the audit charter of each university which refers to the IPPF and the Minister of National Education Regulation No. 47/2011 even though there are still some that have not been maximized. The internal audit of the college has not yet reached the assurance level or the creditor in the monitoring process carried out even though this is the main role and function of the internal audit. Supervision is generally carried out by internal auditors of higher education, namely supervision in the financial sector (financial audit), supervision of state property (audit of state property management), assistance and review of university semester and annual financial reports, monitoring and coordination of follow-up results of Inspector General's examination and provide recommendations and advice to the leadership in this case the chancellor if things go wrong or not in accordance with the regulations.

Something that have not been done by the university's internal auditors are the preparation of supervision programs, supervision of policies and programs, supervision in the field of staffing and the implementation of evaluation of the results of supervision carried out by the internal auditor itself. The preparation of the supervision and supervision of policies and programs has not been fully implemented because the university's internal auditors are still looking for root causes in financial management while looking for patterns and mapping appropriate controls. Supervision of staffing has not been carried out by internal auditors because it is still focused on monitoring financial reports and overseeing state property.

The last thing that has not been done optimally by the university's internal auditors is the implementation and evaluation of the results of supervision carried out by the internal auditor himself. Internal auditors are still only reporting and recommending the results of supervision carried out to the chancellor because the chancellor is the direct supervisor of the university's internal auditor. Reports and recommendations given by internal auditors are the authority and prerogative of the Chancellor to implement because the Chancellor is the highest institution in the organization and governance (SOTK), especially PTBLU and PT Satker. Therefore, a supervisory institution is needed to oversee the rector's policy and evaluate the reports and recommendations provided by internal auditors. The function of the supervisory institution is an alternative channel if the reports and recommendations provided by the university's internal auditors are not followed up by the chancellor. This has been put into effect at PTBH by establishing a Board of Trustees that represents elements of the government and the community with the task of carrying out supervision and general control over the management of universities.

4.2 Role and Function of Internal Auditors Facing Potential Fraud Activities at Indonesian Universities

Internal auditors have a very important role related to the prevention and detection of fraud activities. The role of internal auditors as management partners in supervising, monitoring and analyzing management activities and as a place of consultation plays a key role in the prevention and detection of fraud activities. Amrizal (2004) explains that internal auditors must understand the symptoms or red flags in conducting analysis and evaluation in order to detect possible fraud and understand the structure of internal control in order to do business to prevent fraud. Principles and main mechanisms for effective and efficient internal control to prevent fraud. Wright (2003) argues that effective internal control affects the tendency of accounting fraud to diminish. Smith et. al., (1997), Beasley (1996), Beasley et. al., (2000), Reinstein (1998) and Abbot et. al., (2002) also states that effective internal control reduces the tendency of accounting fraud. According to Dewi (2012) states that the symptoms of fraud that have the potential to arise in the college environment are failure of internal control.

The supervision and audit process carried out by the internal auditors of higher education has not led to the five pillars of internal control recommended by COSO, namely the control environment, risk assessment, activity control, information and communication and monitoring and evaluation of potentially fraudulent activities. The audits carried out so far are still compliance audits and are still risk-based financial management so that they still do not fully lead to fraud prevention. In addition, the position of internal college auditors is still from among teaching staff who are given additional duties to become members of internal auditors. This condition affects the conflict of roles of members of internal auditors. This has an impact on the supervisory function carried out by the university's internal auditors.

5. Conclusion and Suggestion

The conclusions of this study include: 1) the position and role of internal auditors in accordance with the IPPF listed in the audit charter of each college; 2) the supervision and audit process carried out by the internal auditors of higher education has not led to the five pillars of internal control recommended by COSO; 3) the role and function of the university's internal auditors in preventing fraud activities have not reached the level of prevention of fraud because the university environment has not yet supported and 4) the occurrence of role conflicts as members of the university's internal auditors and teaching staff.

Suggestions for this research, namely: 1) supervision and audits conducted by internal university auditors must be directed to the five pillars of internal control

recommended by COSO; 2) creating a management environment and management awareness of the roles and functions of the university's internal auditors and 3) conducting recruitment of members of the university's internal auditors from functional auditors to avoid role conflict.

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MOOD, OBEDIENCE PRESSURE AND ETHICAL JUDGMENT: AN EXPERIMENTAL STUDY

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Abstract

This research aims to test the effects of mood and obedience pressure on auditors' ethical judgment. We use the 2 × 2 between-subject experimental study. Our independent variables are mood and obedience pressure, while our dependent variable is ethical judgment. We run our experiment at the Satya Wacana Christian University, Salatiga, involving 93 undergraduate students majoring in accounting who have completed the Introductory Auditing course. Our results show that mood and obedience pressure affect auditors' ethical judgment. We also find that when subjects with low obedience pressure and positive mood make the most ethical judgments.

Keywords: mood; obedience pressure; ethical decision

1. Background/ Objectives and Goals

The main research motivation of this study was that there were increasing demands that auditors had to always make ethical audit judgments although in fact their audit judgments were affected by various factors. By we mean ethical in this sense was decisions that comply with the existing ethical norms, as ethics were deemed the basis to distinguish right from wrong or good actions from bad actions (Griffin & Ebert, 2006).

(Brommer, Gratto, Gravender, & Tuttle, 1987) argue that there are more than 20 variables relevant to individuals' ethical decision making. They classify these variables into environmental factors that comprise work, personal, professional, governmental, legal, and social variables and individual factors that can be further divided into demographic factors and psychological factors. (Ford & Richardson,

2001) propose two affecting factors, namely individual and situational factors. In the domain of accounting profession, there have been numerous studies that investigate these factors. This research mostly focuses on psychological factors, i.e. mood, and obedience pressure as a form of social pressure in auditing context.

Cognitive process is a process of thinking, learning, remembering, understanding, and responding information to make decisions and solve problems. (Suharnan, 2005) suggests that stress, depression, anxiety, and mood may affect the process of decision making undertaken by auditors. (Cianci & Bierstaker, 2009) also show that individuals with positive mood make significantly more ethical judgment compared to individuals with negative mood.

(Rokhmania, 2013) replicated this study and found that auditors with positive mood assigned ethical judgments with ethical level different from auditors with negative mood; that auditors with neutral mood made ethical judgments with ethical level different from auditors with negative mood; and that auditors with positive mood exhibited ethical judgments with relatively similar ethical level to auditors with neutral mood. These findings indicate that mood significantly affects auditors' ethical decision making.

Obedience pressure is likely to increase the complexity of the effect of auditors' mood on their ethical dilemma in decision-making. Obedience pressure is a part of social pressure. Auditors often experience obedience and conformity pressures as a form of social pressures and these significantly affect their decisions. Previous studies (DeZoort & Lord, 1994; Nadirsyah & Malahayati, 2007; Jamilah, Fanani, & Chandrarin, 2007; Cahyaningrum & Utami, 2015) provide empirical evidence that obedience pressure significantly affects auditors. For example, DeZoort & Lord (1994) has shown that auditors tend to make unethical judgments when they are under high obedience pressure. Subsequent research by Lord and DeZoort (2001) also shows that obedience pressure increases auditors' willingness to cover up material misstatements.

Lord and DeZoort (2001) further explained that although auditors clearly understand ethical guidance, obedience pressure often makes them feel so anxious that it eventually affects their abilities to stay in the mandate of being non-biased when they have problems or dilemmas. Consequently, auditors choose to act unethically in order to be rated as a good performer or as a good team member during evaluation periods. The effect of obedience pressure on ethical judgments such as this could be explained by the obedience theory of Milgram

Previous studies by Cianci and Bierstaker (2009), Rokhmania (2013) and Curtis (2006) on the effect of mood on judgments did not include the role of obedience pressure in their analysis although it is commonly experienced by

auditors. Investigating this area should fill the gap in the literature. In doing so, we designed an experimental research project because this method would show the strength of the causal relationship between the independent and dependent variables (Utami & Nahartyo, 2013).

This research aims to test the causal effect of mood and obedience pressure on ethical judgment in auditing context. This study was expected to contribute to future auditing research and to help auditors understand and evaluate the effects of mood and obedience pressure on their decisions in the real context.

LITERATURE REVIEW
Mood

Robbins, Judge, Millett, & Boyle (2013) propose that mood is a part of affect. Affect is a general term that encompasses individuals' various feelings, including emotion and mood. Mood is more cognitive while emotion is more oriented toward action. Pelled and Xin (1999) argue that mood potentially persists in a long period and can change from one condition to another condition and it is likely to affect decisions.

According to Watson, Clark, & Tellegen (1988), there are factors that can indicate whether one is in positive or negative mood. Positive mood is indicated by attracted, optimistic, highly spirited, highly enthusiastic, tough, proud, alert, inspiring, strong-willed, attentive, and active feelings; whereas negative mood refers to depression, anger, guilt, disappointment, hostility, fear, inferiority, nervousness, and anxiety. In between these two states of mind, the average condition is neutral mood (Chung, Cohen, & Monroe, 2008).

Clore, Schwarz, and Conway (1994) emphasize that individuals in negative mood tend to recall negative information from their memories. Similarly, individuals with positive mood tend to remember positive information from their memories.

Obedience Pressure

Obedience pressure is a form of social pressure, emerging from the instructions from the higher authority to their subordinates (Lord & DeZoort, 2001); (Davis, DeZoort, & Kopp, 2006). Hartanto and Kusuma (2001) showed that auditors could feel under obedience pressure such as when they receive inappropriate commands that necessitate them to behave defiantly from the existing professional standard.

The obedience theory (Milgram, 1963) explains that individuals under obedience pressure tend to make decisions that are in conflict with the existing

values and their own beliefs or stances. This theory also explains that individuals who work under obedience pressure tend to refuse to be held accountable for their decisions and assign this accountability to their superiors or those who give orders. They argue that the decisions are not their individual responsibilities anymore.

Ethical Judgment

Ethical judgment is made based on the existing ethics. Ethics are a set of norms or rules or guidance that regulate human behavior, either in the form of instructions to do or not to do certain actions (Maryani & Ludigdo, 2001). Griffin and Ebert (2006) define ethics as the basis of right and wrong or good and bad actions. Jones (1991) defines ethical judgments as decisions that are legally and morally acceptable in society and anything opposite of this will be considered unethical. In the auditing context, auditors' judgment must comply with the existing public accountants' professional code of ethics.

There have been numerous studies investigating factors affecting auditors' ethical behavior, e.g. Lucyanda and Endro (2012), Ustadi and Utami, (2005), Raharjo (2013), Mueller and Clarke (1998) and Hastuti (2007). Findings show that these factors may force individuals to behave ethically or unethically. Existing code of ethics must be more than a mere set of principles, and it must be enforced in order to practically achieve the objectives.

The Effect of Mood on Ethical Judgment

Mood change can affect any individual everyday and this potentially affects performance (Seibert & Ellis, 1991). Auditors are no exception considering their occupational or non-occupational factors. Mood affects individuals' perception on particular events. Positive mood induces better and more positive perception and negative mood induces negative perception (Forgas & George, 2001).

Clore and Huntsinger (2007) explain that mood affects subjects' perception on particular objects, including information. Subjects will perceive objects not to provide any benefits or even to pose threats to them when they are in negative mood. On the contrary, subjects will perceive objects to provide benefits and advantages when in positive mood. Eventually, perception will affect judgments and decision-making process.

Gaudine and Thorne (2001) develop a cognitive-affective model that explains that positive mood increases individuals' potentials to identify and appreciate their ethical dilemma and to interpret these dilemma appropriately that help these individuals make more ethical decisions. George and Jones (2001) support this model by showing that positive mood encourage people to support their peers, to

protect their organizations, and to offer constructive suggestions, to get involved in self-development activities and to disseminate good deeds.

Negative mood tend to make individuals focus on their self-interests and to overstate the potential effects on them (Gaudine & Thorne, 2001). This tendency often leads individuals to making less accurate judgment and even to violating existing ethics. Based on previous studies and arguments, we propose the following hypothesis:

H1: Subjects with positive mood make more ethical judgments than subjects with negative mood.

The Effect of Obedience Pressure on Ethical Judgment

Obedience pressure is a part of social pressure that is commonly experienced by and may affect performance of auditors. Obedience pressure can be triggered by superiors or clients. Auditors often face various ethical dilemmas in performing their tasks. Obedience pressure increases auditors' ethical dilemmas in performing their tasks because they are afraid to disobey their superiors. Obedience pressure may also consist of inappropriate orders that violate existing professional code of conducts.

In this situation, auditors may behave defiantly by violating the existing professional ethics, affecting their judgment and eventually their opinion. Previous study by Hartanto and Kusuma (2001) indicate that auditors who receive inappropriate orders from their superiors or clients tend to behave defiantly from the professional standards. Nadirsyah and Malahayati (2007) revealed that obedience pressure often make auditors afraid to decline orders that go against professional ethics. Based on all these findings from previous studies, the following is our second hypothesis:

H2: Subjects who are under low obedience pressure make more ethical judgments than subjects who are under high obedience pressure.

Interaction between Mood, Obedience Pressure, and Ethical Judgment

DeZoort and Lord (1994), Nadirsyah and Malahayati (2007), Jamilah, Fanani, & Chandrarin (2007) and Cahyaningrum and Utami (2015) have shown how obedience pressure significantly affects auditors' ethical judgment. Inappropriate orders from superiors often force auditors to behave unethically and make judgments that deviate from the existing ethics, whereas the absence of the pressure make auditors adhere the professional code of conducts.

(Cianci & Bierstaker, 2009), (Curtis, 2006), and (Rokhmania, 2013) show that mood significantly affects auditors' ethical judgment. Auditors with negative mood tend to make less ethical judgments because of its suboptimal cognitive impact. Subjects under high obedience pressure but having positive mood can avoid making non-ethical judgment. Meanwhile, subjects under low obedience pressure but having negative mood may make make more non-ethical judgment. Based on the arguments derived from findings in previous studies, we proposed the following hypothesis:

H3: Subjects with positive mood and low obedience pressure make the most ethical judgment.

2. Methods

Research Design

The design of the current research was a 2 × 2 between-subject experimental design. We used mood and obedience pressure as the independent variables and ethical judgment as the dependent variable. The subjects were undergraduate students majoring in accounting who had completed Introductory Auditing course at the Satya Wacana Christian University. We asked our subjects to act as external auditors in the simulation context. We selected our subjects based on the assumption that they had acquired better knowledge and understanding on auditors' ethical values, especially those relating to ethical judgment.

In this study we used students as our surrogates by taking the level of our experimental tasks into account because some tasks required high levels of skills and experience (Utami & Nahartyo, 2013). Research focusing on decision making indicates that there are similarities between students and non-students in processing information and making judgments based on existing information (Ashton & Kramer, 1980). Research also shows that that students suffice to act as surrogates in many experimental studies related to decision making process (Liyanarachchi, 2007). With this is in mind, we argue that designing and executing suitable treatments are much more important than debating about the appropriate types of subjects in experimental studies. Therefore we employed students as our surrogates. The following Table 5.1 shows our research matrix.

Table 5.1. Experimental Matrix

		Obedience Pressure	
		Low	**High**
Mood	Positive	Group 1	Group 2
	Negative	Group 3	Group 4

Variables and Manipulation

The dependent variable in this study was auditors' ethical judgment, , whereas the independent variables were mood as a part of affect and obedience pressure. We classified our subjects into two mood groups: positive and negative moods. We manipulate the mood variable by asking subjects to read a series of scenario for them to follow. These scenarios were based on "*The Velten Mood Induction Statement*" that was developed by Emmet Velten in 1968. We used "*Velten Statements for Elation*" and "*Velten Agitation for Elation*" for the positive and negative mood scenario, respectively. There were also two levels of obedience pressure: high and low obedience pressure. We manipulated this variable using superior's memo. Subjects with high obedience pressure received a memo from their superior that required them to respond to all client's demands even if these demands violated the existing code of conducts. Disobedience was associated with losing jobs. Meanwhile, subjects with low obedience pressure received a memo that gave subjects freedom to make decisions.

Research Setting

The first phase of this study randomly classifies subjects into four groups as shown in Table 1, namely group 1 (positive mood and low obedience pressure), group 2 (positive mood and high obedience pressure), group 3 (negative mood and low obedience pressure), and group 4 (negative mood and high obedience pressure). Next, we provided them with assignment modules in accordance with previous subject assignment. We ask subjects to act as an external auditor of a public accounting firm in Surabaya, Indonesia, that performs an audit assignment of PT Orang Muda Tbk, in Surabaya.

The first part of the module asked participants to fill in their profile data (sex, age, GPA). Next, we ran the pre test 1 by asking subjects to answer ten basic questions in the auditing field to ensure that the random subject assignment was effective and that subjects' decisions were exclusively due to treatment and not because of subjects' understanding on auditing matters. We then provided subjects

with simulation information that consisted of their roles, tasks, and responsibilities and client's firm information. We then gave subjects 4 questions in the pre test 2.

In the manipulation stage, we manipulated the mood variable by giving subjects a scenario based on "*The Velten Mood Statement*". Further, we manipulated obedience pressure (high vs. low) by giving subjects in the high obedience pressure groups a memo from their superior requiring them to obey their superior with a note that disobedience may mean immediate job termination due to seriously poor performance. Subjects in the low obedience groups received a memo indicating that they were allowed enough freedom to make judgments and advise them to consistently adhere the code of conducts. We checked the mood and obedience pressure manipulation to ensure that our treatment was effective to make subjects act according to the treatment.

The following case illustrates subjects' assignment in the ethical judgment. Subjects acted as an external auditor of a public accounting firm in Indonesia and received an audit assignment. The client was a big company that generated substantial profits for the firm where the auditors worked. During the completion of audit assignment, subjects found a serious misconduct that during the last 4 years; the client had been bribing tax officials to issue a counterfeit tax invoice for the public accounting firm where the subjects worked. This scandal had allowed the client's tax liability to be underreported. Involving parties were promised to receive 25% of the total bribe value. Based on this information, we then asked the subjects to make judgment whether to accept or to refuse to be involved in this undertaking.

Subjects made their decision by scoring in scale of 10-100, with lower score indicating more ethical judgment. Finally, the debriefing session restored subjects to their original condition before receiving various other manipulations. We explained to our subjects that research ethics stipulated us to ensure that their responses were strictly confidential.

Analytical Techniques

Firstly, we analyzed the respondents' profile using descriptive statistics and then tested the effectiveness of our randomization using *One Way Analysis of Variance (One Way ANOVA)*. The randomization test aimed to ensure that differences in subjects' demographic characteristics (sex, age, and GPA) and subjects' understanding in auditing field did not affect their ethical judgment. Next, we used *Independent-Samples T-Test* to test our first and second hypotheses. Finally, we used *Two Way Analysis of Variance (Two Way ANOVA)* to test our

third hypothesis. Our data would be considered supporting our hypotheses if the significance value was < 0.05.

3.   Results
General Descriptions of Research Subjects

Our subjects were undergraduate accounting students of Satya Wacana Christian University, Salatiga who had passed Introductory Auditing course. Initially, there are 93 participants. Four participants did not fill in participant profile columns completely, leaving 89 participants with responses usable in subsequent phases. Table 5.2 displays participants' profiles in details.

Table 5.2
Participants' Profile

Explanation	Total	Percentage
Sex:		
Male	28	31,46%
Female	61	68,54%
Age:		
19-20	64	71,91%
21-22	18	20,22%
23-24	7	7,87%
Grade Point Average (GPA)		
≤2,00	1	1,12%
2,01 – 2,99	17	19,10%
3,00 – 3,49	34	38,20%
≥ 3,50	37	41,58%

Source: Primary Data

Manipulation Checks

Table 5.3 shows the results of our manipulation checks. We asked four questions about subjects' understanding on their roles and tasks in the simulation. When subjects answered correctly at least three questions, we considered them to qualify. Further, we conducted manipulation checks for the mood and obedience pressure treatments using 10-100 scale with the average score of 55. Subjects with negative mood and low obedience pressure treatments would qualify if their score was below 55 (average score) while subjects with positive mood and high obedience pressure treatments would qualify if their score was above 55 (average score).

Table 5.3
Manipulation Checks

No	Explanation	N	Results of Manipulation Check
1	Understandin on tasks and roles in the simulation (4 questions)	89	89
2	Mood	89	86
3	Obedience Pressure	89	85
4	Total participants after completing all manipulations	89	82

Source: **Primary Data (Processed)**

There were 89 subjects participating in the whole manipulation stages. Based on the manipulation check on the understanding of subjects' tasks and roles in the simulation, we found that all subjects qualified. Next, 3 out of 89 subjects did not qualify for the mood treatment check and 4 subjects did not pass the obedience pressure check. Accordingly, there were 7 subjects did not pass the manipulation checks, leaving 82 subjects whose responses were processed in the next stage.

One Way ANOVA Test

We used *One Way ANOVA* to test whether subjects' ethical judgment was not affected by their demographic factors and their understanding on audit.

Table 5.4.
Results of *One Way ANOVA*

	Mean Square	F	Sig.	Explanation
Sex:				
Between Groups	212,069	0,404	0,527	Not Significant
Within Groups	524,849			
Age:				
Between Groups	627,322	1,210	0,304	Not Significant
Within Groups	518,296			
GPA:				
Between Groups	910,065	1,798	0,154	Not Significant
Within Groups	506,023			
Understanding on Audit				
Between Groups	651,797	1,263	0,293	Not Significant
Within Groups	515,957			

Source: *Output* **SPSS vers 22**

Table 5.4 suggests that all demographic factors (sex, age, and GPA) and understanding on audit have significance values > 0.05 (alpha). This implies that the subjects' ethical judgment was affected only by our treatment and not by their demographic factors and their understanding on audit.

Test of Hypothesis 1
The Effect of Mood on Ethical Judgment

Our first hypothesis predicts that when subjects with positive mood exhibit more ethical judgment than subjects with negative mood. We tested this hypothesis using independent-sample T-Test by comparing decisions of two different subject groups: those in the positive and negative moods. Table 5.5 below displays the results.

Table 5.5
Results of Test of Hypothesis 1

	Mean	*Std. Devitiation*	*F*	*Sig. (2-tailed)*
Ethical Judgment				
Positive Mood Condition	17,07	10,781	32,888	0,000
Negative Mood Condition	42,93	24,418		

Sumber: *Output* SPSS vers. 22

Our findings indicate that the significance value (2-tailed) is 0.000, smaller than alpha (0.05). This means that mood affects subjects' ethical judgment. The results also show that the mean value of ethical judgment of subjects with positive mood is 17.07 while for subjects with negative mood is 42. The ethical judgment has a reverse score, suggesting that lower score implies more ethical judgment. It then can be concluded that subjects with the positive mood make more ethical judgment than those with the negative mood.

After receiving information, the subjects had to decide whether to participate in and cover up clients' unethical actions or not. When in negative mood, subjects tend to tolerate clients' decisions although these violate the subjects' professional code of conducts. This was likely due to the fact that in such condition subjects perceived that everything would have adverse impacts on them. Subjects would also tend to focus on their self-interests and to neglect common interests. Subjects perceived that acting ethically did not necessarily benefit them. Negative mood thus had led subjects to higher (lower) level of anxiety (optimism). Curtis (2006)

suggests that negative mood makes individuals consider negative impact of unethical actions as unimportant.

Our results support findings in previous research (Cianci & Bierstaker, 2009; Rokhmania, 2013) showing that when confronted with an ethical case, auditors with positive mood exhibit more ethical judgment. All in all, it was concluded that the first hypothesis in this study was accepted.

Test of Hypothesis 2
The Effect of Obedience Pressure on Ethical Judgment

Our second hypothesis predicts that subjects with lower obedience pressure will make more ethical judgment than subjects with higher obedience pressure. We used independent-sample T-Test by comparing judgments of two different groups of subjects: those under high and low obedience pressure. Table 6 below displays the results.

Table 5.6
Results of Test of Hypothesis 2

	Mean	*Std. Devitiation*	*F*	*Sig. (2-tailed)*
Ethical Judgment				
Low Obedience Pressure	22,20	15,250	22,600	0,002
High Obedience Pressure	37,80	26,411		

Source: *Output* **SPSS vers. 22**

Table 5.6 shows that the significance value (2-tailed) is 0.002, less than alpha (0.05). This means that obedience pressure affects subjects' ethical judgment. Our results also suggest that subjects under low obedience pressure make more ethical judgment (mean score = 22.20) than subjects with high obedience pressure (37.80).

When subjects are under high obedience pressure from their superiors, they have to follow every instruction given to them, although these instructions are potentially in conflict with the existing professional code of conduct. This is likely to increase subjects' level of dilemma. On the one hand, subjects understand that obeying these instructions will violate existing code of conducts. On the other hand, subjects also understand the adverse consequences if they disobey the instructions from their superior. In this condition, subjects could be discouraged to refute their superiors' instructions and they do this by using their powerless

subordinate position as an excuse. In a similar vein, subjects are not willing to accept adverse consequences if not obeying their superiors' instructions. Further, subjects perceive that this judgment will imply shared responsibilities between them and their superiors. These lead the subjects to making judgments that are in conflict with their professional code of conducts.

Our findings are in line with previous experimental study by Cahyaningrum and Utami (2015) showing that obedience pressure significantly affects auditors' decisions. Junior auditors with high obedience pressure tend to follow their clients' or superiors' requests to tolerate more to clients' misstatements during an audit assignment. Meanwhile, auditors with low obedience pressure make audit judgment according to the facts and evidence they find without having to worry about the adverse consequences of not following clients' or superiors' requests.

Nadirsyah and Malahayati (2007) have given empirical evidence that obedience pressure from superiors significantly affects auditors' ethical judgment and higher obedience pressure tend to make auditors violate their professional standards. Jamilah, Fanani, and Chandrarin (2007) also suggest that obedience pressure affects audit judgment and only few auditors are willing to take risk of having to find a new job or losing clients as a consequence of resisting clients' or superiors' requests.

Test of Hypothesis 3
The Interaction between Mood, Obedience Pressure, and Ethical Judgment

Our third hypothesis predicts the interacting effect of the two independent variables (mood and obedience pressure) on auditors' ethical judgment. More specifically, this hypothesis predicts that subjects with positive mood and low obedience pressure make the most ethical judgment. We use two-way ANOVA to test our third hypothesis.

Table 7
Results of Test of Hypothesis 3

		Mean	*Std. Deviation*	*Mean Square*	*F*	*Sig.*
Positive Mood	Low Pressure	13,00	4,702			
	High Pressure	20,95	13,381			
Negative Mood	Low Pressure	30,95	16,705			
	High Pressure	55,50	25,231			
	Corrected Model			6841,032	24,616	0,000

		Mean	Std. Deviation	Mean Square	F	Sig.
	Intercept			74254,498	267,190	0,000
	Mood			14117,378	50,799	0,000
	Obedience Pressure			5410,061	19,467	0,000
	Mood*Obedience Pressure			1410,595	5,076	0,027

Source: *Output* SPSS vers. 22

Table 5.7 shows that the interaction between mood and obedience pressure (mood*obedience pressure) exhibits *Sig* value of 0.027<0.05. This suggests that there is an interaction between mood, obedience pressure, and ethical judgment. The mean value of ethical judgment of each group indicates that subjects with low obedience pressure and positive mood exhibit the lowest mean value, implying that they make the most ethical judgment.

Subjects under low obedience pressure will make more ethical judgment than subjects with high obedience pressure. Subjects tend to have more courage to resist clients' requests to violate professional code of ethics and to comply with existing ethics. Simultaneously, subjects with positive mood have lower tendency to prioritize their self-interests than subjects with negative mood. Also, subjects with negative mood tend not to report unethical behavior (Curtis, 2006).

Subjects with positive mood are still likely to make more ethical judgment even when they are in high obedience pressure. Subjects are still optimistic that resisting requests that violate existing professional code of conduct will not run the risk of adverse consequences for them or the public.

CONCLUSIONS, LIMITATIONS, AND SUGGESTIONS

The current study tested the causality between mood and obedience pressure on auditors' ethical judgment. Our findings lead to the following conclusions. First, mood affects auditors' ethical judgment in a way that positive mood lead to more ethical judgment compared to negative mood due to differences in cognitive processes.

Second, obedience pressure affects auditors' ethical judgment. Auditors with high obedience pressure are more likely to make unethical judgment than auditors with low obedience pressure. Obedience pressure from superiors potentially alters

auditors' behaviours, resulting in, auditors making judgments that are in conflict with the existing values. Threats and potential adverse consequences may increase the motivation of auditors with high obedience pressure to make unethical judgment.

Third, the interaction between mood and obedience pressure significantly affects auditors' ethical judgment. Auditors with negative mood and high obedience pressure make the most unethical judgment. Meanwhile, auditors with positive mood and low obedience pressure exhibit the most ethical judgment.

Limitations and Suggestions for Future Research

This study is subject to the following limitations. First, we administered our experiment in different time settings for each batch, which means that there might have been information leakage. We attempted to mitigate this issue by allowing only a short break between each experiment batch. We suggest that future research runs experiments simultaneously. Second, in practice, auditors work in groups. It is therefore suggested that future research set the decision-making in groups instead of individually. Lastly, taking into account auditors' traits and characteristics, as explanatory variables, in the analysis will likely contribute to the advancement of this research paradigm.

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THE EFFECT OF GOOD CORPORATE GOVERNANCE ON FINANCIAL PERFORMANCE WITH RISK LEVEL AS INTERVENING VARIABLE IN BANKING COMPANIES

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Abstract

This research was motivated by two factors: the decrease of credit quality and the increasing level of problematic credit in the banking sector in 2017, as well as the inconsistency of previous research results that investigated the influence of Good Corporate Governance on financial performance. The purpose of the current research was to unravel the influence of Good Corporate Governance to financial performance through banking risk level. In doing so, we analysed secondary data in the form of annual reports of banking companies listed on the IDX period 2013 to 2017. This data was collected using documentation techniques. The sampling was determined by using purposive sampling method. The number of final sample of this research was 115. The data was analysed by using structural equation model (SEM) by using WarpPLS 3.0 application. The results showed that Good Corporate Governance (GCG) had a positive effect on banking performance, while the level of risk had a negative effect on banking performance. The research results support the argument that full mediation effect on risk level by good corporate governance has positive impacts on banking performance. Thus, banks should be able to maximize the implementation of good corporate governance in order to reduce the risk level and to be able to perform efficiently.

Keywords: financial performance, good corporate governance, level of risks

1. Introduction

Banking companies have an important role in the Indonesian economy. Law No. 10 of 1998 states that banks are business entities tasked for collecting funds from the public in the form of deposits and channeling back to the community in the form of credit or others in order to improve the standard of living. The Deposit Insurance Corporation (LPS) (2017) stated that the banking system experienced a decline in credit and capital quality. LPS noted that the level of non-performing loans (NPL) in banking rose from 2.93% in December 2016 to 3.06% in March 2017. In addition, the quality of capital (CAR) also decreased from 22.93% at the end of 2016 to 22,88% in March 2017. LPS also stated that the rate of return (ROA) in banks increased even though it was not significant, namely from 2.23% to 2.5%. This indicates that banks still have to improve the quality of performance in the future.

The performance of the banking sector needs to always be maintained and improved because this is a benchmark for those who have agency relations with banks. Agency relations are established between principals and agents because of a contract (Jensen and Meckling, 1976). The principal parties referred to in the agency relationships are the shareholders, debtors, government, and customers. Managers in banks must be able to deliver good performance so that the existing principals still have the trust to establish agency relationships related to investment, fund storage, and debt provision.

Basically, good performance can be achieved if there is no agency problem within the agency relations caused by the existence of human nature. Eisenhardt (1989) explains that humans have three basic characteristics, namely self-interest, bounded rationality, and risk-aversion. Agents (managers) will tend to make managers take deviant actions to achieve certain goals that can maximize their interests and avoid risks. Therefore, this agency problem needs to be minimized by implementing good corporate governance.

Good Corporate Governance (GCG) is a form of supervision mechanism that is carried out to create good management in order to achieve company's goals. Wibowo (2010) claims that GCG is a system that aims to regulate and control a company so that it can offer added value for stakeholders. Therefore, the application of a form of GCG by a company can reduce agency problems that occur between the principal and the agent. GCG in Indonesia has also been applied to all banking companies since 2006 through BI regulation No. 8/4 / PBI / 2006.

The influence of maximum implementation of GCG on banking performance has been proven by several studies, but results have been inconclusive. Permatasari and Novitasari (2014) maintain that GCG does not affect banking performance, whereas Bastomi et al (2017) states that GCG can improve financial performance.

Meanwhile, Markonah (2016) claims that profitability (ROE) has a negative effect on GCG,.The results of the three studies clearly show that the research findings on the influence of GCG on banking performance are not consistent.

All things considered, testing the influence of GCG on banking performance still needs further exploration. Therefore, this study re-examined the influence of GCG on banking performance and included the level of banking risk as mediation variables. This research was built upon the research by Permatasari and Novitasari (2014) and by Siswanti (2016). The findings of this study were expected to support empirical evidence from the previous studies as an attempt to solve to the inconsistency problem. In addition, the results of the current research may benefit banks and the government as a reference to pay more attention to and continue to improve the quality of GCG implementation in the banking systems.

2. Literature Review

2.1 Agency Theory

Agency theory is a theory that explains the relationship between principals and agents in a company. Jensen and Meckling (1976) explain that these relations are due to a contract so that agents may become representatives of principals in the decision making. The existence of this relation might be disadvantageous for the agency. For example, there might be a problem that is caused by the separation of management and ownership functions (Liviani, 2016) or a problem that is caused by manager's self-interest and risk-aversion.

Agency issues that occur between the principal and the agent can be reduced by control and supervision, which aims to harmonize the interests of agents and principals (Liviana et al, 2016). However, these forms of control and supervision will generate a fee called agency costs. This agency cost must be borne by agents and principals so that goals can align. This agency fee consists of (1) monitoring costs, (2) bonding costs, and residual costs (Jensen and Meckling, 1976).

2.2 Good Corporate Governance

Good Corporate Governance (GCG) is a form of effort carried out to reduce agency problems through supervision and control. Wibowo (2010) points out that GCG aims to regulate and control a company so that it can create added value for stakeholders. The application of GCG by the company can reduce agency problems that occur between the principal and the agent.

The principles of GCG in Indonesia have been implemented since the signing of the Letter of Intent (LOI) with the IMF. Part of this LOI requires the improvement of the management in Indonesian companies (Wibowo, 2010). GCG

basically has adopted five basic principles, namely (1) transparency, (2) accountability, (3) responsibility, (4) independence, and (5) equality (KNKG, 2006). Companies that implement GCG accordingly will ensure that all operational activities they carry out adhere these five principles.

GCG in Indonesia has also been applied to all banking companies since 2006. Bank Indonesia has issued BI regulation No. 8/4 / PBI / 2006 to oblige all banks to implement GCG. The goal is that all existing banks can create a sense of trust and security for customers who entrust their the bank with their funds.

2.3 Previous Research

This research was built upon several previous studies,briefly described as follows:

Table 6.1. Previous Research

Name	Sample	Variable	Result
Permatasari and Novitasari (2014)	Banks operating in Indonesia from 2006 to 2012	Good Corporate Governance, risk management, Capital Adequacy Ratio, Return on Equity	The results show that GCG has an influence on risk management, but no influence on bank capital and bank performance. The results also show that risk management does not affect capital but has an influence on bank performance. Thus, risk management can intervene GCG and bank performance.
Markonah et al (2016)	Banking listed in the Stock Exchange from 2010 to 2014	Good Corporate Governance, Return on Equity, Return on Assets, company size, composition of company assets	The results showed that ROE and company size had a negative effect on GCG; and that ROA and the composition of company assets have a positive effect on GCG
El Masry et al (2016)	all banks in the gulf countries	Board size, non-executive percentage, role	The results showed that role duality and board size had a negative effect

Name	Sample	Variable	Result
	from 2003 to 2012	duality, risk committee, CEO turnover, gender, governmental ownership, bank size, bank type, financial analysis, return on assets, non performing loans, capital adequacy ratio	on risk management; that non-executive members on the board did not affect risk management; and that government ownership has a positive effect on risk management
Siswanti (2016)	Sharia Commercial Banks listed in the Indonesian banking directory	Good Corporate Governance, Risiko Pembiayaan, dan Kinerja Keuangan	The results of the direct influence test showed that GCG had no effect on financial performance, but it has an effect on financing risk, which in turns affects performance. The indirect effect test shows that financing risk mediates the effect of GCG implementation on performance
Bastomi et al (2017)	Banking listed on the Stock Exchange (IDX) in 2011 to 2015	Good Corporate Governance, credit risk, operating risk, financial performance	The results of the study show that GCG affects credit and operational risks and can improve financial performance

Source: data processed

3. Hypothesis Formulation

GCG is a form of mechanism established in an entity to improve supervision of all forms of operational activities that occur. GCG is formed to reduce the risks of fraud in companies caused by agency conflicts. This is because GCG has five basic principles: (1) transparency, (2) accountability, (3) responsibility, (4) independence, and (5) equality (KNKG, 2006 Control and supervision is needed to align the interests between agents and principals.

Maximum supervision from the implementation of good corporate governance will ultimately lead to achieving maximum perfomance, which is the company's objective. GCG minimizes bank risks because of the good supervision. In other words, the implementation of GCG in the company will have an impact on the level of risk posed, which in turn will affect financial performance.

GCG impact on risk levels, which then affect financial performance, has been widely researched. Markonah et al (2016) state that good corporate governance affects financial performance. Bastomi et al (2017) argue that corporate governance is interlinked with credit and operational risks and can improve financial performance. Permatasari and Novitasari (2014) and Siswanti (2016) agree that the level of risk has a mediating effect on the influence of good corporate governance on financial performance. Taking all research results into consideration, the research hypotheses are as follows:

H1. GCG has a positive effect on financial performance

H2. GCG has a negative effect on the level of risk

H3. The level of risk has a negative effect on financial performance

H4. GCG affects financial performance through the level of risk

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Figure 6.1. Research Model

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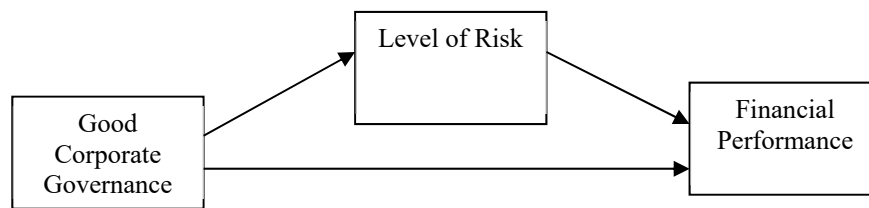
4.   Research Method

4.1 Research Design

This study aims to examine the effect of GCG on financial performance through credit risk, using a quantitative approach to answer the research objectives, which employs statistical analysis to test the formulated hypotheses to determine the relationship between variables (Sugiyono, 2013: 8-11).

4.2 Research Data

This study analysed secondary data in the form of the company's annual audited financial statements and banking GCG reports listed on the IDX. The annual audited financial statements and the GCG report used in this study were the

annual reports for the period of 2013-2017. The annual audited financial statements and the GCG reports of banking companies were obtained from the official website of the Indonesia Stock Exchange (IDX), www.idx.co.id and official banking website. The research data used in this study was collected using documentation techniques.

4.3 Population and Sample

The population of this study was the banking companies listed on the Indonesia Stock Exchange (IDX). Sample determination in this study was purposive sampling method. The purposive sampling method is a sample determination technique that uses certain criteria (Sugiyono, 2013: 122), outlined as follows:

1. Banking companies listed on the Indonesia Stock Exchange in the period of 2013-2017 respectively
2. The banking company annual report for the period of 2013-2017 that is available and can be accessed on the official website of the Indonesia Stock Exchange
3. The banking company GCG report from 2013 to 2017 that is available and can be accessed on the company's official website
4. Banking companies information needed in this study that could be provided by the banks themselves.

4.4 Operational Definition of Variables

This study tests the influence of GCG on financial performance through the level of risk. The measurement of each of these variables is presented in Table 6.2 below:

Table 6.2.
Operational Definition Variables

Variable	Proxy	Measurement
GCG	Size of the Board of Directors	Number of members of the board of directors of the company
	Independence of the Board of Commissioners	$\dfrac{Independen\ member}{Total\ Member}$
	Audit Committe	Number of audit committee members in the company

	Risk Monitoring Committee	Number of risk monitoring committee members in the company
Level of Risk	Operational Risk	$\dfrac{Operational\ expenses}{Operational\ earning}$
	Credit Risk	$\dfrac{Number\ of\ Troubled\ Credit}{Total\ Credit}$
	Market Risk	$\dfrac{Net\ Interest\ Income}{Average\ Productive\ Asset}$
	Liquidity Risk	$\dfrac{Credit}{Third\ Party\ Funds}$
Financial Performance	Return On Asset	$\dfrac{Earning\ before\ tax}{Total\ Asset}$
	Return On Equity	$\dfrac{Earning\ before\ tax}{Total\ Equity}$

4.5 Data Analysis

Data analysis in this compises two approaches: descriptive statistics and structural equation models (SEM). Data analysis using descriptive statistics was aimed at providing an overview of the research data. Structural equation model was used to analyze data related to model feasibility testing and research hypothesis testing. The structural equation model in this study was used because this study tested the effect by using intervening variables. SEM data model analysis in this study was assisted by the use of WarpPLS 3.0 application.

5. Result and Discussion

5.1. Research Sample Description

The sample in this study was determined using purposive sampling method, selecting the banking companies listed on the Indonesia Stock Exchange in 2013 to 2017. The final list of the samples is presented in Table 6.3.

Tabel 6.3.
Sampling Process

Criteria	Number
Banks listed on the IDX	43
Banks that are not listed on the IDX during 2013-2017	12
Banks that suffer losses	6
Banks Experiencing Acquisitions / Mergers	2
Number of Banks used as samples	23
Number of observations made	**115**

Source: **data processed**

5.2. Data Analysis
a. *Descriptive Statistics*

The first analysis process was the descriptive statistics. The results of the descriptive statistics analysis are presented as follows:

Table 6.4. Statistic Descriptive

Variabel	Num	N. Max	N. Min	Average	Std. Deviasi
Good Corporate Governance					
Size of the Board of Directors	115	12	3	7,77	2,436
Independent Board of Commissioners	115	1,00	0,4	0,645	0,15
Audit Committee	115	8	3	4,03	1,173
Risk Monitoring Committee	115	9	3	4,66	1,561
Level of Risk					
Operational Risk	115	0,9904	0,3238	0,8037	0,117
Credit Risk	115	0,0637	0,0006	0,016	0,012
Market Risk	115	0,127	0,0153	0,057	0,02
Liquidity Risk	115	1,4072	0,5061	0,861	0,13
Financial performance					
Return on Asset	115	0,05	0,0009	0,0207	0,01
Return on Equity	115	0,368	0,0171	0,14	0,07

b.   *Goodnes of Fit*

The purpose of this test was to measure the feasibility of the model based on APC, ARS and AVIF values. Table 6.5 below presents the results of the fit model test in this study.

Table 6.5 Goodness of Fit results

Keterangan	Nilai	p-value
Average Path Coefficient (APC)	0,432	<0,001
Average R squared (ARS)	0,438	<0,001
Average Variance Inflation Factor (AVIF)	1,083	-

Source: **output WarpPLS 3.0**

The results of the fit model test indicate that this research model is supported by or in accordance with the research data shown from the APC and ARS values which have a p-value of less than 0.05. In addition, this research model is also free from multicollinearity because AVIF values are less than 5.

c.   *Outer Model Testing*

Outer model testing was done by testing the validity and reliability testing. The validity test aimed to predict the relational and causal relationships that occured in the measurement model (Jogiyanto, 2011: 69). The convergent validity test results are shown in table 6. Meanwhile, the reliability test was aimed to determine the level of accuracy, consistency, and accuracy of the measurement instruments used (Jogiyanto, 2011: 72). The results of the discriminant validity test are shown in Table 6.7.

Table 6.6. Validity Test Results

Construct	GCG	Risk	Perfomance	P-value
KA	(0,826)	0,112	0,137	<0,001
KPR	(0,851)	-0,476	-0,432	<0,001
UDD	(0,648)	0,481	0,392	<0,001
ROA	0,009	-0,466	(0,943)	<0,001
ROE	-0,009	0,466	(0,943)	<0,001
BOPO	-0,000	(1,000)	-0,000	<0,001

Source: **Output WarpPLS**

Table 6.7. Reliability Test Results

Description	Variable		
	GCG	**Risks**	**Performance**
Comp.Realibility	0,821	1,00	0,941
Cronbach's Alpha	0,672	1,00	0,875

Source: **Output WarpPLS**

Validity testing was conducted by looking at the root value of AVE (value in parentheses) which had to be higher than 0.6 with a p-value of less than 0.01 for each construct of the existing variable. Table 6.6 shows the final results of the validity test that was completed by deleting four constructs, namely IDK construct for GCG variables and constructs of LDR, NIM, and NPL for risk variables. The four constructs had be removed because they did not meet the required criteria. Reliability testing on the final validity test results showed that the composite reliability and Cronbach alpha values was higher than 0.7 so it was concluded that the outer model of this research met the criteria.

d. *Inner Model Testing*

The fourth test was testing the inner model of the research using the basic values of R squared (R2) and Q squared (Q2). The inner model test results showed that the R2 value in this study was 0.777, indicating that the predictive level of this research model was quite high (77.7%). The Q2 value in this research model also had a value above zero that was 0.775. Thus, the predictive vaility of this this research model was quite accurate.

e. *Hypothesis Testing*

The hypothesis testing in this study was run based on two criteria: p-value and beta value. The following Table 6.8 presents the results of hypothesis testing.

Table 6.8. Hypothesis Testing Results

Effect	Beta	p-value	Justification
GCG → Performance	0,35	<0,01	significant positive
GCG → Risks	-0,28	0,1	significant negative
Risks → Performance	-0,68	<0,01	significant negative
GCG → Risks → Performance	0,22	<0,01	significant positive

Source: **ouput WarpPLS**

The direct testing, as presented in the table, shows that GCG has a direct positive impact on performance and a direct negative impact on risks. The risk variables have proven to be a successful intervening variable in this study. This is shown from the decreasing beta value compared to the beta value of the direct influence between GCG on performance. Therefore, all test hypotheses in this study were accepted.

5.3 Discussion

The results of the current research, as evidenced by the accepted test hypotheses, have succesfully proven that GCG was able to minimize the level of risk to the company, resulting in good financial performance. The results showed that GCG has a positive impact on financial performance (H1) and has a negative effect on the level of risk (H2). The results also prove that the level of risks has a negative impact on financial performance (H3) and has a mediating role in the nexus between GCG and financial performance (H4).

The results of this study support the agency theory regarding agency costs. Agency issues that arise can be minimized through agency costs which consist of monitoring costs, bonding costs, and residual costs (Jensen and Meckling, 1976). The application of GCG is a tangible solution to minimize monitoring costs for reviewing the performance of managers. The application of maximum GCG will be able to minimize the opportunities for managers to do any professional misconducts, thereby reducing the level of risks and improving the company's financial performance. The good financial performance will eventually be able to improve the welfare of the principal so that the objectives of the agency relationship are achieved.

The results of this study support the results of the research by Markonah et al (2016) stating that GCG affects financial performance. The results of the study are also in line with the research by Bastomi et al (2017), which has also proven that GCG is beneficial for minimizing operational risk and can improve financial performance. The moderating effect found in this study is also supported by the findings of research by Permatasari and Novitasari (2014) and Siswanti (2016) which have shown that the level of risks has a mediating effect in terms of the correlation between GCG and financial performance.

6. Conclusion, Limitation, & Recomendation

The results have shown that banking performance was directly influenced by GCG and the level of risk. The results also show that Good Corporate Governance has an influence in reducing the level of risk to create a better banking financial

performance. That being said, the results of this study should be taken with the consideration of the study limitations. Subsequent research will benefit from considering the reduction of the number of banking companies as samples because they did not meet the specified criteria. Subsequent research can anticipate this by increasing the period of research to improve data accuracy. The second limitation is that there were too many constructs deleted in this study because they did not meet the testing criteria. Further research can overcome this problem through the selection of measurements or types of proxies that are more reliable.

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THE IMPACTS OF IMPORT TARIFFS AND NONTARIFF MEASURES ON INDONESIA'S TRADE PERFORMANCES OF ENVIRONMENTAL GOODS: A GRAVITY MODEL

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Abstract

In 2011 leaders of Asia-Pacific Economic Cooperation (APEC) members pledged to reduce tariffs and nontariff barriers on goods and services relating to environmental goods, known as APEC Environmental Goods (EGs) List. In 2012 it was agreed that the member countries would have reduced import tariff for the environmental goods to be maximum of 5% by 2015. The commitment was controversial since it was agreed as APEC commitment and hence nonbinding. However, since the tariffs were applied under Most Favored Nation principle, by definition the tariffs applied to all countries. This article aims at analyzing the impacts of import tariffs and nontariff barriers for the environmental goods on Indonesia's trade performances. In this study, the environmental goods include APEC Environmental Goods List and WTO Environmental Goods Core. The gravity model was used to explain variations in Indonesia's exports and imports of 54 environmental goods to 18 trading partners. Data included in the analysis were obtained from secondary sources and were analyzed using fixed effect panel data regression. The results showed that import tariffs did not affect import, while they affected export negatively. The nontariff measures affected both import and export performances positively. Other variables, the gross domestic product and distance, have significant influence as predicted by the theory.

Keywords: APEC environmental goods list, gravity model, import tariffs, nontariff barriers, trade performance, WTO environmental goods core list

1. **Background/Objectives and Goals**

When global economic cooperation under WTO regime stalled, many countries looked at regional economic integration, i.e. cooperation between countries within a geographical area to decrease and/or abolish tariff and nontariff barriers for free trade of goods, services, and factors of production (Hill et al., 2012). In general, regional economic integration aims at strengthening a country's economic position in international trade.

Regional economic cooperation in which Indonesia takes part is Asia-Pacific Economic Cooperation (APEC), i.e. international cooperation in Asia-Pacific region whose aim is to support economic growth and prosperity in the region. Until 2016, APEC members were 21 economies (not countries). A unique feature of APEC is that its declaration is non-binding, meaning that its decision is built on consensus and is based on voluntary principle. However, APEC's decisions usually draw much attention due to the economic potentials of the region. As documented by APEC Policy Support Unit (APEC-PSU, 2016), the economic growth in APEC region in 2015 was 2.7% and was expected to be 2.8% in 2017-2018. Therefore, Indonesia should monitor APEC decisions closely, including agreements in international trade, and use it to formulate Indonesia's international trade policy

APEC forums have discussed several initiatives to decrease trade barriers, either tariff or nontariff barriers relating to EGs and services. Elimination of trade barriers will reduce costs along the supply chain and boost international trade in environmental goods and services (Vossenaar, 2016). The aim of this elimination is to support sustainable economic development, achieve green growth, and tackle climate change. The initiative was firstly realized by negotiating APEC List of Environmental Goods (APEC EGs) started in 2011. Amid current APEC crisis of identity (Dang, 2017), tariff reduction in environmental goods ahead of WTO negotiation is one of APEC successes (Dang, 2017; Vossenaar, 2016).

APEC EGs consist of 54 goods as declared by 21 APEC leaders in Vladivostok, Russia. The 54 product categories represent 54 different HS (Harmonized System) subheadings. A complete list of APEC EGs could be accessed at Annex C APEC Economic Leaders' Declaration 2012 (APEC Secretariat, 2012). Table 1 offers a summary of environmental categories in the APEC EGs. Included in the environmental protection category are solid and hazardous waste, wastewater management and air pollution control.

Table 7.1: Environmental categories in APEC EGs

Categories of main environmental protection	*Number of subheadings*
Renewable energy	15
Environmental monitoring, analysis and assessment equipment	17
Environmental protection	21
Environmentally preferable products (multi-layered bamboo flooring panels)	1
Total	**54**

Source: **Sugathan (2013), Vossenaar (2013)**

Negotiations on APEC EGs resulted in a commitment that products included in APEC EGs list would have import tariff of maximum 5% in 2015. Agreement in APEC Forum does not influence the rights, position, and negotiation in World Trade Organization (WTO) since it is applied under APEC non-binding, voluntary, consensus-based principles and it takes into account the economic condition of each member. Under these APEC's principles, agreement regarding APEC EGs will be legally non-binding. However, the agreement will be applied based on Most Favored Nation (MFN) principle (United Nations, 1978) and this MFN-based import tariff principle necessitates bilateral or regional trade agreements to be implemented globally. In other words, reduced import tariffs for APEC EGs does not only affect APEC members but also the relations between APEC members and other countries. Therefore, the agreement can be used for international trade.

APEC leaders agreed to reduce import tariff for the APEC EGs to maximum 5% by the end of 2015. However, until February 2016 several APEC members including Indonesia, Vietnam, China-Taipei, Russia, Papua New Guinea and Thailand had not fully reduced their import tariffs according to the APEC agreement (APEC PSU, 2016). As for Indonesia, until November 2015, 13 out of its 54 APEC EGs were still at the import tariff above 15%, with its 7 products being under HS 6 digits. In the meantime, Indonesia decided to reduce tariff gradually up to 2021, as stipulated in Minister of Finance Regulation Number 134/PMK.010/2016 (serving as the Fifth Amendment of Minister of Finance Regulation Number 213/PMK.011/2011) on Good Classification and Import Tariff.

In addition to APEC EGs, there are other classifications of EGs, including WTO Environmental Goods Core List which was submitted by WTO members' in accordance to the Doha round negotiations (Sugathan, 2013). There are 26 HS

6 digit in WTO EGs, which can be grouped into: (1) solid and hazardous waste management, (2) air pollution control, (3) wastewater management and water treatment, noise and vibration abatement, (4) environmental remediation and cleanups, (5) cleaner and renewable energy, (6) energy efficiency, (7) environmental monitoring analysis and assessment, (8) resource efficiency, and (9) environmentally preferable products.

Import tariff reduction and/or tariff assignation are government interventions that may alter trade performance. Change in trade performance will affect macro economy as well as the micro economy, especially sectorial economy where international trade takes place. Indonesia's export and import of EGs with 18 trading partners are small as shown in Figure 7.1, i.e. 2.3% of total import value and 1.06% of total export value in 2000 to 2015. However, small value of import and export in the period of observation may change in the future since APEC list of EGs could be used by non-APEC member countries/economies. Moreover, WTO EGs Core List would cater for larger number of countries. Therefore, this research aims to inquire about the impact of import tariff and nontariff barriers on Indonesia's trade performances.

Previous studies investigating EGs in the case of Indonesia include PKKPI (2014) and Salam and Nugroho (2016). These studies differ from previous studies in two ways. First, it includes WTO EGs Core List in addition to APEC EGs. Second, it includes nontariff barriers in addition to import tariff as a independent variable.

Figure 7.1:
Indonesia's export and import of environmental goods to 18 countries
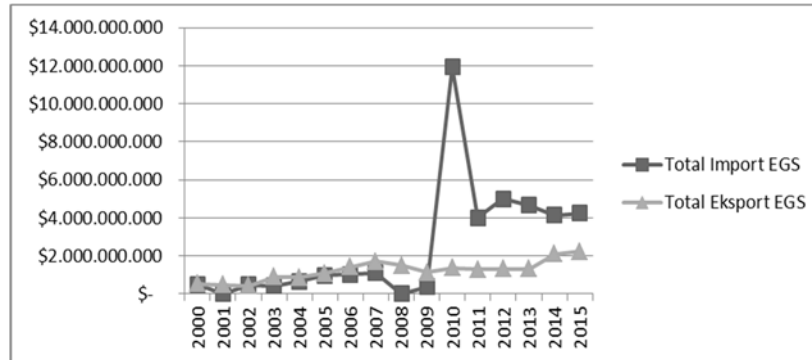
Source: **WITS (processed by authors)**

2. Methods

2.1 Model

Studies on international trade generally use computable general equilibrium (CGE) or gravity model (Piermartini and Teh, 2005). CGE is widely used to simulate liberalization or regional integration scenarios by altering some exogenous economic indicators. CGE is capable to capture the effects of trade policy on macro economy and social welfare. However, simulating effects of altering import tariff for merely 54 products is a challenge for CGE since it is more suitable for simulating macro-economic shock.

As for the gravity model, it was first developed by Tinbergen (1962) to inquire bilateral trade flows affected by gross national product and distance between countries. The gravity model can be categorized as an ex-post analysis method (Bacchetta et al., 2015). It is termed gravity model since it resembles Newton's gravity model, where interaction between two objects depends on their mass and inversely correlate with the distance between them. In the basic form, the gravity model stipulates that trade volume is the function of the size of trading partners and the distance separating them (Ranjan and Tobias, 2007).

Gravity model used in this study is based on model developed by Center for International Trade Cooperation Policy, Ministry of Trade of Indonesia (PKKPI, 2014) with additional NTM variable. The empirical model of the impact of import tariff and NTM on import performance is shown equation (1) while for export performance is specified in equation (2):

$$\ln M_{jt} = \alpha + \beta_1 \ln GDP_t + \beta_2 \ln DIS_j + \beta_3 TAR_{it} + \beta_4 NTM_t + \varepsilon_{jt}, \quad (1)$$
$$\ln X_{jt} = \alpha + \beta_5 \ln GDP_{jt} + \beta_6 \ln DIS_j + \beta_7 TAR_{jt} + \beta_8 NTM_{jt} + \varepsilon_{jt}, \quad (2)$$

where

$\ln M_{jt}$ = log of import value of Indonesia's EG products with partner country j in period t,

$\ln X_{jt}$ = log of export value of Indonesia's EG products with partner country j in period t,

$\ln GDP_t$ = Indonesia's GDP constant value at period t,

$\ln GDP_{jt}$ = partner country j's GDP constant value at period t,

$\ln DIS_j$ = log distance between Indonesia and partner country j,

TAR_{it} = average import tariff of APEC EG products at period t,

NTM_t = number of NTM applied by Indonesia for EG products at period t,

NTM_{jt} = number of NTM applied by partner country j for EG products at period t.

2.4 Data

This article used secondary data gathered through data providers such as Trade Map, World Trade Integration Solution (WITS), CEPII distance database, World Development Indicator Database of the World Bank, and BPS of Indonesia. The analysis covered the period of 2000 to 2015. However, trade data in WITS was missing for the period of 2002-2008. Furthermore, due to data difficulty, among 27 countries participating in Indonesia's international trade in terms of EGs, there were only 18 countries included in the analysis, i.e. Australia (AUS), Brunei Darussalam (BRN), Canada (CAN), Chile (CHL), China (CHN), Costa Rica (CRI), Hong Kong (HKG), Japan (JPN), Mexico (MEX), Malaysia (MYS), New Zealand (NZL), Peru (PER), Philippine (PHL), Singapore (SGP), Thailand (THA), Turkey (TUR), United States of America (USA), and Vietnam (VNM).

Analysis of trade performance was carried out in terms of total trade, and not in terms of each product category. Alternative approach, i.e. analysis per 6-digit HS number (e.g. PKKPI, 2014; Salam and Nugroho, 2016) could only use general variables and do not allow the use of NTM variable. It should be noted that nontariff barriers measures (NTM) variable represents the number of NTM applied for EGs trade by importer countries. Due to data unavailability, only NTM category A (sanitary and phytosanitary measures) and category B (technical barriers to trade) were used in the analysis. This study did not use alternative approach to measure NTM, such as difference between Overall Tariff Restrictiveness Index (OTRI) and Tariff Trade Restrictiveness Index (TTRI) (Hoekman and Nicita, 2011) due to data incompleteness.

2.5. Data Analysis

Panel data analysis was performed to answer the research questions. Chow test and Hausman test were used (Gujarati, 2003) to choose regression approach, i.e. whether panel least square, fixed effect model, or random effect model,. Test results indicated that the most appropriate model was fixed effect for import model and random effect for export model. Further tests for autocorrelation, multicollinearity, and heteroscedasticity were done to fulfill basic econometric assumptions (Nachrowi and Usman, 2006). The test results indicated that for model 1 there existed autocorrelation and heteroscedasticity, but there was no existence of multicollinearity. To curb the problems, Model 1 was amended to split NTM to NTMA and NTMB in which NTMB was first differenced to curb autocorrelation problem (D1NTMB). In addition, to curb heteroscedasticity problem, Model 1 was regressed using the period weight (Gujarati, 2003).

3. Results

Indonesia's environmental goods are mainly imported from China, Japan, and USA; while exported mostly to Singapore, USA, and Japan. These countries represent the largest trading partners, while other trading partners contribute negligible values. As for Indonesia's NTM, the majority was in terms of TBT (i.e. NTMB) rather than SPS (i.e. NTMA) and it can be observed that number of NTM was increasing. For example, in 2002 to 2007 it was only 5, increasing to 79 in 2010 and 2011, and then above 90s in 2012-2015. Similar pattern could also be observed in the number of NTM of the 18 Indonesia's trading counterparts, i.e. more NTMB rather than NTMA. For example, 13 countries have zero NTMAs and most NTMs are observed in USA (104 NTMAs), Vietnam (44 NTMAs), and Australia (41 NTMAs). In contrast, USA, Canada, China, Singapore and Japan have 546, 231, 214, 130, and 121 NTMBs, respectively.

3.1 Gravity Model for Import and Export Performance

Table 7.2 shows that Model 1 and Model 2 are both significant at 1%. Model 1 can explain about 41.46% of variations in import performance; while Model 2 can explain about 55% of variations in export performance. In Model 1, variables of logarithm of distance, number of non-tariff barrier A (i.e. STS) and first difference of number of non-tariff barrier B (i.e. TBT) are significant at 1% level. It means that Indonesia's import performance regarding environmental goods is influenced by distance between Indonesia and the trading partners and is also affected by the number of nontariff barriers implemented by Indonesia.

In Model 2, almost all of independent variables are significant at 1%, except number of nontariff barriers in terms of sanitary and phytosanitary measures (SPS). It means that Indonesia's export of EGs is influenced by GDP size of trading partners, distance between Indonesia and the trading partners, average custom tariff, and number of nontariff barriers in terms of technical barrier to trade (TBT). Almost all independent variables in Model 2 have coefficient signs consistent with theory, except for NTMB which is contrary to expectation.

In Model 2, import tariff affects negatively on Indonesia's exports of environmental goods. On average, when trading partners increase average custom tariff by 1% Indonesia's EGs are reduced by 25.86%. The impact of import tariff policy of Indonesia's trading partners is important to determine Indonesia's export performance of environmental goods. Conversely, Indonesia's import tariff does not influence import performance.

Table 7.2
Estimation of gravity models for import and export performances

Variable	Model 1 Dependent variable: ln Import		Model 2 Dependent variable: ln export	
	Coefficient	Standard Error	Coefficient	Standard Error
α	-29.9245	35.6989	19.4079***	1.6176
ln GDP	1.4417	0.9980	0.0459***	0.0459
ln DIS	-0.8089***	0.2119	-1.4039***	0.1322
TAR	-0.1092	0.1970	-0.2389***	0.0398
NTMA	0.3808***	0.0912	0.0075	0.0079
D1NTMB	0.0143***	0.0032	--	--
NTMB	--	--	0.0095***	0.0016
Observation	185		254	
R-squared	0.4750		0.5606	
Adjusted R-squared	0.4146		0.5512	
F statistic	7.8586		63.2855	
Prob. (F-statistic)	0.0000		0.0000	

*** = significance at 1%

3.2 Discussion

As presented previously, GDP growth variable significantly affects Indonesia's export performance. This result is well documented in literature, e.g. in the case of Indonesia-Yemen trade (Sabaruddin, 2016), Indonesia's crude palm oil (CPO) trade (Ridwanulloh, 2018), Indonesia's trades with China and India (Bary, 2010), and Indonesia's textile export to 13 countries (Maryono, 2012). In addition, distance, which resembles transportation costs, affects Indonesia's export and import performance negatively, as documented well in the previous studies, e.g. Effendi (2014), Maryono (2012), Ridwanulloh (2018), Wahyudi and Anggita (2015), and Yuniarti (2007),

Two main independent variables are also significant, namely import tariff and nontariff barriers. Trade partners' import tariff negatively affects Indonesia's export of APEC EGs. This result is in accordance with the literature, e.g. Effendi (2014). This results support the argument that import tariff is not very influential to inhibit import (PKKPI, 2014; Salam and Nugroho, 2016), yet trading partners' import tariff influences negatively on Indonesia's exports. The difference results

could be explained by the difference between Indonesia's average import tariff and trading partners' average import tariff as shown in Figure 7.2 and Figure 7.3. Indonesia's average import tariff for EGs is all below 5%; while trading partners' average imports tariffs vary i.e. 3 countries at around 0% and 5 countries above 5%.

Figure 7.2
Indonesia's average import tariff of EGs to selected trading partners
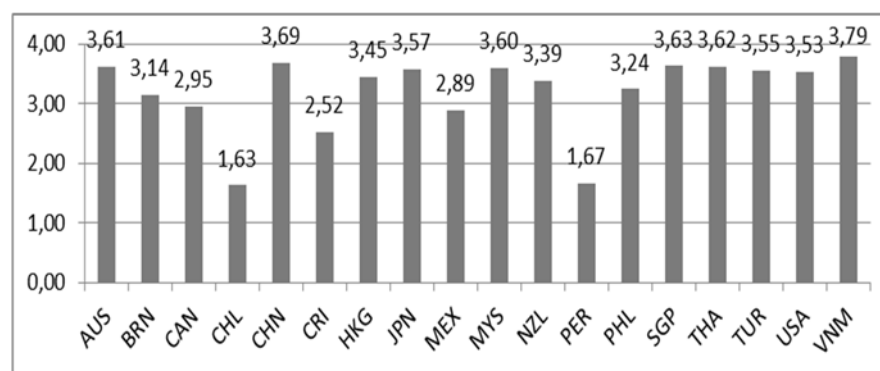
Source: **WITS (processed by authors)**

Figure 7.3
Trading partners' average import tariff of EGs to Indonesia
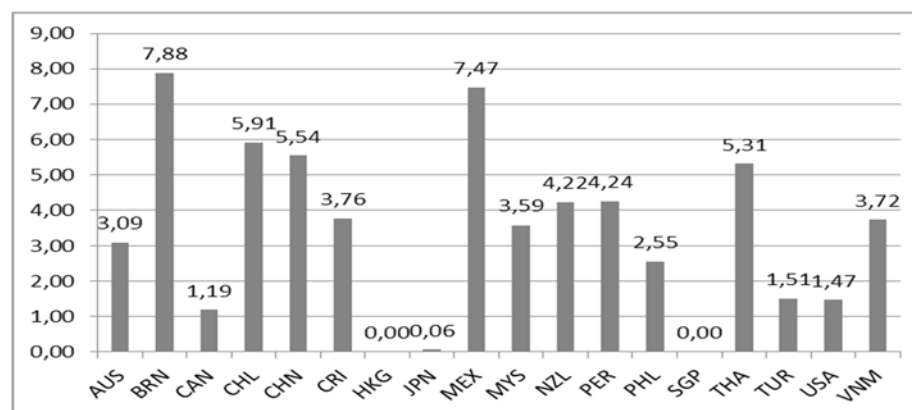
Source: **WITS (processed by authors)**

Based on the results, Indonesia may continue to decrease import tariff for EGs since it does not significantly influence import performance. As for NTMs, government could further develop them, especially the technical barrier to trade (TBT). For example, government could set up registration requirements while at the same time could promote efficiency on administration processes for registration. Lastly, government could also arrange offensive strategies to increase environmental good exports by improving the technology and the know-how (Kalirajan, 2016) to compensate the tendency of single flow of EGs from developed to developing nations.

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BUDGETARY SLACK PRACTICE IN INDONESIAN TAXATION

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Abstract

This research aims to investigate the practice of budgetary slack in Indonesian taxation contexts and to find the correlation between budgetary slack and tax revenues. Further, this study is expected to describe the existing budgetary slack and to position budgetary slack in order to motivate optimal tax revenue realization. The population of the current study consisted of 1,017 tax offices with the final sample of 1,011 tax offices.,The respondents were 25 civil servants from different tax offices. We tested our hypothesis that predicted the effect of budgetary slack on tax revenues using the regression equation. We also tested the standard factor loading of the budgetary slack variable to investigate further, following the data from the questionnaire. The results show that there is a significantly negative effect of budgetary slack on tax revenues. A more prevalent budgetary slack practice will reduce the growth of tax revenues. The results suggest that all stakeholders in taxation should use budgetary slack for motivation and control purposes. The disparity of the growth of tax revenues from -84.78% to 152.30% (mean value = 20.07%) indicates that tax authorities have to improve tax planning, forecasting, and prediction. Besides, these figures also show that the capacity of tax offices to realize their tax revenue targets has not been optimal. Thus, it is necessary for them to continuously increase their taxation capacity in terms of regulation, organization and governance, and human resource. The low value of adjusted R^2 suggests that future studies should include variables other than budgetary slack that potentially affect tax revenues in Indonesia. it is also equally important to develop a secondary data-based proxy to measure variables that affect tax revenues to anticipate any difficulties in generating primary data from informants.

Keywords: budgetary slack, tax, revenue

1. Introduction

Tax revenue realization data for the period of 2007-2015 indicates that actual tax revenues never achieved their initial targets, except for the year 2008. On the other hand, tax revenue contribution to the total state revenues in the State Budget were increasing to above 70%. This condition was because the budget policy from the government increasingly rely on tax revenues. The declining contribution of incomes from oil, mining, and gas further drives the government to rely more on tax revenues. This condition is also in line with the claim made by Mardiasmo (2002), who suggests that tax revenues are the main revenue source and play an increasingly important role for the total state revenues.

The performance of tax offices, especially in achieving their tax revenue targets, plays a significant role in optimizing tax revenue collections. Budgetary slack potentially indicates the behavior of tax offices in responding targets imposed on them and in achieving the targets.

Budgetary slack is a budget preparation process that aims to make the budget more achievable, by either understating revenue budget or overstating cost budget to anticipate uncertainty and environmental change (Muktiyanto, 2016). Further, Muktiyanto (2016) adds that the managerial role in the budgeting process, influenced by their managerial interests, significantly affects budgetary slack.

Based on the arguments above, this study aims to investigate the presence of budgetary slack in Indonesian taxation and the correlation between budgetary slack and tax revenues. This research is expected to inform relevant stakeholders about the budgetary slack phenomenon so that they can support the efforts to optimize tax revenues. Also, in general this study aims to highlight the importance of management accountability in taxation, especially emphasizing the budgetary slack issue in encouraging managers to achieve superior performance.

2. Literature Review and Hypothesis Development

The Indonesian Taxation

According to Shome (1995), tax policy is a governmental policy in taxation. Salamun (1993) defines tax policy as a selection of certain aspects of various alternatives based on the targets set. The selection process is related to tax subjects, objects, tariffs, and procedures.

In making a tax structure, a government has to refer to tax functions as parts of the fiscal policy, namely regulation to facilitate economic and social growth. According to Boskin (1996), general problems of taxation are either those closely related to excessively high tax tariffs or tax regulations that are too complex, centralistic, and inefficient. These lead to an inefficient tax structure.

Chaizi (2004) argues that Indonesia exhibits a weak tax administration as indicated by the following factors. First, the organizational structure of the Directorate General of Taxation is inefficient. Second, there are public complaints about the complex system and procedure of tax service and the costly tax compliance. Third, the tax information system has not been functionally and operationally integrated. Fourth, tax officials tend to be unprofessional. Fifth, Directorate General of Taxation still does not fully understand and exploit the tax potentials. Sixth, there are still leakages of tax potentials that could actually be turned into tax revenues.

Relative to other countries, Indonesia still exhibits a low tax ratio as an indicator of tax performance although it has many tax potentials. Indonesia also has a poor tax collection performance relative to other countries with similar economic characteristics. As a comparison, according to Uppal and Reksohadiprojo in Gunadi (2000), Indonesia's tax ratio in 1999 was only less than 12%. Meanwhile, the tax ratios of Thailand, Malaysia, the Philippines, and South Korea for this year were 16.9%, 20.2%, 16.3%, and 16.8%, respectively. Further, Indonesian taxpayers constitute only 2.3% of the total population, which was a very poor figure because it means only less than 2.5% of the total population support the administration of the Indonesian government (*DJP,* 2012).

Based on these phenomena, it is necessary for tax offices under the governance of Directorate General of Taxation to improve their tax performance. Tax offices can opt for various alternative methods to improve tax performance, such as increasing tax ratio, increasing taxpayers' compliance in filling in and submitting tax returns, increasing the number of taxpayers and tax revenue targets, either for total taxes or each tax revenue. However, the actual tax income has not achieved the tax targets yet, indicating that there are problems in the preparation and the accountability of tax revenue administration, especially in the tax budgeting process. These problems are commonly known as budgetary slack.

Budgetary Slack

Muktiyanto (2016) defines budgetary slack as a quick effort to gather easily achievable budget items. Budgetary slack occurs when subordinates try to negotiate budget items because they have vested interests in their involvement in the budgeting process, especially when rewards and appreciation are closely tied to their budgetary performance.

Young (1985) suggests that budgetary slack is subordinates' efforts to understate their productivity when they have the opportunities to adjust the working standards as an evaluation tool. One main reason managers create

budgetary slack is to make budgetary targets easily achievable. Budgetary slack enables managers to protect themselves from uncertainty and to increase the probability of achieving budgetary targets. Nouri and Parker (1996) claim that managers' interests are the main drive of budgetary slack creation; and that managers believe that achieving budgetary targets is easier with budgetary slack.

Muktiyanto (2016) concludes that budgetary slack is a budgeting process to facilitate easily achievable budgetary targets either by understating revenue budget or by overstating cost budget to anticipate uncertainty and environmental changes. In other words, budgetary slack aims to minimize revenue budget or to maximize expenditure budget at allowable budgetary intervals to anticipate uncertainty and environmental changes. The most important indicators of budgetary slack are excessive cost budget and revenue and performance capacity budgets that are below the expectations.

The main purpose of budgetary slack is to respond to uncertainty (Merchant, 1985) and environmental changes (Sharfman *et al.*, 1988). This implies that budgetary slack is the amount of firms' budget to facilitate easy achievement of budgetary targets by either understating revenue or overstating cost to respond to external and internal uncertainty and environmental changes.

Methodologically, budgetary slack is measured by the total score of survey's response using the following modified questionnaire of Onsi (1973) with a 5-Likert scale from "strongly disagree" to "strongly agree":

1) For their vested interests, the management proposes an easily achievable budget.
2) The management proposes double standards: one for their own and the other for their superiors.
3) When revenue meets the expectation, the management's superiors are willing to accept slack to a certain level.
4) Budgetary slack is considered reasonable when it is difficult to confirm.

In the taxation context, one can measure budgetary slack using the differences between revenue realization and reasonably tolerable revenue target for each tax category and expenditure.

The Effect of Budgetary Slack on Tax Revenues

The posture of the Indonesian State Budget suggests that the contribution of tax revenues is much greater than the contribution of non-tax revenues. The contribution of tax revenues steadily increased from 69.6% in 2004 to 77.10 in 2015. In a broader sense, Indonesian tax ratio (a ratio between tax revenues and

total PDB) ranged between 14.4% and 5.4% for the years 2010-2012. However, in the most recent years, the government failed to achieve the tax revenue target. Further, the tax coverage ratio (the ratio between realized tax revenues and the actual tax potentials in a certain economy) was only 56% for the individual income taxpayers and 55% for the value-added taxpayers. The Directorate General of Taxation estimated that the tax coverage ratio for the years 2005-2009 would increase from 50% to 60.2% in 2010 and 70.1% in 2011.

Overall, the ratio between the actual tax revenues and the tax revenue targets for the year 2011-2013 was 99.45% in 2011, 96.88% in 2012, and further declining to 91.31% in 2013. Analyzing each tax revenue category highlights the varied realizations relative to the targets. For example, the oil and gas income tax (*PPh Migas*) was always above 110% of the target. However, the non-oil and gas income tax (*PPh NonMigas*) never achieved the target. For example, in 2012 the realization of this tax was only 85.74% of the target. Similarly, in 2012 other taxes were only realized 80.04% from the targets.

Based on the above arguments, it is not easy to capitalize economic growth based on tax revenue growth. Various factors may explain this failure, such as problems in policy formulation, or even problems within the tax authority organizations, especially tax offices (*KPP*) as the backbone of the tax collection forces. It is incontrovertible that Indonesia exhibits a low tax basis (as indicated by the low numbers of individuals and corporate income taxpayers and the low numbers of taxpayers who submit their tax returns). However, it is important to formulate a comprehensive taxation strategy to increase the numbers of taxpayers and their compliance. One strategy that is worth trying is the improvement of the organizational management, especially by scrutinizing the budgeting process (setting the tax revenue targets and realizations) in the Directorate General of Taxation.

One can scrutinize the budgeting process from the budgetary slack of the Directorate General of Taxation. Technically, budgetary slack can be perceived as a positive stimulus or a negative stimulus, as well as for an indicator of optimal performance. On the one hand, budgetary slack motivates managers to exceed the revenue targets and to expend the allocated resources more efficiently. In this sense, managers notice the accurance of budgetary slack, but they still consider it reasonable. On the other hand, managers also use budgetary slack to manipulate budgetary measures so that they appear outperforming as they constantly manage to exceed the revenue target.

From the analysis of the patterns of the realization of the overall tax revenue budgets or for each tax category, we argue that budgetary slack is likely to occur

in the context of Indonesian taxation environment. When one set (upper and lower) 10% was used as the tolerable realization thresholds, in 2011-2013 some tax revenues were less than 90% of the targets while some others were more than 110%. Bearing other taxation problems in mind, this study focuses on budgetary slack as a managerial behavior in the budgeting process. Managers try to negotiate their revenue and cost budgets to enable them to realize the budgets or to control the achievement of the budgets easily. Besides the performance concern, managers also aim to ease up their working environment by reducing the pressure to achieve the revenue target or expenditure efficiency. When managers fully control their working condition by setting realistic targets, they could be more creative and innovative in realizing expected revenues and cost efficiency.

On the other hand, managers' superiors are under constant pressure from the Directorate General of Taxation to realize tax revenue targets in the State Budget. They also aim to negotiate budgets with tax offices' management so that they are willing to set a higher revenue target or a lower expenditure target. These dynamics will create a budgetary negotiation process that will eventually lead up to budgetary slack. What commonly happens is that managers attempt to understate a revenue budget while their superiors expect them to overstate it. Similarly, managers try to overstate an expenditure budget while their superiors expect them to understate it. Negotiation as such will inevitably create budgetary slack. It is only when managers position budgetary slack properly that they will be more motivated to realize the revenue and expenditure targets.

Based on these arguments, we predict that when budgeting process is more prevalent, it is more likely for managers to achieve revenue and expenditure targets. Budgetary slack facilitates managers to protect themselves from unexpected events, including by responding uncertainties (Merchant, 1985) and environmental changes (Sharfman *et al.*, 1988) and increasing the probability of budgetary targets, especially the revenue and expenditure ones. We then propose the following research hypothesis:

"Budgetary slack affects the realization of tax revenue targets."

3. Research Method

The population of this research consisted of 1017 regional tax offices throughout Indonesia. We applied the saturated sampling method, implying that we used the whole population as the sample. To confirm the test of the quantitative data, we also distributed the questionnaire purposively to the respondents, who were the civil servants in the tax offices.

The independent variable was budgetary slack while the dependent variable was the growth of tax revenues in each tax office. The following sections explain the operational definition, scale, measurement technique and instruments of our research variables.

Budgetary Slack (BUDSLACK)

Slack is a budgeting process that produces an easily achievable budget by understating revenue budget and overstating cost budget to anticipate uncertainties and environmental changes (Muktiyanto, 2016). In other words, slack aims to minimize revenue budget and to maximize expenditure budget at certain allowable budget intervals to anticipate uncertainties and environmental changes. We measure this indicator by using the modified Onsi (1973) with 5-Likert's scale from "strongly disagree" to "strongly agree."

1. For their vested interests, the management proposes an easily achievable budget
2. The management proposes double standards: one for their own and the other for their superiors.
3. When revenue meets the expectation, the management superiors are willing to accept slack to a certain level
4. Budgetary slack is considered reasonable when it is difficult to confirm.

The statements above aim to generate primary data to confirm the existence of budgetary slack in the tax offices. We also used the proxy of differences between revenue realization and reasonably tolerable revenue target for tax revenues.

Tax Revenues

Tax revenues are those in each tax office in the current year relative to the previous year. These include oil and gas income tax (*PPh Migas*), non-oil and gas income tax (*PPh Non-Migas*), value-added tax (*PPN)*, sales tax for luxurious goods (*PPnBM*), duties, other taxes, and international trade tax that are received by each tax office. The observation years are 2014-2016.

Instrument Development and Research Questionnaire

The hypothesis in this research was tested using an appropriate research instrument. We distributed our questionnaires to the civil servants in the tax offices. The questionnaire was in the form of judging statements. We tried to ensure that the questionnaire was valid as it measured the targeted concepts and

that the questionnaire was reliable, indicated by consistent answering from respondents from time to time (Ghozali, 2006).

Validity Measurement

According to Ridgon and Ferguson (1991), and Doll, Xia, and Torkzadeh (1994), a variable exhibits a high degree of validity toward its constructs if:
1. The t value of its loading factors is greater than the critical value (≥ 1.96 or practically ≥ 2), and
2. The *Standardized Loading factors* ≥ 0.70

As suggested by Hair *et al.* (1998), who use the guidance of *relative importance and significance of the factor loading of each item*, the standardized loading factors that is ≥ 0.50 means very significant (Igbaria *et al.*, 1997). If the standardized loading factor is < 0.50, but is still ≥ 0.30, then the variable can be considered not to be deleted. The use of 0.50 or 0.70 as the critical value depends on the underlying theory or substance, the number of remaining observed variables after the deletion, and the reliability of the related measurement model (Igbaria *et al.*,1997).

Reliability Measurement

Reliability reflects the consistency of measurement. High reliability suggests that the research indicators are highly consistent in measuring their latent constructs. We used the composite reliability measure and variance extracted measure by measuring the reliability in the structural equation model.

N is the number of observed variables in a measurement model. Hair *et al.* (1998) suggest that a construct exhibits high reliability if:
1. The value of the construct validity (CR) is ≥ 0.70, and
2. The value of the variance extracted (VE) is ≥ 0.50

Measuring the reliability and validity of our instruments needs the answers to the four statements from the modified Onsi (1973). Only if our research instruments qualify the criteria can we analyze and interpret the results.

Figure 8.1. The Effect of Budgetary Slack on Tax Revenue

Budgetary Slack (X1) → Growth in Tax Revenues (Y)

4. Results and Discussion

Results

Although we initially planned to use the saturated sampling of 1017 tax offices, there were only 1,017 usable responses from the tax offices. Further, there are 25 respondents from different tax offices. The descriptive statistics showed that the budgetary slack variable had a mean value of 0.69 with the minimum value of 0 and the maximum value of 1. Zero implies there is no budgetary slack and one indicates that there exists budgetary slack. Meanwhile, the growth of tax revenues exhibited the mean value of 20.07% and the median value of 16.5%. The minimum and maximum values for this variable were -84.78% and 152.30%, respectively. There were 314 tax offices (31.15 of total tax offices) that exhibited no budgetary slack and 697 (68.9%), indicating the presence of budgetary slack.

For those who confirmed that there was no budgetary slack practice, the validity and reliability tests demonstrated that respondents' responses that qualify the criteria, especially the standard loading factor that was above 0.50 and t-value that was above 2.00 were the *anggmdh* indicator (SLF=1.14,t-value=6.82), *duaangg* (SLF=0.78,t-value=4.13), and *bolehbs* (SLF=0.52,t-value=2.62). However, *longgar* exhibited a negative loading factor (-0.03) and t-value below 2 (-0.18). These results suggested that we could only interpret the *anggmdh, duaangg,* and *bolehbs* indicators.

From the scale 1 to 4, the mean values of *anggmdh* and *duaangg* were below two while the mean value of *bolehbs* was above 2. Further, the mean value of *anggmdh* was below its median value while *duaangg* and *bolehbs* had the mean values above their median values. These findings indicate that the respondents considered budgetary slack reasonable.

The test of our hypothesis showed that budgetary slack significantly affected tax revenues. This conclusion was based on the adjusted R^2 of 1.3%, F-value (14.623) that was significant at 1%, the estimated coefficient of budgetary slack (-6.398) that was significant at α=1%, and the constant value of the model of 24.482.

Discussion

The empirical results seem to support our hypothesis predicting that budgetary slack affects tax revenues. Although the value of adjusted R^2 was low, the coefficient was significantly negative. Overall, it could be concluded that, *ceteris paribus*, each one-unit increase of budgetary slack will reduce the growth of tax revenues by 6.398%.

The low value of adjusted R^2 (1.3%) showed that the ability of our model to explain the effect of budgetary slack on the growth of tax revenues was only 1.3%. There were other variables explaining the growth of tax revenues that were not included in the research model.

However, the negative effect of budgetary slack on tax revenues sufficiently indicated that budgetary slack had a more negative implication in Indonesian taxation. More specifically, budgetary slack did not motivate tax offices to achieve the tax revenue targets and it was necessary to minimize the budgetary slack practice, except for the positive intention. The responses of the civil servants in different tax offices confirmed the budgetary slack practice.

The response to the question "When revenue meets the expectation, the management's superiors are willing to accept slack to a certain level," had the mean value above 2 (at the scale 1 to 4). Tax officers considered budgetary slack reasonable when actual tax revenues exceeded the targets. Meanwhile, for the question "For their vested interests, the heads of tax offices propose an easily achievable budget" and "The heads of tax offices propose double standards: one for their own and the other for their superiors," the mean values of the responses were below 2. These results implied that the tax offices did not expect the budget to serve their vested interests or to manipulate budget for negative purposes. In this matter, managements' superiors were likely to know the occurrence of budgetary slack, but still considered it reasonable (Muktiyanto, 2016).

Overall, the results supported our conjecture that there existed budgetary slack practice, judging from the patterns of overall realized tax revenues and for each tax category. If we take 10% as the tolerable margins for the tax revenue realization, the 2011-2013 data showed that there were some taxes that exhibited realized revenues below 90% or above 110%. Managers would try to negotiate the revenue and expenditure budgets to enable them to achieve the adjusted targets easily and to put the budgets under their control. Besides, managers aim to have a working environment with less pressure to achieve revenue targets or expenditure efficiency. Having a controllable working environment, owing to realistic target, seemed to have allowed managers to be more creative and innovative to realize the revenue targets or expenditure efficiency.

On the other hand, managers' superiors were under constant pressure from DJP to realize tax revenue targets as stated in the State Budget (*APBN*). Thus, they also negotiated the budgets with the managers so that they were willing to set the optimal revenue target and minimum expenditure budget akin to what had beed stated in the State Budget. The negotiation about revenue and expenditure targets were likely to create budgetary slack practice. However, when positioned properly, budgetary slack could motivate managers to realize revenue and expenditure targets.

5. Conclusion and Suggestion

This study indicates the occurrence of budgetary slack practice in the Indonesian taxation system. Although budgetary slack did not seem to give benefits to certain individuals, any parties involved considered it normal when tax revenue target could then be achieved with ease. This mentality could potentially create moral hazard in the tax collection system.

We also found a negative effect of budgetary slack on tax revenues. This finding suggested that budgetary slack that was more pervasive would inhibit the growth of tax revenues. Although budgetary slack did not play a dominant role in the achievement of tax targets, it should be still controlled to avoid its negative impacts.

All taxation stakeholders should be able to use budgetary slack for motivation and control purposes. If they fail to use budgetary slack for positive purposes, they have to prevent budgetary slack as a moral hazard.

The disparity in tax revenue growth from -84.78% to 152.30% (mean=20.07%) suggested that improving the tax revenue planning, forecast, and prediction was critically needed. Besides, the disparity also indicated that the capacity of tax offices was not optimal. Thus, it was necessary to enforce the capacity of these tax offices regarding regulation, organization, governance, and human resources.

We found some difficulties in collecting the survey and secondary data of the tax offices. Directorate General of Taxation with all of its units need to provide more freedom to access public information and public accountability. Close cooperation between researchers and tax authorities is important to improve tax practices in Indonesia.

The adjusted R^2 was considered low so we suggest that future studies include other variables that are likely to affect tax revenues in Indonesia. Besides, these studies should develop the proxies of the variables further, especially by using secondary data, to overcome the difficulties in accessing primary data from the proposed respondents.

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THE IMPLICATIONS OF PLANNING ASSIGNMENT FUND IN INCREASING OUTPUT ACHIEVEMENTS

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Abstract

Quality budget planning is a fundamental basis for achieving the budgeting cycle. One indicator of quality budget planning is reflected in the level of accuracy between planning and the output outcomes. The government of Indonesia allocated Assignment assistance of Rp. 15.64 trillion in 2017. The Ministry of Agriculture received the largest task assistance compared to other K/ Ls, which amounted to Rp. 11.31 trillion or 72.31% of the total funding for Assignment in 2017. The Ministry of Home Affairs received the smallest allocation of Rp. 28.51 billion or 0.18% of the total funding for Assignment tasks nationally. The current contribution of agriculture to national economic growth was considered very low. Meanwhile, the population working in the agricultural sector was around 26 million or around 40% of Indonesia's workforce. The share of the agricultural sector has experienced a downward trend in the last 25 years. This study aims to examine the role of accuracy of Assignment budget tasks and their implications in achieving economic outputs. The study used a quantitative approach i.e. explanatory research with an estimation model of least square with regression. The analysis involved GRDP variables, Assignment funding, DAK, farmer exchange rate figures, and construction expiration index. The study worked on panel data sourced from regional financial statements for years 2014-2016. The sampling technique was non-probability sampling, which means each member of the population did not have equal opportunity to be chosen as a sample by convenience sampling method. The test results prove that the Assignment funding had a significant influence on GDP in Indonesia during the study period with an elasticity of 0.046 and Prob> F = 0.0049. At a 95% confidence level, farmer and DAK exchange rates had no significant effect on GRDP in Indonesia during the study period. Special grants yielded Prob> F = 0.3072 and the tests of farmer exchange rates gave the Prob> F = 0.9316. The special grants funding variable had a positive regression coefficient of 1.67. The results of this study indicate that an increase in special grants funding had led to insignificant GDP growth in Indonesia throughout the study period. The elasticity coefficient value of the variable farmer

exchange rate model was 0.002. The increase in the exchange rate of farmers would have been be able to boost GDP significantly in Indonesia during the study period.

Keywords: growth, shopping, accuracy, contribution

1. Introduction

Quality budget planning is a fundamental basis for achieving the budgeting cycle, which starts from planning to accountability checking. One indicator of quality budget planning is reflected in the level of accuracy between output planning and realization. State Budget expenditure can be distributed in the form of head office expenditure, de-concentration, and decentralization and through assistance tasks. Budgeting for the assistance tasks of the State Budget requires accurate planning. Program planning and Assignment activities must prioritize the elements of authority, efficiency, effectiveness, state financial capacity, and synchronization among Assignment task recipient regions.

The authority of ministries/ agencies should be spread across several regions because it cannot be carried out by the ministries alone or their vertical units with their limited resources. Ministries, thus, delegate authority to regional governments to carry out tasks. Assignment funds can then be allocated to provinces and districts, but this is not intended for matters that are under the authority of the regional government. Affairs that can be assigned to the regional government are part of the affairs outside of six affairs of state as stipulated in the legislation.

This delegation of authority is controlled in Government Regulation Number 38 of 2007, concerning Division of Government Affairs. The administration of affairs other than the six affairs of state can be carried out by the government itself, through the principle of de-concentration and through Assignment and State Budget may fund these non affairs-of-state. An assignment is originated from the government, delivered to the regions or villages with the obligation to report and account for its implementation to the corresponding government.

One area that received a large sum of funding was agriculture. The agricultural sector was one of the government's priorities to be provided Assignment funding because this sector was considered very important. The government allocated Assignment assistance of Rp. 15.64 trillion in 2017, which was the biggest assistance task fund allocation compared to other K/ Ls (amounted to Rp. 11.31 trillion or 72.31 percent of the total funding for Assignment in 2017). This allocation decreased by around 20% compared to the previous year. Meanwhile,

the Ministry of Home Affairs received the smallest allocation of Assignment funding in 2017, which was Rp. 28.51 billion or 0.18 percent of the total funding assistance tasks nationally.

The agricultural sector is responsible for ensuring food security, providing employment, and contributing to trade between regions and countries. One indicator of the success of agricultural development is reflected in the growth of the agricultural sector and the economic improvement of its farmers. Strengthening the agricultural sector on the demand-and-supply side can create links with other economic sectors (Kuncoro, 2001). The agricultural sector is divided into several subsectors, which are grouped according to the plant species, namely the food crop subsector, horticulture crop subsector and plantation crop subsector.

The government's commitment in supporting the agricultural sector as one of the national priority programs reflected in budgeting includes funding for Assignment tasks. Agriculture contributes to the generation of GDP, food supply, and foreign exchange, providing employment, reducing poverty, and boosting people's income. In 2016, the agricultural sector contributed around 13.8 percent towards GDP. The agricultural sector was expected to employ workers in the range of 0.89 percent up to 0.94 percent per year. Therefore, the government provided strong financial support for the development of the agricultural sector in order to be able to achieve the state's long-term targets.

Assignment tasks were given to improve the efficiency and effectiveness of government administration, the implementation of public services development plan. Assignment funds were State Budget funds that were channeled to local governments and their direct up-line was to the central government or technical ministries. Based on the current evaluation, the task assistance was directed at funding activities under the municipal framework. However, the implementation of this plan was not very optimal, at least according to minimum service standards.

The plan of Assignment funds was originated from the ministry's initiatives to administer government affairs on the regional level in the coming fiscal year. The decisions on the portion of government affairs to be assigned to the regions were then included in the ministries Work Plan as National Musrebang materials. Ministries submitted the information to regional heads, who would then carry out the Assignment tasks after the temporary ceiling determination was finalized. The ability to make such a development planning was a very important affair. The government must be able to identify the potential problems and make policies to overcome the problems.

The current contribution of agriculture to the national economic growth was considered very low despite the fact that around 26 million (40%) of the population

in Indonesia work in the agricultural sector. The share of the agricultural sector has experienced a downward trend in the last twenty-five years. The land area and the number of workers that continued to decline reduced the agricultural sector's contribution from 22 percent to gross domestic product (GDP) in 1991 to 13.8 percent in 2016.

In percentage shows declining number, but in the real value increased. This can be seen from the decreasing amount of land used by farmers. This condition resulted in declining farmers' income. By way of illustration, several years ago the land used for agriculture was one hectare, but then only a third of the remaining agricultural land could be cultivated.

The implementation of the e-proposal by the Ministry of Agriculture was expected to provide accurate budget planning. However, the contribution of the agricultural sector to GDP had not shown good progress. The development of the agricultural sector required government support, one of which was through the accurate targeting of the funding allocation. This step was needed and will continue to play a crucial part to increase agricultural production, given the large number of Indonesian agricultural needs per year by 2030. This study, thus, examines the role of accurate targeting of the Assignment budget and its implications on achieving economic outputs.

2. Hypothesis Theory And Framewrok

Ministries/ Institutions give assignments to regional governments both in provinces and cities with the consideration of their effectiveness and efficiency. The limitation of the ministries' vertical devices in the regions is a major consideration in implementing Assignment tasks. The regional government that receives the assistance task is obliged to report and answer to the central government.

The hierarchy of intergovernmental assignment relations along with reporting and accountability obligations is discussed in the agency theory. Agency theory describes agency relationships, which in this case was a contract assignment between a principal and an agent to carry out work in accordance with the mandate given by the principal through delegation of some decision-making authority (Jensen & Meckling, 1976).

Agency theory views that each party, both the principal and the agent, as the utility exploiter. Agents have the potential to act not always in accordance with the principal's plans. This condition emerges because of the asymmetric information between the principal and agents, which results in adverse selection and morality of the agency (Eisenhardt, 1989). The mismatch between the principal's plans and

the agent's actions can be reduced through the use of the most optimal contract design (Eisenhardt, 1985). Ministries, acting as the principal in the Assignment, stipulated the technical instructions to regulate the implementation of assignments in the regions. The delegation to local government required modern management that was reflected in the New Public Management (NPM)

NPM is a decentralized management system using new management aspects such as controlling, benchmarking and lean management. NPM is an approach in public administration to create efficiency, effectiveness, and better public service funding in the era of modern bureaucracy. NPM prioritizes performance orientation in order to achieve good outputs. NPM can provide changes in the management of the most significant public sector that requires flexibility and it can adjust to the tailored needs. These changes can have a better impact both for the government and the community (Mardiasmo, 2002). Research (e.g. by Karyana, 2012) suggests that good coordination in planning and implementing Assignment prompts the achievement of objectives according to the program plans. Assignment tasks reflect the needs of development in the regions that are in line with both the national and regional priorities.

Winarso (2014) conducted a study on the performance of agricultural development run by using the Assignment budget plan in South Kalimantan Province. The use of Assignment tasks strongly supported the agricultural productivity in South Kalimantan region. The increase included food crops, horticulture, and agricultural land area. This condition had an impact on the improvement of the farmers' welfare.

Assignment of task funding is directed at providing efficiency and effectiveness for the government authority in the regions. This task is given to accelerate development in the regions so that it accords with the national priorities. Assignment tasks are designed to suit the regional needs to accelerate performance achievements. Agriculture was considered one of the Assignment funds priorities that played an important role in pushing the national economy through the agricultural sector GRDP (Winarso, 2014). The first hypothesis formulated in this study was that the Assignment Fund implemented in an electronic-based prospecting would promote increment in the regional GDP.

The farmers' welfare was an area needing constant monitoring. An increase in farmer welfare was expected to encourage national income, especially from the agricultural sector. Development activities had succeeded in increasing agricultural productivity, but on the flip side the increase has not been able to improve farmers' welfare, let alone poverty (Simatupang, 2008). Increasing farmers' exchange rates will increase purchasing power and household

consumption and increasing farmer income will encourage the growth of community welfare. Taking this into consideration, the third hypothesis formulated in this study is that the increase in farmer exchange rates has a significant influence on GDP increment in the region.

Increasing public services and providing adequate infrastructure simultaneously can encourage investment in the area. Food availability in the community as a form of public service provision to strengthen the economy can be achieved through the assistance of the Special Allocation Fund. The increase in Special Allocation Fund is expected to encourage public services including in the provision of public food, which ultimately boosts the productivity in the community. Improving the agricultural industry can certainly improve the welfare of farmers. Agricultural productivity is essential to increase farmers' exchange rates, as well as to offer employment (Bappenas, 2013). The second hypothesis in this study is that Special Allocation Fund may contribute to the increase of regional GDP.

The implementation of Assignment tasks is carried out with the consideration that not all government authorities can be exercised independently. In order to plan effective Assignment funding, good coordination between the central and regional governments is crucial to create synergy and harmony. Finally, assignment activities must be planned realistically by considering the availability of existing budget and resources.

3. Research Method

This study employed an explanatory research quantitative approach by finding new relationships through testing hypotheses (Hasan, 2002). The study was built upon the previous studies by adding new variables. Hypothesis testing covered Assignment funds and farmer exchange rates as independent variables and the GDP of the agricultural sector as dependent variable .

The study uses multiple linear regression analysis to test the hypotheses. The tests were run on the classical assumptions, which included multicollinearity, heterocedasticity, and normality tests. The results of multiple linear regression analysis were then interpreted in the discussion.

The population, which often means a whole group of people, events or things of interest that researchers want to investigate (Sekaran, 2011), was determined in accordance with the research objectives. The research population comprised all local governments in Indonesia that managed Assignment funds throughout the period of 2015-2016. Population needs to meet certain qualities and characteristics

determined by researchers to be analyzed and generalized in the conclusions (Sugiyono, 2004).

The sampling technique was non-probability sampling by not giving equal opportunity for each member of the population to be chosen as a sample. One way to determine this was by using the convenience sampling method. This method was chosen by considering the observation area and the period of completion of the study.

The study examined primary and secondary data. The primary data was obtained directly by researchers when conducting field visits either through interviews or observation. The secondary data was obtained from information available in publications and historical records or reports. The researcher collected the data through regional non-financial data reports.

The data was taken from reports on regional non-financial data for the years 2015-2016 managed by the Directorate General of Financial Balance. The data was relevant to the research variables, which were the allocation and realization of assistance task funds. Meanwhile, the data on the GDP figure of the agricultural sector was sourced from BPS. All this data was collected from reports, publications, documents and other written reports.

The analysis used multiple regressions, also known as multi-regression, a regression model that involves more than one independent variable or predictor. This study modified the OLS regression equation by involving the new variables: Assignment task funding, farmer exchange rates, Special Allocation Fund and GRDP based on constant prices. Regression analysis measured the effect of independent variables on the dependent variable. Regression coefficients described how much change in the value of independent variables contributed. The higher the regression coefficient, the greater the contribution of changes to the dependent variable would be.

The multiple regression model formulated in this study involved education spending, health expenditure, and infrastructure expenditure as the independent variables and the poverty level as the dependent variable. The use of OLS regression analysis considered the mitigation of endogenous variables and exogenous variables. Based on the variables used, the equation model is:

$$LPDRBK_{it} = \alpha_0 + \tau_1 LTP_{it} + \tau_2 LDAK_{it} + \tau_3 LNTP_{it} + \tau_4 LIHK_{it} + \varepsilon$$

From the demand side, $LPDRBK_{it}$ is a dependent variable in the form of regional gross domestic product using constant prices for each province, LTP_{it} is a Assignment task in the year concerned, $LDAK_{mit}$ is a special allocation fund in the year concerned, $LNTP_{it}$ is a farmer exchange rate concerned, $LIHK_t$ is the provincial consumption price index.

This test was run to determine whether the model belonged to the fixed effect category or random effect model in terms of processing panel data. Fixed effect model indicates that the unit cross-section does not correlate with other regressors; whereas random effect models show the unit cross section correlates with other regressors.

The basis for rejecting the H0 hypothesis was by looking at the chi square statistics. If the chi square statistic was greater than the table value, the hypothesis H0 was rejected. The basis for testing H0 was using p-value from the Hausman test results. If the p-value was smaller than the critical value, the hypothesis H0 was rejected. This concluded in the fixed effect model being selected for the test.

A good regression model can be seen from the number R^2, which is in the range of 0 and 1. If the value of the coefficient of determination is 0, the independent variable cannot at all explain the dependent variation. Conversely, if the value of the determination coefficient is 1, the independent variable can explain the overall dependent variation. A good regression model can be seen from the regression coefficient close to 1.

4. Result

This study processed aggregate data throughout the provinces in Indonesia. The determination of the sample was done using full sampling method or according to the number of population. The final selection of research samples consisted of 34 provinces, which included all districts/ cities in Indonesia. The research data was sourced from regional financial data and regional non-financial data over a two-year period from 2015 to 2016. The number of observations in this study was 62 objects.

Descriptive statistical analysis was performed to present an overview of the data used in the study. Sample data that exceeded 30 objects allowed testing using the parametric method. The data in the study were transformed into natural logarithms format with the aim of reducing high standard errors and obtaining normally distributed data. The results of descriptive statistical tests are illustrated as follows:

Table 9.1 Testing Descriptive Statistics

Variable	Obs	Min	Max	Mean	SD
LPDRBK	68	30.64563	34.97015	32.53089	1.154766
LTP	68	23.48827	28.25394	26.65619	1.000842
LDAK	65	24.38898	2.69e+07	2.596.345	8717997
LNTP	64	52	106.53	99.87625	6.979707
LIHK	66	4741744	4.94e+07	4.37e+07	1.35e+07

Results of Statistical Processing

The Gross Regional Domestic Product variable based on constant prices has the lowest value of 30.64 and the highest value of 34.97 with an average value of 32.53 and a standard deviation rate of 1.15. When compared to the standard deviation value, the standard deviation has a smaller value than the average value. This means the mean value precisely represented of the entire data.

The farmer exchange rate shopping variable has an average value of 99.88 with the lowest value of 52 and the highest value of 106.53. This variable has a standard deviation value of 86.98. If these two values are compared, the standard deviation level is below the average value. In other words, the average value is a good representation of the overall data.

Assignment variables have an average value of 26.66 with the lowest value of 23.49 and the highest value of 28.25. This variable has a standard deviation value of 1.00. If these two values are compared, the standard deviation level is smaller than the average value. In other words, the average value is not a good representation of the entire data.

The special allocation fund variable has an average value of 21,433,694 with the lowest value of 2,438,898 and the highest value of 26,855,152. This variable has a standard deviation value of 8,171,997. If these two values are compared, the standard deviation level is below the average value. In other words, the average value is a good representation of the overall data.

The normality testing was carried out using the Shapiro Wilk Test through testing residual values in a regression model to detect normality or non-distribution. The basis for decision making to determine the distribution of normal populations is:

a. If the prob value> z is greater than 0.05 then Ho is accepted or the data is normally distributed;
b. If the prob value> z is smaller than 0.05, then Ho is rejected or the data is not normally distributed.

The Shapiro Wilk Test test results produced the following calculations:

Table 9.2
Shapiro Wilk Test

Variable	Obs	W	V	z	Prob>z
e	62	0.98192	1.009	0.019	0.49248

Results of Statistical Processing

Based on the results table above, it can be seen that the Prob> z value is 0.493 or greater than 0.05. Thus Ho is accepted or population data in this study are normally distributed. The scatter plot testing shows that the data distribution is around the diagonal line area and follows the direction of the diagonal line.

Testing for heterocedasticity using the Pagan Breusch Test was to detect linear heterocedasticity. The formulation of heterocedasticity testing hypothesis is as follows:

Ho: There is no heterocedasticity;

Ha: There is heterocedasticity.

The basic decision making for heterocedasticity tests is:

a. If Prob> Chi2 is smaller than 0.05, then Ho is rejected or there is heterocedasticity;

b. If Prob> Chi2 is greater than 0.05, then Ho is accepted or there is no problem of heterocedasticity.

The results of the Breusch Pagan Test calculation provided the following statistical values:

Table 9.3
Breusch Pagan Testing

	Values	Conclusion
Chi2(1)	0.00	no heteroscedasticity
Prob > chi2	0.9940	

Results of Statistical Processing

Based on the Breusch Pagan Test, the Prob> chi2 value is greater than 0.05. Thus Ho is accepted so that it can be concluded that there are no heterocedasticity problems at residual values. Thus the research data is in line with homocedasticity basics, which meets the classical requirements of the regression model.

An indication of the problem with collinearity can be detected in the Variance Inflation Factor (VIF) value, which is the reciprocal of the tolerance value. Multicollinearity testing in this study used VIF. The limit value used to determine VIF is 10 (Hair, 1998). Statistical testing produced the following value of multicollinearity calculations:

Table 9.4
Multicollinearity Test Results

Variabel	VIF	Conclusion
ltp	1.12	No Multicollinearity
ldak	1.01	No Multicollinearity
ntp	1.03	No Multicollinearity
lihk	1.12	No Multicollinearity

Statistical Processing

Based on the results of multicollinearity calculations as the table above, the basis for decision making on VIF values for Assignment variable funds is 1.12 <10; the special allocation fund variable is 1.01 <10; variable farmer exchange rate is 1.03 <10; and the CPI variable is 1.12 <10. Overall, all independent variables in the regression model have a value of VIF <10. Thus, the Ho was accepted. Another thing to note is that the model did not find multicollinearity between independent variables. The results of this test show that the overall regression model avoids the problem of multicollinearity and agree with the classical assumptions.

The hypothesis in this study examined the effect of Assignment funds, farmer exchange rates and special allocation funds as independent variables on the dependent variable, which is the gross regional domestic product. Hypothesis testing was performed through OLS regression analysis to obtain a comprehensive picture of the causal relationship between the two variables. OLS regression analysis was performed to estimate the method of moments as this method is widely used and is the most fundamental instrument in economic modeling.

The t-test was done to detect whether the individual independent variable have a significant influence on the dependent variable. T-test was used from the first to fifth hypothesis testing in this study. The OLS partial regression test produced the following calculation number:

Table 9.5
Partial Test Results

lpdrbk	coef	t	P>[t]	Conclusion
ntp	.0015918	0.09	0.932	Ho accepted
ltp	.04674915	2.92	0.005	Ho rejected
ldak	1.67e-08	1.03	0.307	Ho rejected
lihk	-6.08e-09	-0.62	0.538	Ho rejected
_cons	19.76047	3.92	0.000	

Results of Statistical Processing

The results of testing the funding assignment task variable on gross regional domestic products yielded the Prob> chi2 regression output as follows: (1) ltp = 0, F (1.57) = 8.55, Prob > F = 0.0049. The output indicates that by using a 95% confidence level, Prob > F = 0.0049 is smaller than 0.05. The results of this test prove that Ho is rejected or there is no significant effect in the causal relationship. Assignment of funding has a significant influence on gross regional donation products in Indonesia during the study period. Thus H1 is supported in this study.

The coefficient of elasticity of the Assignment funding variable is 0.09, which shows a positive value. This means that, *ceteris paribus*, an increase in Assignment funding has significantly increased the economic growth in Indonesia throughout the study period. This suggests that funding for Assignment needs to be increased with the close attention paid to the quality to encourage GDP growth in Indonesia. Funding for Assignment plans need to be solidified to accelerate the national priority programs.

In 2017, the Assignment of task funding was allocated more to the priorities of housing and public facilities with a percentage of 34.38%. While the second largest allocation of Assignment funding was in the economic sector at 29.39%. The use of Assignment funds, which were primarily directed at housing, public facilities, economy and health sectors, was hoped to encourage the growth in, *inter alia*, regional GDP. Funding for Assignment in physical forms allows more available access and infrastructure which prompts regional growth.

The results of testing the farmer exchange rate variable on gross regional domestic products produced the Prob> chi2 regression output as follows: (1) ntp = 0, F (1.57) = 0.01, Prob> F = 0.9316. The output indicates that by using a 95% confidence level, the Prob> F = 0.9316 is greater than 0.05. The test results rejected the Ho, which means there was a significant influence in the causal relationship of the research variable. At a 95% confidence level, farmer exchange rates did not have a significant effect on the gross regional domestic products in Indonesia during the study period. In other words, H2 is not supported in this study.

The elasticity coefficient value of the variable farmer variable value model is 0.002. The positive coefficient, *ceteris paribus*, shows that an increase in the farmer exchange rate was able to boost gross regional domestic product insignificantly in Indonesia during the study period. This research proves the importance of the government's attention to the level of farmer exchange rates in order to improve the standard of living and welfare of farmers in Indonesia. West Sulawesi Province has the highest NTP rate compared to other regions. Farmers' Exchange Rate for the period of January 2017 decreased to 100.91. Farmer

Exchange Rates as per February 2017 was at the level of 100.33 or decreased by 0.58 percent compared to the previous month.

The results of testing DAK funding variables for gross regional domestic products produced the Prob> chi2 regression output as follows: (1) not = 0, F $(1.57) = 1.06$, Prob> F = 0.3072. The output indicates that by using a 95% confidence level, the Prob> F = 0.3072 is greater than 0.05. The test results indicate that Ho is accepted or there is no significant influence in the causal relationship of the research variable. At a 95% confidence level, special grant funding does not have a significant effect on gross regional domestic products in Indonesia during the study period. In other words, H3 is not supported.

The DAK funding variable has a positive regression coefficient of 1.67. The results of this study indicate an increase in DAK funding did not significantly drive the growth of gross regional domestic product in Indonesia throughout the study period. Effective special grant absorption could have a positive impact on the development of regional infrastructure. This development could attract investment in the area.

There were 225 regions that fulfilled infrastructure spending and 302 regions that did not fulfill the compulsory health. In 2017, special grant was categorized into three types according to their direction and policy: which are Regular special grant, special grant Assignment, and special grant Affirmation. Regular special grant activities are decided by the central government but the regions have their choices, depending on the fact whether or not the region has fulfilled the Minimum Service Standards.

The model of the results of the estimated regional capital expenditure above can be formulated as follows: $LPDRBK = 19.7 + 0.05 \, LTP_{it} + 1.67 \, LDAK_{it} + 0.001 \, NTP_{it} - 6.08 \, LIHK_{it} + \varepsilon$.

5. Conclusion And Implication

The elasticity coefficient value of the farmer variable value model is 0.002. The positive coefficient, *ceteris paribus*, shows that an increase in the farmer exchange rate was able to slightly boost gross regional domestic product in Indonesia during the study period. This research suggests the government pay attention to the amount of farmer exchange rates in order to improve the standard of living and welfare of farmers in Indonesia. West Sulawesi Province has the highest NTP rate compared to other regions. Farmers' Exchange Rate for the period of January 2017 decreased to 100.91. Farmer Exchange Rates as per February 2017 was at level of 100.33 or decreased by 0.58 percent compared to the previous month.

The results of testing special grant funding variables for gross regional domestic products produce the Prob> chi2 regression output, specified as follows: (1) not = 0, F (1.57) = 1.06, Prob> F = 0.3072. The output indicates that by using a 95% confidence level, the Prob> F = 0.3072 is greater than 0.05. The test results accepted the Ho or there is no significant influence in the causal relationship of the research variable. At a 95% confidence level, special grant funding did not have a significant effect on gross regional domestic products in Indonesia during the study period. In other words, H3 is not supported in this study.

The DAK funding variable has a positive regression coefficient of 1.67. The results of this study indicate that an increase in DAK funding did not significantly drive the growth of gross regional domestic product in Indonesia throughout the study period. Effective special grant absorption can have a positive impact on the development of regional infrastructure, which in turn can attract investment in the area.

There were 225 regions that had fulfilled infrastructure spending and 302 regions that did not fulfilled compulsory health expenditure. In 2017, special grant was put into three categories according to their direction and policy. DAK categorization includes Regular special grant, special grant Assignment, and special grant Affirmation. Regular special grant activities were under the authority of the central government but regions also have their voices depending on the the needs of the region and the fulfillment of the Minimum Service Standards.

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APPLYING CLOUD ACCOUNTING IN INDONESIA

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Abstract

Cloud accounting is one technological breakthrough in the Industrial Revolution 4.0 and it is considered to bring many advantages to the business world and it can grow rapidly in every country. Research objective of this paper is to provide an overview of cloud accounting, its development, the advantages and disadvantages of utilizing this technology, the inhibiting factors for the development of this technology and the logical steps to be taken to adapt to the development of accounting information systems in Indonesia. This is a systematic literature review of a number of journals and textbooks. The findings indicate that cloud accounting provides substantial benefits for most companies and Indonesia needs to immediately make adjustments both in terms of human resources and regulations in response to this Industry Revolution 4.0.

Keywords: cloud accounting, accounting information system, business

1. Background

The world of bookkeeping is shifting towards online products (Dimitriu Otilia and Marian Matei, 2014). The impact of globalization, the rapid advances in science and technology, the rise of big data, the widespread of internet-based applications and standardization have created a proper context for the emergence of a new concept-cloud accounting. This has reshaped the traditional way of providing accounting tools, yielding cloud computing.

The positive impact of information technology is now forcing companies to rely on it and to believe that information technology is a key to the development of their business. We predict cloud computing will grow, so developers should take it seriously (Armbrust, 2010). However, not all companies can develop their information technology, especially the cloud-accounting system.

Business rapid growth often necessitates the use of storage and security media so this is an area that companies need to develop. The prices to develop a storage and security media are quite steep, especially for large-scale companies. Cloud computing is an alternative for companies to minimize the costs for storage and

security media. The accounting professionals must first obtain insights regarding these trends that will reshape the future of their organizations. Secondly, accountants should objectively evaluate the effects of these changes on the entire accounting system: standards, processes and staff. It is very likely that the impacts of change in the future include all accounting aspects, from the role of accounting employees to the standards of financial reporting and the reformation of future accounting.

The technologies that have made cloud computing possible include grid computing, server virtualization, and dynamic planning (Mihalache, 2011). On the managerial side, the experience gained in the management of large infrastructures and service-oriented architectures is also fundamental. Cloud computing integrates both sides and brings new features such as self-service, dynamic scaling (Vaquero, Rodero-Merino, Buyya, 2011) and pay per use (Youssef, 2012).

The following article is presented in a qualitative manner, discussing the implications of cloud computing in the accounting field. The study introduces the concept of 'cloud accounting' through different definitions and opinions especially those from the IT domains, from which the concept of cloud computing is originated. Through the literature study, we describe the benefits and possible risks emerged in the adoption of these services in the accounting area.

2. Literature Review

Cloud Accounting

Cloud computing is interconnected and virtualized computers that are unified as a parallel and distibuted system and this is developed based on a service-level agreement (Buyya, Yeo, and Venugopal, 2008). Cloud computing involves implementing several sets of servers that can be remotely controlled by an application network, which processes a data storage location or storage, which can be accessed simultaneously through several computers and terminals online (Yundiarto, 2015).The concept of "cloud accounting" was first put forward by Ping and Xuefeng (2011) discussing its application in medium-sized and small enterprises. They defined cloud accounting as the use of cloud computing on the internet to build a virtual accounting information system [Figure 10.1]. That is to say, cloud computing plus accounting equals cloud accounting.

Figure 10.1. Cloud Computing Process
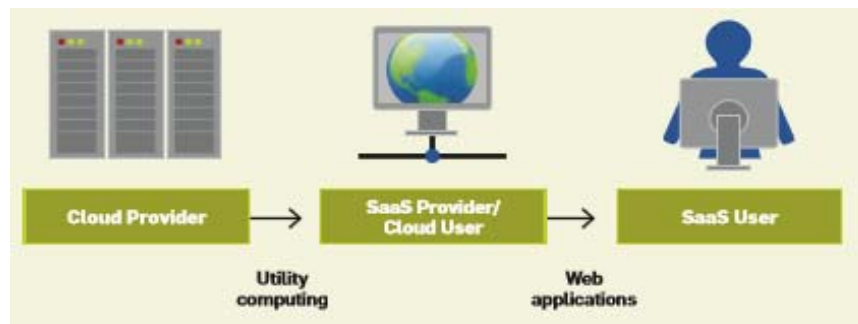
After the deployment of cloud computing in different types of businesses, at a certain point, it reached the accounting domain. A company's accounting should not be detached from the business, but it should rather be an integral component, with its essential role in the business's dynamics. In order to achieve this objective, the accounting model should be 'co-developed', thus adding value both to the financial aspects and to the business itself (Hatherly, 2013). A cloud-based accounting solution ensures the possibility to address numerous and complex demands and activities through an integrated online system, thus reducing the amount of labour. Among the activities carried out by cloud accounting services are (Mihalache, 2011):

1. Automatic generation of accounting notes for different transactions and operations,
2. Automatic review to ensure the correlation between financial and management accounting for the accounts involved,
3. Preparation of any required periodical statements or synthetic financial reports and dashboards,
4. The possibility to use alternative accounting plans for the preparation of accounting reports using different financial reporting standards (International Financial RS, US-GAAP),
5. The possibility to calculate various financial rates and formulas and generate accounting reports and documents whenever they are necessary.

A type of business that can benefit substantially from cloud computing is those achieving sales through agents or through stores spread across a territory. For such cases, applications in cloud allow online communication between two points, data gathering and centralization regarding stocks, sales, and cash in real time.

Managers may see the whole database at any moment, from any place, and thus may have a better control over the activity of the company (Weinhardt et al., 2009). Practically, the cloud can facilitate access to an Enterprise Resource Planning for the company, with high performances, based on a monthly rate.

However, there are also several disadvantages that may arise for the users, which mainly relates to data security and issues regarding the property and the continuity of the services (Du & Cong, 2010). Data security is a potential problem because data are transmitted, processed and stored in a third-party location, which is not known by the data owner. Users fear that that their data could be intercepted by ill-intended parties who have access to the data centres. This is a question yet to be answered and needs empirical evidence. Thus far, countries with advanced cloud computing try to protect their users by implementing specific standards (Khan et al., 2013; Ristov et al., 2012). In such standards, providers need to advance their compatibility. Under any circumstances, cloud computing architecture is essential (Yoo, 2011) in influencing the access to the network and the interconnectivity of data centres.

The issue regarding property rights equally influence data, infrastructure and applications. In the traditional approach, both hardware and software are in-house, while in cloud computing the approach is different. For example, although the data being introduced, processed, and stored belong to a user, the user does not have an complete control over the data, as they are stored in a data centre, whose location is unknown. Conversely, although the system and the applications belong to the cloud provider, users could also come up with claims relating to the property rights when adaptating the system specific for its business in order to customize the cloud services for its own clients. Looking at the continuity of the services, the risk may also arise from any interruptions on the provider's behalf. Whether it terminates its business or transfers it to another company, there will be a disruption period which may seriously affect the activity of users. Interruptions may also appear if the internet connectivity is disrupted. Although this is usually short in duration this cannot be reproached to the provider.

Benefits of cloud accounting

Accounting software is taken into a whole new dimension through cloud computing. Doing accounting in the cloud generally implies that everyone in the client company can access the same financial data, at the same time, from different locations, with a certain set of applications that are provided through an Internet connection (Salmon, 2012). The advantages assured through the use of cloud accounting cover the following areas:

1. Reduced costs, mostly because there is no need for upfront capital expenditure for in-house IT equipment or software licenses. Also, there is no need for expensive IT staff to install or upgrade applications or maintain servers. Software applications and storage space can be rented and the service is paid monthly. By 'paying as you go', the company can optimize costs by turning fixed costs into variable costs. Such an advantage is particularly helpful for small businesses, that usually operate on a tight budget and cannot afford to purchase and to install software and hardware systems that might not answer the business's needs properly.

2. Geographically unlimited access through remote network access – through a Web connection, users worldwide can access and update their financial information from any location, at any time without having to install any other software on their device. In fact, this is the reason why cloud computing could be considered a form of 'ubiquitous computing'.

3. Increased performance through enhanced business agility and flexibility as a high-speed Internet connection and the use of mobile technology enable fast data transfer and real-time interaction. Consequently, it allows organizations to react to continuously changing business conditions.

4. Unlimited data storage, processing capacity and automatic backup for the customer's data. It also allows client companies to effortlessly add or remove capacity, depending on its needs and without other expenses.

5. There are no upgrade fees because the service is continuous and the client is always using the latest version of the software and having access to the most up to date features.

In addition to the benefits above-mentioned, cloud computing is also user-friendly, thus making accounting language and features, easy to understand and use. It also helps accountants to generate real-time financial reports while allowing them to concentrate on analyzing data and ensuring insights on financial aspects (Tulsian, 2012). In short, it enables companies to share their financial information with their clients in real-time, accordingly creating improved communication and collaboration (Murphy, 2011).

Possible issues regarding cloud accounting

Like any other application, cloud accounting might have to face different challenges unique to each end-user. When referring to potential flaws that could appear, the most common concern usually relates to security and protection of the client's financial data from unauthorized access, information theft or computer

hacking (Bechtel, 2013). There are certain aspects that should be considered when addressing security issues:

1. Generally, the security level of the service is scaled depending on the customer's demands. Besides, the external Content Security Policy [CSP] could actually ensure the necessary expertise to provide an even higher level of security than the one that would normally be purchased by the client company for their internal PC and therefore making the system more reliable and secure.

2. The requirements of ISO 27011 must be met because it is the International Standard for Data Security. CSP must follow particular security standards if they want to prove they are trustworthy. This way, their business will expand and they will avoid the risk of a potential bad reputation.

3. Broadly speaking, CSPs perform automatic back-ups for the customer's financial data, an aspect that might sometimes be neglected by a company when having this responsibility on-site.

Many companies are concerned about the privacy of their sensitive data that might seem vulnerable when entrusted to a third party. Of course, there is also a risk that the CSP would access or monitor financial information of clients. The loss of control over data is another problem for companies that become dependent on the cloud provider, especially if the service quality and availability are not fully guaranteed by a contract. A interruption in the Internet connection can also affect customers, often forcing them to suspend their activity. However, such risks are not impossible to prevent (Molnar & Schechter, 2010) and might actually encourage cloud providers to improve the quality and the features of their services.

3. Methodology

This research is a systematic literature review from 21 selected journals, books and websites discussing cloud accounting and its development in Indonesia. This review is expected to provide insights for readers in general and business people in particular in relation to the utilization of cloud accounting in business activities undertaking, improvement of the quality of human resources and regulation in response to this Industry Revolution 4.0.

4. Results And Discussion

Forced by the pressure of present-day business competition and the current global economic context, companies are actively involved in finding new efficient means to improve the efficiency and profitability of their business (Christauskas

& Miseviciene, 2012). One of the main challenges for managements in this modern era is to determine the strategy to obtain data in managing the overall business resources, production cost, quality and time-efficiency as well as looking after the interests of their numerous stakeholders in the most effective and efficient manner (Al-Khadash & Feridun, 2006). The increasing complexity of the business environment, with the fierce competition at a global level, and the reduction of the business cycles are preconditions that would challenge the accounting profession. In addition to this, the continuous need for global accounting standards and practices is also influencing the future of accounting. This has necessitated management to adjust their organizational strategy to keep up with the global changes in science, technology and business, with the impact on key performance indicators of their businesses (Christauskas & Miseviciene, 2012).

Based on the PwC IT Outsourcing and Cloud Computing surveys, with CIOs and other senior executives in 489 global companies, results show that 77% planned to switch to cloud computing, with some had already implemented and some were still in the development stage. In Indonesia, cloud technology has received attention from governments and multinational companies. Although many express interests to switch, the implementation is relatively slow. Regarding the development of technology, companies, and therefore the accounting departments, are generally influenced by the digitisation of business, the immense potential created by the Internet, the implications of big data and the growing importance assigned to data mining. Amid this trend, cloud computing made its way and created new business models.

The impact of cloud computing is undisputable and will provide the basis for the metamorphosis of the economic field in the near future. The main concern in the slow implementation of cloud computing in Indonesia is security issues, the complexity of the subscription and migration mechanism, which includes financial planning, human resource management and ERP (enterprise resource planning). In addition to security, there are also other considerations such as Security Policies, namely Government Policies and Industry Policies (Yundiarto , 2015).

The difference between accounting performed through cloud computing and the traditional accounting programs can be seen in the dimension of the supported application. Christauskas and Miseviciene (2012) opine that cloud platforms are able to support multiple users at a large scale, known as the Internet scale, while traditional platforms are limited to a relatively small number of users, depending on the size of the organization.

Start-up companies, as well as the SMEs that have not been able to afford their own infrastructure, are most favoured by the existence of cloud computing services

and can easily decide on what to ask for (Gupta, Seetharaman & Raj, 2013). Cloud computing also allows companies to run supporting applications that can improve the businesses, such as sales and purchase inventory, launch and track routines for the production area, human resources applications, or communication and media solutions (Ruiz-Agundez et al., 2012).

This attitude is shared by international organizations for standardization, be they involved in delivering standards in IT (such as Cloud Security Alliance, European Network and Information Security Agency, Cloud Standards Customer Council, The European Telecommunications Standards Institute, Distributed Management Task Force, Open Cloud Consortium), or dealing with auditing. It appears that, regarding the audit; accountants would prefer a model based on assurance (instead of one relying on regulations) and a more important role in the market for the accounting profession (Du & Cong, 2010).

Before cloud computing could be effectively implemented in a developing economy, stable Internet access should be in place. Also, stakeholders should be adequately educated about the use of cloud computing packages, which have been proved effective for business operations. These criteria, however, should be supported by effective standards that not only protect stakeholders from exploitation but also guarantee the quality of these cloud computing packages (Onyali, et.al., 2016)

6. Implications

The main issue with the standards is that their development takes too long and is unable to keep up with the rapid evolution of cloud computing services. Therefore, professionals who provide services for the companies that rely on information technologies are continuously challenged. Moreover, it is still in question if the accountability standards still respond to the present-day requirements as accounting standards thus far are only developed based on the traditional manually operated processes (Vasarhelyi, 2012).

Students in accounting must be trained to be prepared to cope with new challenges in the accounting profession, apart from those linked to the frequent changes in the accounting and tax regulations. This facet could be improved if the disciplines in the field of informatics receive more attention, and mobile devices are effectively used as an educational tool, in regular learning activities. A cloud accounting provider can actually eliminate the need to hire an accountant or bookkeeper (Zhang & Wenlin Gu, 2013). By being able to falicitate students' perceptions, as well as instructors' and decision-makers' can improve and enhance students' learning experience (Al-Khadash Husam Aldeen, 2010).

7. Conclusion

Cloud accounting allows accountants to work with and for their clients at any time and from any place, which is essential in the current framework of globalization, but it seems that the trends in Information and Communication Technologies and the rapid chages in this field have a deeper implication on accounting than it may look on the surface.

The post-factual character of the traditional accounting, which still holds today, will no longer be accepted when cloud solutions can provide managers and employees with information and reports in real time.

The most important consideration for enterprises is how to choose the suitable technologies to improve their adaptability to the market and enhance their competitive advantages (Zhang and Wenlin Gu, 2012).

Acknowledgments and Legal Responsibility

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MEASURING INFORMATION SYSTEMS SUCCESS AND ACCEPTANCE AT KEMENKEU LEARNING CENTER (KLC) IN THE MINISTRY OF FINANCE OF INDONESIA

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Abstract

Studies to develop a model for evaluating the success and acceptance of e-learning information systems in government training institutions have intergrated three evaluation models: the UTAUT acceptance model, De Lone and McLean Success Model of Information System, and the HOT Fit conformity model. These studies analyzed the factors that influenced the success and acceptance of the Ministry of Finance Learning Center (KLC) information system developed by the IRB using the integrated evaluation model. Research has shown that 1) human and organizational factors were positively correlated with the intention to use the system; whereas technological factors were not significantly related to the intention to use the system; 2) technological factors and the intention to use the system was positively and significantly related to user satisfaction; 3) intention to use the system and system user satisfaction was positively and significantly related to net benefits; and 4) there was a relationship of compatibility between human, technological and organizational factors with each other.

Keywords: information systems, integrated evaluation models

1. **Background/Objectives and Goals**

1.1 Background/Objectives

The number one benefit of information technology is that it allows people to be more productive, creative and learn new things. In a sense, it is all about optimizing potential (Ballmer, 2005). Progress in information technology has changed and affected many how business, government and the general public interact with one another (Lawlor, 2007). In the private sector and business, almost all companies have used information technology to accelerate productivity, expand market share, and increase effectiveness and efficiency in business processes. From the government side, the development of information technology needs to be utilized as a new way to administer public service, by using e-government system. Presidential Instruction No. 3 of 2003 is one of the first initiatives in implementing national policies and strategies to develop it. The use of e-government will improve good public services, and increase transparency and accountability to achieve good governance goals.

E-learning is an emerging innovation in education and training in the form of learning information systems through electronic/ online media. According to Brown and Feasey as cited in Siahaan (2002), e-learning is characterized by the use of networks (internet, LAN, WAN) as a method of delivery, interaction, and facilities supported by various other forms of learning services. The main advantage of e-learning that can attract a lot of users in Southeast Asia is its ability to accommodate visual learning styles (Park, 2000), Thus, e-learning is not only run in educational institutions in Indonesia, but also in various government agencies. The purpose of implementing e-learning in government agencies is to make it easier for employees to obtain knowledge. The Financial Education and Training Agency (BPPK), which is an echelon I of the Ministry of Finance is responsible for the administration of education and training for Ministry of Finance employees, has also begun to use e-learning. In addition to conventional learning activities such as training (both special and general), seminars, and focus group discussions, there is also a delivery of learning material online through online learning media which is currently being developed by BPPK in a project called Kemenkeu Learning Center (KLC).

The development of KLC is an important breakthrough to support the development of human resources in state finance, especially in supporting the FETA BPP program, which plays a key role in the institution. The institutional arrangements and business processes of BPPK itself are carried out to formulate a fit-for-purpose organization design that will be achieved through the design of a "corporate university". In KEP-1162 / PP / 2015, regarding the BPPK Strategic

Plan for 2015-2019, corporate university became a strategic direction of FETA policies as explained in point number 9, stating that the development of knowledge management for education and training needs to be directed to become a major part in development of the Ministry of Finance's knowledge management system. This strategy is about the most important elements in establishing a corporate university, which consists of knowledge management and learning organizations.

The implementation of an information system in an organization certainly needs to be evaluated. The evaluation aims to determine whether or not the system is in accordance with the goals set by the organization and fully supports the performance of the organization. In the case of BPPK, the goals are the achievement of the vision and mission, which could be further broken down into the implementation of a strategic plan and the projected success of corporate university. Evaluation of an information system is also needed to find out the main factors that influence the success and acceptance of the application of information systems as revealed by Yusof et.al (2008), Shaw (2002), Despont-Gros et.al (2005), and Schaper and Pervan (2007) in Mohamadali and Garibaldi (2010).

There are many models that can be used in evaluating information systems, some of which are the success models of DeLone and McLean Information Systems, the Unified Theory of Acceptance and Usage of Technology (UTAUT) models, and the Human-Organization-Technology Fit conformity model (HOT-Fit). Because government organizations are different from higher education institutions, they need an evaluation model that is tailored to the characteristics of government institutions (Pamugar et al., 2014). The evaluation model in this study is an integration model consisting of a combination of UTAUT, DeLone and McLean, and HOT-Fit models.

1.2 Goals

The goals of this research is to test: 1) the impact of human factor, technology and organization as part of system preference use; 2) the impact of technological factor to user satisfaction; 3) the impact of system using preference to user satisfaction; 4) the impact of the use of the system to net benefit; 5)

The main objectives of this research are to: 1) examine the influence of human, technological, and organizational factors on the intention to use the system; 2) test the effect of intention to use the system on user satisfaction; 3) examine the effect of intention to use the system on net benefits; 4) examine the effect of user satisfaction on net benefits; 6) test the suitability between human, technological and organizational factors.

2. Methods

2.1 Population, Samples and Research Data Collection Techniques

The population of this study was the application users, who participated in training during the period of the study, in the Ministry of Finance Learning Center (KLC) in the Ministry of Finance. They came from three training centers, namely the Public Finance, Tax, and the Budget and Treasury. The distribution of these participants can be considered as representing the user units in the IRB because they come various agencies within the Ministry of Finance. The total population was 1020 people. According to Isaac and Michael as cited in Sugiyono (2016), for a population of 1020 people with an error rate of 5%, a sample of 255 people is needed. The sampling was taken by using purposive sampling technique. This technique bases the selection of samples on certain characteristics that are relevant to the predetermined characteristics of the population. The process of selecting samples was based on groups, regions or groups of individuals through certain considerations that were believed to represent all the existing analysis units.

The types of data to be used in this study are:

a) Primary data, which was obtained directly from the samples through direct observations of the work steps and operation of the KLC information system, and through user survey by using questionnaire with a Likert scale.

b) Secondary data was the regulations issued by the head of FETA, journals, books, and other relevant literature.

2.2. Variables and Operational Definitions of Research Variables

In this study, the research variables were divided into latent/ construct variables and manifest/ observed variables as follows:

a. *Latent variable/construct*

The independent latent variables were Human Factor (HF), Technology Factor (TF), and Organization Factor (OF), while the dependent variable is Behavioral Intention (BI), User Satisfaction (US) and Net Benefit (NB). BI and US were also the mediating variables because BI and US were dependent variables, which were independent variables for US and NB.

b. *Manifest/Observed variable*

There were nine manifest variables, namely PE (Performance Expectation), EE (Effort Expectation), PI (Partner Influence), IQ (Information Quality), SQ (Service Quality), SYQ (System Quality), FC (Facilitating Condition), TS (Top Management Support), and OS (Organization Support).

2.3. Hypothesis and Research Model

Based on the theoretical description of the integrated model, the research hypotheses were formulated as follows:

H1: Human factors, namely performance expectations, business expectations and the influence of coworkers have a positive and significant effect on the intention to use SI e-learning.

H2: Technology factors, namely information quality, service quality, and system quality have a positive and significant effect on the intention to use SI e-learning.

H3: Organizational factors, namely the condition of facilities, leadership support, and organizational support have a positive and significant effect on the intention to use e-learning SI.

H4: Technology factors, namely information quality, service quality, and system quality have a positive and significant effect on user satisfaction of SI e-learning.

H5: The intention to use SI e-learning has a positive and significant effect on user satisfaction of SI e-learning.

H6: The intention to use SI e-learning has a positive and significant effect on net benefits.

H7: SI e-learning user satisfaction has a positive and significant effect on net benefits.

H8: There is a relationship of compatibility between human and technological factors. H9: There is a relationship of compatibility between technological and organizational factors.

H10: There is a relationship of compatibility between human and organizational factors.

Based on the hypotheses that were formulated, we set the research model as follows:

Figure 11.1. Reseach Model
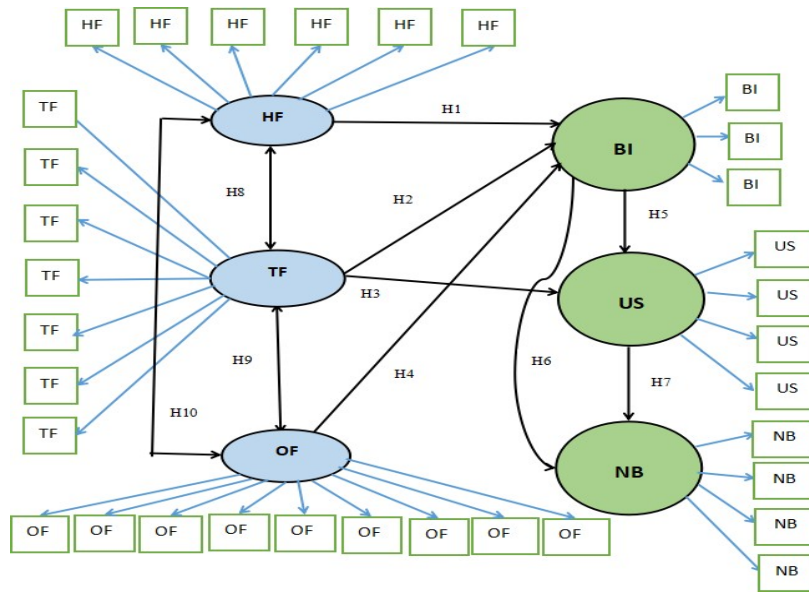
*Source***: processed from previous research**

2.2 Research Phase on Structural Equation Model

According to Ghozali and Fuad (2014), there are seven stages in analyzing CB-SEM: model conceptualization, compilation of flowcharts, model specifications, model identification, model estimation, model evaluation, and model specification. In this study, the conceptualization stage of the model, preparation of the diagram, and model specifications were left out because they were based on previous research journals.

a. *Model identification*

At this stage the information obtained from the data was tested to determine whether it was enough to estimate the parameters in the model. This stage was aimed to find out whether the model built with the collected empirical data had unique values or not. If the model did not have a unique value, the model could not be identified. The reason was that empirical data was not enough to produce a unique solution in calculating the estimated model parameters.

b. *Estimated model*

This study used the estimation of the Maximum Likeness (ML) model with the expectation that ML could produce the best parameter estimation if the data met the multivariate normality assumption.

The weakness of ML was that if the data was more than 400, the test results would be very sensitive.

c. *Model Evaluation*

This stage aimed to evaluate the overall model, whether the model had a good fit or not, relative to the model. At this stage three tests were carried out: the overall fit model, measurement fit model, and structural model.

3. Results

3.1 Descriptive Analysis of Respondents

The distribution of the questionnaire was online, conducted from 6-17 November 2017. This was done via email because the respondents came from outside of the city. The number of respondents who returned the questionnaire was 279 people, which was sufficient for the population, and all the results of these responses were used in this study. Before answering questions, respondents were required to give their basic information.

3.2 Test Results for Reliability and Convergent Validity

Table 11.1.
Test Result for Reliability and Convergent Validity

Variable	SLF			Cr >	Ave >	Description
HF	4.33	3.15	18.74	0.92	0.53	Reliable
TF	6.74	4.57	45.43	0. 93	**0.46**	Reliable
OF	6.58	4.88	43.29	0.95	0.54	Reliable
BI	2.74	2.51	7.51	0.97	0.83	Reliable
US	3.27	2.70	10.69	0.94	0.67	Reliable
NB	3.60	3.24	12.96	0.97	0.81	Reliable

Table 11.1 shows that all variables met the reliability test requirements (CR). However, to test convergent validity in the form of AVE values, Technology Factor (TF) that did not meet the requirements because it had a value below the provisions of 0.46 <0.50. In Lisrel, if one of the variables does not meet the required AVE value so that the model is not fit. There are two solutions to this as proposed by Ghozali and Fuad (2014). The first is that, researchers modify indices, either through adding paths or connecting two error indicators. The second alternative is to issue an indicator that has a standardized loading value of less than 0.50 or with the smallest value. In this case, the researcher chose to take the second alternative. Modification indices were avoided by the authors because every improvement through modification indices must be supported by a theory. In other words, it may not make repairs to get a model fit and a good loading factor without theoretical support. Next, the researchers made improvements to the model by removing some of the indicators/ statements contained in the extract. Indicators/ statements that omitted were indicators that have the smallest number of loading factors among other indicators in one construct, in this case FC2, SYQ1, SYQ2, and SYQ4 indicators.

3.3 Overall Test Fit Model (Refinement)

Table 11.2 Overall Test Fit Model Result from Model Refinement

Criteria	Cut off	Value	Desc.
Absolute			
Chi square	P > 0.05	0.00	Poor fit
GFI	> 0.90	0.77	Marginal fit
RMSEA	< 0.08	0.057	Good fit
RMR	< 0.05	0.044	Good fit
Incremental			
TLI atau NNFI	> 0.90	0.99	Good fit
NFI	> 0.90	0.97	Good fit
AGFI	> 0.90	0.73	Marginal fit
IFI	> 0.90	0.99	Good fit
CFI	> 0.90	0.99	Good fit
Parsimoni			
PGFI	0.6 - 0.90	0.66	Good fit
PNFI	0.6 - 0.90	0.89	Good fit
ECVI	saturated and independence		Marginal fit
CAIC	saturated and independence		Good fit
AIC	saturated and independence		Marginal fit

To decide whether or not to eliminate some indicators/ statements in the variable Technology Factor (TF), the researchers then re-tested the model. Based on the results of the test, the model was improved, this was indicated by the appearance of the path diagram. After the model could be identified, the researchers carried out an overall model fit test by referring to the values of statistical goodness of fit. The overall model fit test results were summarized in Table 11.2. It could be concluded that the model had met the overall model fit test because each criterion of absolute, incremental, and parsimony matched with the predicate of good fit.

3.4 Measurement Fit Model Test Result (Refinement)

The next step after the improvement model was fit, we ran a test to measure reliability and validity (through Construct Reliability and Average Variance Extracted) as had been done in the previous full model. The test results can be seen in Table 11.3. All variables met convergent validity and reliability (CR values> 0.70 and AVE> 0.50). This shows that there was convergence between indicators to explain the existing construct. Based on the results of measurement reliability, the required reliability values were obtained. Thus, this research is reliable and reveals actual information in the field.

Table 11.3 Measurement Fit Model Test from Model Refinement

Variable	Standard Loading (SLF)			CR > 0,7	AVE > 0,5	Desc.
HF	4.33	3.15	18.75	0.92	0.53	Reliable and Convergent
TF	4.98	3.56	24.80	0.92	0.51	Reliable and Convergent
OF	6.01	4.56	36.12	0.95	0.57	Reliable and Convergent
BI	2.74	2.52	7.51	0.97	0.84	Reliable and Convergent
US	3.25	2.68	10.56	0.93	0.67	Reliable and Convergent
NB	3.60	3.24	12.96	0.97	0.81	Reliable and Convergent

The next step was to test discriminant validity by comparing AVE with the square of correlation. A construct is called discriminant validity if the AVE value is greater than the square of the correlation between constructs. And the result as follows:

Table 11.4
Test Results for Discriminant Validity

	BI	**US**	**NB**
BI	0.84		
US	0.43	0.67	
NB	0.45	0.59	0.81

Testing for discriminant validity can be seen in Table 11.4 Diagonal values are AVE values. The values in Table 11.4 show all AVEs are greater than the square of correlation. This indicated that the relationship between constructs was weak. In other words, the three constructs could indeed be distinguished from one another (discriminant).

3.5 Test Result for the Structural Model

In Figure 11.2, it can be seen that there is a relationship that has a t-value between -1.96 d. 1.96, namely the t-value of Technology Factor (TF) to Behavioral Intention (BI) of 0.07. This means that the influence from TF to BI is not significant. Whereas the relationship between other variables has a t-value of more than 1.96 which means that there is a significant influence between these variables (HF to BI, OF to BI, TF to US, BI to US, US to NB, BI to NB).
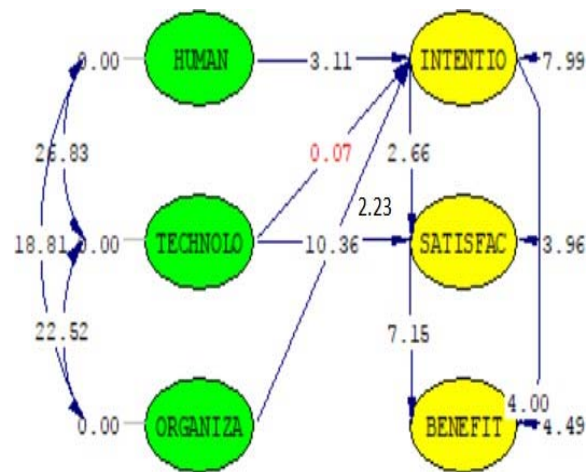
Figure. 11.2 Structural Model T-Value

Figure 11.3 shows the gamma values between variables. When viewed from the output, there is no negative gamma value. Gama between HF-BI 0.47; TF-BI 0.02; TF-US 0.77; OF-BI 0.27. This can be interpreted that the effect of each variable on the other variables is positive. From the standardized/ gamma value, we can also know that from the three independent variables, HF has the biggest influence on BI, TF has the biggest influence on US, and US has the biggest influence on NB. The arrows in Figure 3 are only one direction. There are no arrows that are reciprocal or reciprocal between BI, US, and NB. This shows that the relationship that occurs is a one-way relationship to the causality of the recursive model. As for the two-way relationship on the left, it shows the correlation between the independent variables. So, from figure IV.7, it seems that the correlation between HF and TF is 0.85, the correlation between HF and OF is 0.75, and the correlation value between TF and OF is 0.81. Overall, the correlation between HF and TF is the largest (0.85) compared to the correlation between other independent variables.

Figure 11.3 Standardized Model
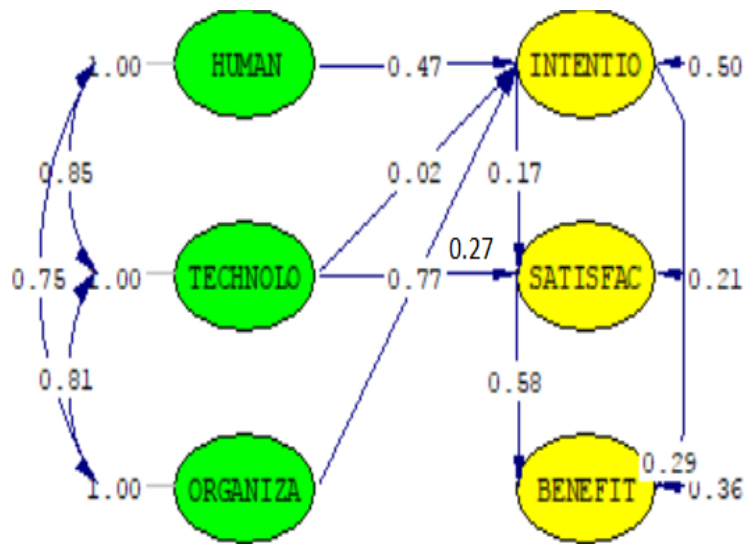
Figure 11.4 displays the structural equations in the research model. The value of R2 of the resulting equation is as follows:

1) The value of R2 in equation (1) is 0.50 or 50 percent. This explains that the three exogenous variables in the study, namely Human Factors, Technology Factors, and Organizational Factors, contributed 50 percent to the formation of Behavioral Intention, while the remaining 50 percent were influenced by other external variables.

2) The value of R2 in equation (2) is 0.79 or 79 percent. This explains that Behavioral Intention and Technology Factor contribute 79 percent in forming User Satisfaction, while the remaining 21 percent is influenced by other external variables. A positive relationship between behavioral intention and user satisfaction shows that the more often users use information systems, the more the satisfaction increases. The user satisfaction of the information system increase by 0.64 or 64 percent.

Figure 11.4 Structural Equation

INTENTIO = 0.47*HUMAN + 0.016*TECHNOLO + 0.27*ORGANIZA, Errorvar.= 0.50 , R^2 = 0.50

| (0.15) | (0.22) | (0.12) | (0.063) | (1) |
| 3.11 | 0.070 | 2.23 | 7.99 | |

SATISFAC = 0.17*INTENTIO + 0.77*TECHNOLO, Errorvar.= 0.21 , R^2 = 0.79

| (0.066) | (0.074) | (0.052) | (2) |
| 2.66 | 10.36 | 3.96 | |

BENEFIT = 0.29*INTENTIO + 0.58*SATISFAC, Errorvar.= 0.36 , R^2 = 0.64

| (0.073) | (0.081) | (0.080) | (3) |
| 4.00 | 7.15 | 4.49 | |

Based on the results of the study, the conclusions are made as follows:

Figure 11.5
Hypothesis Testing Result

Code	Hypothesis	Decision
H1	Human factors, namely performance expectations, business expectations and the influence of coworkers have a positive and significant effect on the intention to use SI e-learning.	Accepted
H2	Technological factors, namely information quality, service quality, and system quality have a positive and significant effect on the intention to use SI e-learning.	Rejected
H3	Organizational factors, namely the condition of facilities, leadership support, and organizational support have a positive and significant effect on the intention to use SI e-learning.	Accepted
H4	Technological factors, namely information quality, service quality, and system quality have a positive and significant effect on user satisfaction of SI e-learning.	Accepted
H5	The intention of using SI e-learning has a positive and significant effect on user satisfaction of SI e-learning.	Accepted
H6	The intention of using SI e-learning has a positive and significant effect on net benefits.	Accepted
H7	SI e-learning user satisfaction has a positive and significant effect on net benefits.	Accepted
H8	There is a relationship between human and technological factors.	Accepted
H9	There is a relationship of compatibility between technological and organizational factors.	Accepted
H10	There is a relationship of compatibility between human and organizational factors.	Accepted

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THE EFFECT OF TRUST, PERCEIVED EASE OF USE, PERCEIVED ENJOYMENT AND RISK ON INTEREST IN USING E-COMMERCE BASED ACCOUNTING INFORMATION SYSTEMS

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Abstract

The present study measures the effect of trust, perceived ease of use, perceived enjoyment and risk on interest in the use of e-commerce-based accounting information systems. The respondents were students at the Faculty of Economics, Universitas Terbuka, from which 41 respondents were drawn. Non-probability sampling was used on the basis of the purposive personal judgment of the researcher. Primary data was collected from questionnaires completed by the respondents.The questionnaires fitted into correlation analysis and multiple regression analysis that ran descriptive statistics, a reliability test, and a validity test. The analysis proceeded with the classical assumption test, which included a multicollinearity test prior to a hypothesis test and discussion. The T-test for partial correlation in the regression model demonstrated a positive and significant effect between the variable perceived ease of use and interest in using e-commerce-based accounting information systems. The rest of the variables, i.e., trust, perceived comfort and risk, did not exert a significant effect on interest in using e-commerce technology.

Keywords: trust, perceived ease of use, perceived enjoyment, risk and e-commerce

1.   Background, Objectives and Goals

Information technology has grown hand in hand with the milestones of human civilization. The development of information technology that embodies ever-growing infrastructure such as hardware, software, storage and communication technology is exerting wide-ranging effects across various domains including health, education, the government, and business. In many ways the tools of information technology are specifically designed to facilitate and assist people in their work and to meet a range of information needs in the business landscape. It

is important to note, however, that new technologies evoke a range of reactions among consumers. Some can understand and readily embrace the new technologies while others cannot.

Information technology, often abbreviated as IT, fulfills information needs in a fast, timely, relevant and accurate manner (Wilkinson and Cerullo in Rahadi, 2007). Information technology, as Syam proposes in Widiatmoko (2004), makes up the fundamental need of each organization to run its daily operations.

An information system constitutes a set of formal procedures through which data is gathered and processed into information and distributed to users (Hall, 2009). In accounting, this type of information system is referred to as Accounting System Information (AIS). AIS collects, stores and processes all the data associated with accounting within an organization. AIS users may be internal or external to the organization (Bodnar and Hopwood, 2003). Internal users are managers who have information needs according to their functions within the organization. External users include shareholders, investors, creditors, the government, customers, suppliers and society in general. External users heavily depend on the various information outputs of AIS within the organization. AIS serves a great convenience to society when it comes to choosing a product from the organization's product range without costing too much time (Leung, 2005). External users who engage in e-commerce transactions can save travel time and therefore reduce expenses.

E-commerce, short for electronic commerce, is an enormous platform that is growing in today's society. E-commerce refers to an economic transaction that entails a contract between a seller and a buyer through electronic media regarding the price and the delivery method of goods or services. The buyer and the seller finalize the transaction through the payment and delivery method according to the contract (Guay, et.al in Shomad, 2012). The breadth and depth of the changes e-commerce has inflicted on the business landscape herald the shift to Industry 4.0. Internet connectivity has had a significant impact on the shift. Hence, the increasing number of Internet users for e-commerce sets up the potential revolution of global commerce in Indonesia.

The Technology Acceptance Model (TAM), a model formulated by Davis in 1989, displays how users come to accept and use a new technology within an organization and the factors associated with it. TAM proposes that when users are exposed to a new system, a number of factors influence their behavior about how and when to use the system. Most notably in terms of usefulness and ease of use. Other factors that may contribute to user interest in electronic transactions include

trust in a service provider, user experience in an online transaction and the risk associated with it.

Understanding the nature of trust is a key component when it comes to Internet or online shopping. Online trust serves as the foundation for the commercial relationship between an organization and a potential customer. Lack of trust interferes with the security and credibility of both parties (i.e., sellers and buyers), therefore impairing purchase decisions. D.J. Kim et al. (2007) in Saraswati and Zaki (2012) believe that trust has a positive effect on interest in using e-commerce systems. Though the lack of physical personal interaction makes it more challenging to establish trust in an online platform, trust is very vital to the growth and success of online transactions. Trust issues may be attributed to the risk both parties may endure.

The present study seeks to measure how trust, perceived ease of use, perceived enjoyment and risk affect interest in using e-commerce-based accounting information systems.

2. Methods

The respondents of the study included active students of the Faculty of Economics, Universitas Terbuka, 2017/2018. Purposive sampling was used to create a data sample for a specific purpose. The sampling criteria were: (1) samples drawn from undergraduate students of the Faculty of Economics, Universitas Terbuka, throughout Indonesia, and (2) samples had knowledge of and experience in e-commerce or online shopping.

Data collected in the present study constitutes primary data. Primary data was original data specifically tailored for the purpose of the study, which included respondents' answers to direct questionnaires and email regarding the effect of trust, perceived ease of use, perceived enjoyment and risk on interest in using e-commerce-based accounting information systems.

The data was tested using correlation and regression analysis with SPSS. The results were presented in descriptive statistics, proceeding with a data quality test, a classical assumption test and regression analysis prior to a hypothesis test. Following this, the results were extrapolated, whose findings are presented in the discussion.

3. Results

To gain the primary data, 50 questionnaires were distributed to the respondents who used accounting information systems to conduct e-commerce.

These questionnaires were distributed via e-mail to members of the sample at Universitas Terbuka throughout Indonesia.

The questionnaires achieved a 81% return rate or 41 exemplars out of 50 questionnaires. The respondents were classified by sex, age, type of e-commerce platform, and Internet access site.

Table 12.1. Respondent Profiles

Description	Total	Percentage (%)
Sex:		
a. Male	14	34 %
b. Female	27	66 %
Age:		
a. 17 to 26	31	76 %
b. 27 to 36	7	17 %
c. > 36	3	7 %
Type of e-commerce platform:		
a. tokopedia.com, lazada.co.id, bukalapak.com, zalora.com	22	54 %
b. Other	19	46 %
Internet access site:		
a. UPBJJ campus or office	10	24 %
b. Internet cafe	1	2 %
c. House or dormitory	30	73 %

Source: **Processed primary data, 2018**

There were more females than males, with 27 (66%) and 14 (34%) respondents respectively. Age wise the majority of respondents were between 17 and 26 years of age (76% or 31 respondents). Seven respondents (17%) were between 27 and 36 years of age, and the remaining three (7%) were older than 36 years.

In terms of e-commerce platforms, 22 respondents (54%) visited online shops such as tokopedia.com, lazada.co.id, bukalapak.com, and zalora.com. The remaining 19 respondents (46%) used other sites or platforms for e-commerce.

When it came to Internet access, the bulk of the respondents (73% or 30 respondents) accessed the Internet from their place of residence, such as house or dormitory, while 10 respondents (24%) used the UPBJJ campus or office and one respondent (2%) used an Internet café.

The Results of Data Analysis

Data quality was first tested using a validity test and a reliability test.

Reliability measures the consistency of a study instrument. The acceptable Cronbach's Alpha is above 0,60, indicating a reliable study instrument (Ghozali, 2005).

Table 12.2.
**The Results of the Reliability Test**

No	Variable	Cronbach's Alpha	Description
1	Trust	0,745	Reliable
2	Ease of Use	0,829	Reliable
3	Risk	0,620	Reliable
4	Enjoyment	0,738	Reliable
5	User Interest	0,822	Reliable

Source: **Processed primary data, 2018**

The results of data processing demonstrated all reliable items in the variables, so much so that they fulfilled the particular purpose the present study was intended to serve.

In terms of a validity test, SPSS was run to detect the value of the Corrected Item Total Correlation. When $r_{cal} > r_{table}$, the questionnaire would be found to be invalid. The value of Corrected Item Total Correlation stood at 0,3044 (41 samples) for each item, which was greater than r_{table}, meaning the questionnaire turned out to be valid. Based on the results of data processing, all variables (i.e., trust, ease of use, risk, enjoyment and user interest) achieved data validity.

A normality test looks at whether both the free variable and the bound variable are normally distributed in a regression model. A good regression model entails a normal distribution or a near-normal distribution. By looking at a histogram, one can see if the data is spread around the diagonal line and follows the direction of the diagonal line in the normal probability plot, which indicates that the regression complies with the normal assumption.

Figure 12.1. Normal Probability Plot

Normal P-P Plot of Regression Standardized Residual

Dependent Variable: M
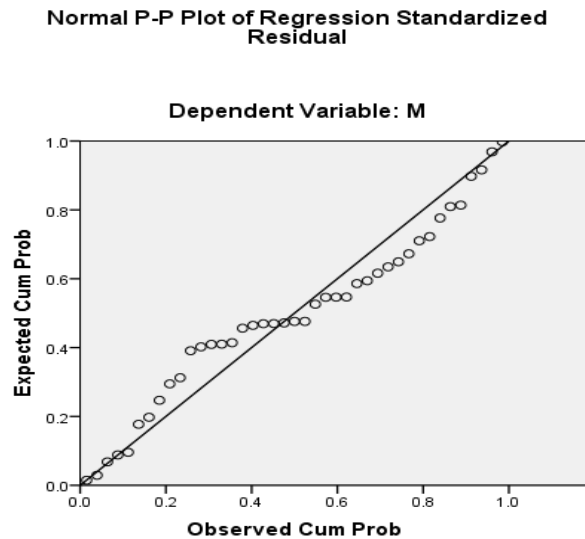
The balanced histogram graphic shows points on a normal probability plot spreading around the diagonal line and following the direction of the diagonal line. This illustrates a normal distribution pattern.

The cutoff value commonly used to identify multicollinearity is a tolerance value of no less than 0,10 and a VIF (Variance Inflation Factor) of 10 or less.

Table 12.3.
The Results of the Multicollinearity Test

Variable	Tolerance	VIF
Trust	0,436	2.294
Ease of Use	0,481	2.079
Risk	0,850	1,176
Enjoyment	0,481	2,081

Source: processed primary data, 2018

The tolerance values of the independent variables were all found to be above 0,10, thus indicating that no correlation between the independent variables stood above 95%. This suggests that severe multicollinearity was not present between

the variables in the regression model. As for the VIF calculation, all variables generated less than 10, which is acceptable.

Multiple Linear Regression Analysis

Multiple linear regression tests whether one dependent variable can be predicted or explained by the independent variables. The effect size of independent variables on a dependent variable can be simultaneously calculated through a multiple regression equation.

Table 12.4. The Results of the Multiple Linear Regression Analysis

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-1.654	2.259		-.732	.469
	Trust	.165	.177	.140	.928	.360
	Ease of Use	.560	.161	.500	3.474	.001
	Risk	.129	.126	.111	1.026	.312
	Enjoyment	.199	.137	.210	1.461	.153

The results can be used to formulate the following regression equation;

$$Y = -1.654 + 0{,}165X_1 + 0{,}650\ X_2 + 0{,}129\ X_3 + 0{,}308\ X_4$$

Hypothesis Testing
Coefficient of Determination Test

The Coefficient of Determination (R^2) measures the ability of a model to explain the variance in a dependent variable. The value of the coefficient of determination ranges between zero and one. A low R^2 represents a weak ability of the independent variables to predict the proportion of the variance in the dependent variable.

Table 12.5.
Coefficient of Determination

Model	R	R Squared	Adjusted R Squared	Std. Error of the Estimate
1	.801[a]	.642	.602	1.454

a. Predictors: (Constant), Ease of Use, Risk, Enjoyment, Trust

b. Dependent Variable: User Interest

The adjusted R^2 was 0,602 or 60,2%, indicating that the independent variables (ease of use, risk, enjoyment and trust) could explain the variance in the dependent variable (user interest in e-commerce-based accounting information systems) by 60,2%. The remaining 39,8% accounts for other factors or variables unknown or not included in the model.

Simultaneous Significance Test (F Statistic Test)

The F test identifies whether there is a simultaneous effect between the independent variables and the dependent variables.

Table 12.6.
The Results of the F Test

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	136.303	4	34.076	16.123	.000[a]
	Residual	76.088	36	2.114		
	Total	212.390	40			
a. Predictors: (Constant), Ease of Use, Risk, Enjoyment, Trust						
b. Dependent Variable: User Interest						

The resulting F_{cal} was 16.123 at a significance of 0,000. Given that 0,000 significance was much lower than 0,05, H0 was rejected in favor of H1; there was a simultaneous effect of ease of use, risk, enjoyment and trust on interest in using e-commerce-based accounting information systems.

Individual Parameter Significance Test (T Statistic Test)

The T test identifies the effect of an individual independent variable on the dependent variable. The results were as follows:

The variable of trust had significance at 0,360, ease of use at 0,001, risk at 0,312, and enjoyment at 0,153. Three variables (i.e., trust, risk and enjoyment) had significance above 0,05, while ease of use was below, thus making it the only independent variable that exerted a significant effect on the dependent variable.

Discussion

The Effect of Trust on User Interest in E-Commerce-Based Accounting Information Systems (AIS)

The T test on the variable of trust, as previously noted, resulted in a significance level at 0,360, which was greater than the alpha 0,05. This suggests that trust did not affect interest in using e-commerce accounting information systems. This finding contradicts with those of Yutadi (2014), and Monika and Tama (2017).

The present study shows that users have not fully utilized trust in e-commerce transactions owing to the potential risks they may pose. This ultimately leads to a lack of user interest in e-commerce-based AIS.

The Effect of Perceived Ease of Use on User Interest in E-Commerce-Based AIS

The resulting significance of perceived ease of use was 0,001 and therefore exerted a positive effect on interest in using e-commerce AIS. This finding is consistent with Yutadi's finding (2014).

The respondents as e-commerce users contend that e-commerce makes it more convenient and easier to search for products or goods than its in-store counterpart. E-commerce gives them the opportunity to access wide-ranging information about the products they need and find the best deal prior to purchase. Higher perceived ease of use, therefore, defines higher user interest in conducting e-commerce-based transactions.

The Effect of Perceived Enjoyment on User Interest in E-Commerce-Based AIS

Perceived enjoyment had significance at 0,153, which was greater than 0,005, and thus insignificant in user interest in e-commerce-based AIS. Such a finding does not conform to Monika and Tama's finding (2017).

The insignificant effect implies that if e-commerce users do not enjoy the technology along with its applications, they are likely to ignore the importance of the service. Lack of user experience will ultimately mean less chance of attracting users to adopt the whole e-commerce experience.

The Effect of Risk on User Interest in E-Commerce-Based AIS

The resulting significance of risk based on the T test stood at 0,312, which was greater than the alpha 0,05, and was thus insignificant interest in using e-commerce-based accounting information systems. This finding does not fit with what Yutadi (2014) found in his study.

In many cases the respondents leverage e-commerce platforms to better inform themselves before making purchase decisions. A pre-purchase information search is integral to their decision-making process when using e-commerce. With the increase in information, the risks the respondents bear when engaging in e-commerce get smaller. In other cases, when the information is not sufficiently clear, the respondents become hesitant about using e-commerce. This is what discourages their interest in embracing the service.

4. Conclusion

The effect of trust, perceived ease of use, perceived enjoyment and risk on user interest in e-commerce-based accounting information systems has been thoroughly examined with some important conclusions as follows:

a. Empirical evidence based on the T test shows that the variable of perceived ease of use significantly affects interest in using e-commerce.
b. Empirical evidence based on the T test shows that the variables of trust, perceived enjoyment and risk do not significantly affect interest in using e-commerce.

a. *Implication*

The empirical findings of the present study serve as valuable considerations for future policy and practice regarding the underlying motivation that drives interest in using e-commerce. Online vendors can be better informed about how to properly conduct online transactions and take into account the fundamental aspects, i.e., trust, perceived ease of use, perceived enjoyment and risk, which give rise to the use of e-commerce. This will better enhance online transactions in Indonesia as a digital alternative to its in-store counterpart.

b. *Suggestion*

Though the findings of the present study did not support all of the proposed hypotheses—not all variables were found to be statistically significant—the findings highlighted valuable considerations when assessing the development of e-commerce technology in Indonesia.

Furthermore, while the present study provided original insights into what affects interest in using e-commerce, future research efforts can further tap into other variables that embody technical aspects in supporting the implementation of information technology. To that end, it is also important to link to larger samples.

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