ISSN 2085-8272

JOURNAL OF INDONESIAN ECONOMY AND BUSINESS

Volume 29, Number 2, May 2014

THE JOURNAL IS ACCREDITED BY THE DIRECTORATE GENERAL OF
HIGHER EDUCATION MINISTRY OF NATIONAL EDUCATION OF
THE REPUBLIC OF INDONESIA
NO. 81/DIKTI/KEP/2011

Sponsored by Universitas Gadjah Mada Faculty of Economics and Business

JOURNAL OF INDONESIAN ECONOMY AND BUSINESS

Volume 29, Number 2, May 2014

@ Rp. 50.000,-

Journal of Indonesian Economy and Business is a peer-reviewed scientific publication sponsored by Universitas Gadjah Mada Faculty of Economics and Business, Yogyakarta, Indonesia. The Journal is issued three times annually, i.e., in January, May and September. The salient purpose of the Journal is to disseminate economic and business research on Indonesia conducted by international researchers and policymakers.

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ISSN 2085-8272

JOURNAL OF INDONESIAN ECONOMY AND BUSINESS

BOARD OF EDITORS

ISSN 2085-8272

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TASK-TECHNOLOGY FIT AND PERSON-JOB FIT: A BEAUTY CONTEST TO IMPROVE THE SUCCESS OF INFORMATION SYSTEMS[1]

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ABSTRACT

This study raises the issue that information system success could be enhanced by complementing other factors. This study investigates the success of information systems by inducing[2] the task-technology fit (TTF) and person-job fit (PJF) into the DeLone and McLean model. This study aims to examine, among the two induced factors, which one is able to explain and improve the success of the information systems implementation.

The results of this study indicate that the TTF explains the models' goodness of fit better than that of the PJF when induced into the modified DeLone and McLean model. This study implies this in terms of both theory and practice. Theoretically, this research presents an alternative research model that can be used to investigate the success of information systems by considering the aspect of the users' cognitive suitability (the cognitive fit theory). Furthermore, practically, this study suggests the importance of focusing on users' skills and competencies and, subsequently, management should do so. Additionally, the TTF recommends a simple proposition that it could be attached immediately into the individuals' skills and competencies. However, the PJF needs to be deeply embedded in the job's qualifications and recruitment policies.

Keywords: *DeLone and McLean Model, inducement, task-technology fit, person-job fit*

INTRODUCTION

This study focuses on the development of a new research model to assess the success of information systems implementation, both voluntary and mandatory. In 1992, DeLone and McLean published a model for information system success. This model was updated by DeLone and McLean in 2003, and hereinafter we refer to the (modified) DeLone and McLean model. Iivari (2005) conducted research using the modified DeLone and McLean model on the implementation of information systems in Oulu City Council, Finland. Our study develops his research further by inducing new dimensions, namely the task-technology fit and person-job fit.

Khayun et al. (2012) disclosed some phenomena and reasons for information systems applications in the public sector. Khayun et al. (2012) also found some problems in the online tax system in Thailand. Most of the industries' users there preferred to go directly to the tax office rather than use the online tax service (e-excise). So, they investigated the e-government application related to the e-excise service and found that the e-government implementation was voluntary.

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[1] This article had been presented in National Accounting Symposium, 17th in The University of Mataram, Lombok, Indonesia. We got a good paper nomination from this symposium. We are grateful to all critics, recommendations and suggestions from this symposium. This article initially is the master thesis of the first author with the second author as the promoter. Comments and suggestions can be sent directly to: sumiyana@ugm.ac.id, and woro_dwi90@yahoo.com.

[2] The authors choose the word 'induce' based on Sumiyana, et al. (2010). Sumiyana, et al. (2010) defines that 'induce' means adding something into a model that can provide additional or more extensive influence. Oxford (2003) defines 'induce' as significant effect of proposition, an addition of into the form of constructs, or anything that can give an effect.

In addition, DeLone and McLean (2008) signify that, at the organizational level, all the dimensions do not contribute to their success model.

Goldfinch (2007) finds that the failure of information system implementation occurs more commonly in the public sector. The amount of money spent to build the system had no effect on the level of the information system's success. Lakshmi (1991) also states that the development of information systems in the public sector is still far behind the private sector. This is attributed to the differences in the characteristics between the two sectors, such as culture, allocation of funds, and policy making.

This study assumes that, first, the users will benefit from the use of information systems according to their expertise and the work they perform, and also whether the users have the skills required to use the technology. Second, the users should have the agility to use the information system, so that they will able to adapt to the new information system. Third, the users will experience satisfaction if the system is able to provide them with what they need to complete their job as expected.

This study contributes to the management of the information systems development and implementation. This can be explained as follows. The development and implementation of information systems requires individuals to put more emphasis on the person-job fit (PJF) (Dihshaw and Strong, 1999) rather than the task-technology fit (TTF) (Klopping and McKinney, 2004). It is based on the cognitive fit theory (Vessey, 1991) which describes the correspondence between one's work and his/her expertise. The recent system users no longer have problems regarding the technology, but the success of the system relies on the skills and competencies of the people required for the job.

This section presents the introduction, and then the rest of our discussions are as follows. The next section presents the theoretical basis and hypotheses development for the information system's success, the cognitive fit theory, person-job fit (PJF), and task-technology fit (TTF) in the perspective of the modified DeLone and McLean model. Then, we further analyze and compare the two inducement models. The last section is the study's conclusions.

LITERATURE REVIEW

Various studies related to the implementation of information systems in the public sector have been carried out by previous investigators, such as Goldfinch (2007), Khayun, et al. (2012), DeLone and McLean (2008), Thompson, et al. (2009), and Iivari (2005). Goldfinch (2007) conducted research on the skepticism and failures of information system's implementation in the public sector. The research reviewed available studies related to the failure of information system's development in the public sector. The study explained that the success rate of information system's implementation in the public sector only reached 18%. The research was based on a survey carried out in the United States of America.

Goldfinch (2007) showed that the important factors causing the failure of the system's development were enthusiasm, supervision, the principal-agent relationship, and information reliability. Enthusiasm consists of idolization, technophilism, lomanism, and managerial faddism. Idolization is reflected by the public sector employees who usually prefer a new information technology system, and see that as a great career benefit. Technophilism is a belief in the myth that information technology is able to solve practical problems. Lomanism is described as being organizations that are persuaded by the sellers of the latest information technology that the information technology will satisfy the needs of the organization. Managerial faddism shows the tendency of consultants to appoint managers who are believed to have the ability to resolve or prevent problems and to create profits.

Khayun et al. (2012) also conduct research on the application of information systems in the public sector. Their research subject was the application of e-government at the tax office in Thailand, namely e-excise. The e-excise system is an integrated online tax payment method. The nature of this system is voluntary. The users of this e-excise system are the owners of industries in Thailand. This study tried to assess the infor-

mation systems success using the DeLone and McLean model. They used the Delphi Technique to investigate the critical success factors in e-excise implementation. The results of the study showed that many industries had no motivation to use this system and still preferred to pay taxes manually, because of the lack of trust by the users toward the e-government websites.

DeLone and McLean (2008) also reviewed the success of information systems implementation. They reviewed 180 articles related to the validation of the DeLone and McLean model from 1992 to 2007. Their study aimed to determine what was already known and what was still needed to investigate the success of system implementation at the organizational level. It employed qualitative methods by categorizing the DeLone and Mclean model into organizational and individual levels, identifying all the relationships in the latest DeLone and Mclean model, and examining specifically each construct within the DeLone and McLean model. The results of the review show that, at the organizational level, only a few of the dimensions in their model could identify their relationship.

Thompson, et al. (2009) conducted research related to the assessment of the success of e-government implementation. They used the modified DeLone and McLean model and examined the role of trust in the success of information system's implementation. The model was tested by a survey of 214 e-government users in Singapore. The nature of the system is voluntary. They used post-hoc analysis to examine the influence of the nature of usage (active and passive) on the relationships among the success dimensions. The results showed that trust has a dominant influence on e-government usage, but it is trust in the government and not in the technology.

Iivari (2005) tested the DeLone and McLean model using a mandatory information system. In his research, he focused more on the success of an individual information system application using the modified DeLone and McLean model. The research, furthermore, attempted to test the effect of information systems on individual performance, measured by perceived usefulness. Iivari (2005) also assumed that the perceived usefulness essentially affects the productivity of decision-making. However, the perceived usefulness is not directly focused on performance. Iivari (2005) conducted this research on the implementation of information systems in the public sector in Finland, namely the Oulu City Council.

DeLone and McLean Model

In 1992, the DeLone and McLean published a model of information system success. Their research referred to the previous research by Shannon and Weaver (1949) and Mason (1978). The subject of the referred research was communication. Shannon and Weaver (1949) divided communication into 3 levels, i.e. the technical level, semantic level, and effectiveness level. Based on the 3 levels, DeLone and McLean classify the success of systems into technical success, semantic success, and effectiveness success. Technical success is measured by the system's quality. The quality of the information becomes the measure of the semantic success, while the effectiveness success is measured by the users' satisfaction, individual impact, and organizational impact (Mason, 1978).

Several studies attempt to validate the DeLone and McLean model. Seddon and Kiew (1994) who conducted a survey of 104 users of a university accounting system found a significant relationship between the system's quality with the users' satisfaction and individual impact, the information quality with the users' satisfaction and individual impact, and the users' satisfaction with the individual impact. Additionally, Rai et al. (2002) tested the validity of the DeLone and McLean model by surveying 274 students. The results showed that some indicators of the model are significant and some are insignificant. However, the coefficient of the dimensions in the DeLone and McLean model is generally significant.

The success dimensions of the modified DeLone and McLean model have been updated. This modification is based on the criticism expressed by Seddon (1997). Seddon (1997)

considered that the DeLone and McLean model was confusing. In addition, Seddon (1997) selected dimensions incorrectly because he combined the process and the success causality explanations into a single model. Grover et al. (1996) suggested that the DeLone and McLean model should be updated based on the organizational effectiveness theory. Grover (1996) also used this theory to establish the constructs of the information systems effectiveness. In the end, DeLone and McLean (2003) add the service quality and net benefits as the new dimensions of information system success.

Cognitive Fit Theory

The cognitive fit theory (Vessey, 1991) signified the fit between the task and the presentation format of information. This theory is used to solve the problems faced by users of the system in completing their work. The cognitive fit theory tries to explain how to solve the problems of presentation related to the tables, graphs, and matrices so as to distinguish the tasks that will have an impact on the efficiency of the task completion time. Vessey (1991) argued that technology can be used to reduce the task or job complexity if there is a good fit between the task and the presentation of the information or problem. A good fit results in the improvement of users' performance and the system will be more effective and efficient to use. To solve the problem, someone will create a mental representation based on the information he/she receives. The mental representation illustrates how someone looks at the problem with his/her limited memory (Gentner and Stevens, 1983). When there is a mismatch between the task and the presentation of information, the users should make extra cognitive efforts to convert the information into a suitable format to accomplish their task. This can slightly improve the users' performance.

The concept of cognitive fit has been used to explain the users' behavior and to predict the speed and accuracy of decision making and problem solving. For example, users will be able to easily and efficiently find some information when the format is in accordance with the user's task, so that they can get more relevant information (Kamis, et al., 2008). On the other hand, the information obtained by the users may support their performance in completing the task. In the application of mandatory systems such as Gadjah Mada's Accounting and Finance Information Systems (GM-AFIS) which is selected as this research's subject, the cognitive fit also needs to be owned by each user. Users who interact directly with the system must have the cognitive ability and have to understand the format of the information presented by the system. When the users' cognitive abilities and the presentation format of the information are unsuitable, the users might encounter problems in completing their task. This will impact on the performance of the users themselves.

The failure of system applications often occurs when the needs of users' cognitive abilities do not meet the information presented by the system. The users who have difficulties in using the system will indirectly make more effort to comprehend the information presented by the system so that their tasks can be completed and their performance is increased. Based on the cognitive fit theory, the authors assume that the level of complexity faced by the users in performing the GM-AFIS can be minimized by synchronizing the information presented by the system with the users' cognitive abilities. The users will be required to improve their cognitive abilities when facing information that is difficult to understand when completing their tasks. The more frequently they improve their cognitive abilities, the more easily they will resolve similar problems. The cognitive fit will impact on the efficiency of the task completion time to improve the users' performance.

Task-Technology Fit (TTF)

Goodhue and Thompson (1995) developed the task-technology fit. They suggested that it is the usability degree of the information technology that helps individuals to accomplish their tasks. It adapts among task's needs, individual capability, and technology function. It is designed to evaluate all of the information technology systems that are possessed by an organization compared to an individual application.

Goodhue (1995) also stated that evaluation of users by using the TTF will be determined by their jobs, the individuals themselves, and the information system's characteristics.

Goodhue (1995) used 8 dimensions to measure the TTF. They are the data quality, local capability of data, authorization to access data, data compatibility, training and ease of use, production timeliness, system reliability, and IS relationship with users. The TTF contains 2 components, i.e. tasks that should be conducted by the user and the technologies that are used to accomplish users' tasks. Goodhue (1995) subsequently explains that the TTF has an ideal profile formed from a group. It has dependent tasks that are internally consistent with the use of the technological elements. Then, it could improve individuals' performance through task enforcement.

Person-Job Fit (PJF)

Thomson and Higgins (1995) defined the PJF as a measure of how far individuals trust that using information technology could enhance their job performance. The PJF concept is similar to the perceived usefulness proposed by Davis (1989) in the TAM model. The PJF focuses on the users' fit amongst knowledge, skill, and capability with their job (Carless, 2005). The PJF will be achieved when the job design and requirement meet with individual needs (Edward, 1991; Kristof-Brown et al., 1996; 2000).

Cable and DeRue (2002) conducted the PJF's measurement to assess it by identifying the needs-supplies fit (occupational characteristics and job attributes) and demands-abilities fit (performance requirements). The needs-supplies fit is the individuals' need of the balance between the job's occupational characteristics and the supplies (abilities) that he or she provide to fill the job's position. The demands-abilities fit are the balance between job's formation need and the individual capability to fill the job's formation.

Hypothesis Development

This research is the extension and development of Iivari's (2005) study. Iivari (2005) validated the modified DeLone and McLean (1992) model. He examined the application of the accounting and financial information system run by the City Council of Oulu, Finland and the system's mandatory nature. Presented below (Figure 1) is the research model used by Iivari (2005).

This study uses the modified DeLone and McLean model. The model adds the service quality and net benefits factors. It also combines the existing dimensions of the DeLone and McLean model with additional variables such as the perceived ease of use, person-job fit, and task-technology fit. The perceived ease of use determines the individuals' psychological behavior in using the information system. The task-technology fit serves as an indicator to determine the suitability of the characteristics of the task that is being run by the Directorate of Finance Gadjah Mada University. The characteristics of the task-technology fit are subsequently used to support the application of GM-AFIS.

Not all the dimensions of the DeLone and McLean model are used in this study. The dimensions which are not used in this study,

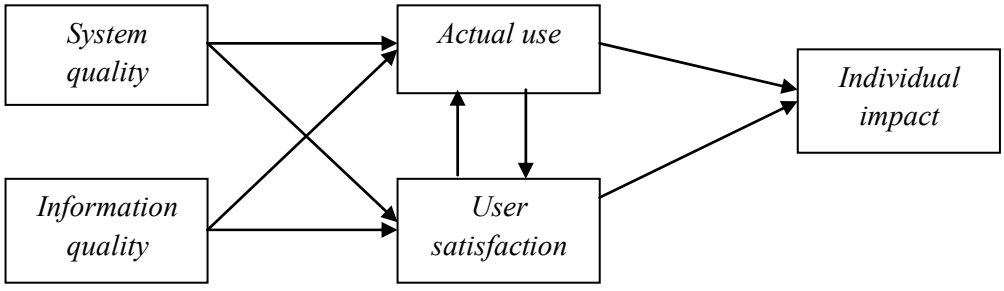

Figure 1. Iivari (2005) Research Model

among others, are the intention to use and the actual use. Lassila and Brancheau (1999) identified the system usability as being based on the use or non-use of basic and advanced system capabilities. They eliminate the dimension of use when the system is mandatory. If this dimension is still used, then it does not affect the success of the system implementation. Meanwhile, the dimension of intention to use is normally used on voluntary and mandatory systems (Brown et al., 2002).

We selected the GM-AFIS of the Directorate of Finance, Gadjah Mada University as the research's subject. Accordingly, all hypotheses are stated in this context.

System Quality, Information Quality, Service Quality and User Satisfaction

The system quality is a factor that can affect users' satisfaction. If the quality of the implemented system is high, the system will improve the satisfaction of the system's users. Previous research has developed a measurement related to the system quality. Hamilton and Chervany (1981) used the data of proposed currency, response time, turnover time, data accuracy, reliability, completeness, system flexibility, and ease of use.

Many researchers have conducted examinations related to the system quality and users' satisfaction, one of them was Seddon and Kiew (1994). They found a consistency of positive relationships between the system's quality and users' satisfaction. Good system quality will result in an increase in the users' satisfaction. The system quality can be shown by its ease of use, user friendliness, interesting displays, ability to provide the information quickly, and in allowing the users to meet the information needs. Lin (2007) conducted a study on the use of online learning information systems. The results showed that the system quality had a positive influence on the users' satisfaction. We posit that a high quality information system leads to user satisfaction. Therefore, this study developed the following hypotheses.

H1: The system quality positively relates to the users' satisfaction.

The information quality is used to measure the quality of the information system output (Jogiyanto, 2007). The information is said to be qualified if the language is easy to understand and is universal, and can meet the users' needs so that they feel satisfied when using the information system. The information quality, according to DeLone and McLean (2003) includes the relevance and timeliness. They also explain that the system quality and users' satisfaction are positively related. A research conducted by Lin (2007) on on-line learning information systems also showed similar results with the research of DeLone and McLean (2003). According to Bailey and Pearson (1983), the measurement of information quality consists of its accuracy, precision, currency, timeliness, reliability, form, and relevance. We also posit that a high information quality leads to users' satisfaction. Therefore, this study formulates the following hypothesis.

H2: The information quality is positively related to the users' satisfaction.

The service quality measures the aspect of supporting features that are provided by the division of the information system and information technology service personnel for the users (DeLone and McLean, 2003). The measures for the service quality are the completeness of the information that is provided by the system, personalization of content, and variations of the information. The service quality was originally used in the research of marketing discipline. It is measured from the buyers' point of view using a tool called SERVQUAL (Parasuraman, 1988). SERVQUAL consists of several dimensions, such as its reliability, responsiveness, assurance, empathy, and tangibility. Liu and Arnett (2000) stated that service quality is an important element of a Web site. DeLone and McLean (2003) found a positive effect of the service quality on the users' satisfaction. Other research by Khayun (2012), stated that the service quality of e-government in Thailand has a positive and significant effect on the users' satisfaction. Equivalent to H1 and H2, we formulate the following hypothesis.

H3: The service quality is positively related to the users' satisfaction.

Relationship of the Task-Technology Fit and Person-Job Fit with the Perceived Ease of Use

The task-technology fit (TTF) involves 2 interacting components, namely the tasks to be performed and the technology used to help complete the task. When the capabilities of the technology match the users' task, the users feel that the system becomes easier to use in completing the task. Dihshaw and Strong (1999) suggested that the task-technology fit influenced the perceived ease of use. Klopping and McKinney (2004) suggested that the task-technology fit was positively related to the perceived ease of use. Because the users would not spend more effort, they get more in benefits from the system than the effort they put into it. In the other words, the users have highly cognitive fit. Therefore, this study formulates the following hypothesis.

H4a: The task-technology fit is positively related to the perceived ease of use.

The concept of the person-job fit is characterised by the suitability of the individuals' job for the capabilities they possess. Kristof-Brown et al. (2005) found that the person-job fit had a strong relationship with the work outcomes, such as job satisfaction. An employee with a low person-job fit will be less successful in completing their given job (Erdogan and Bauer, 2005) since a low person-job fit will affect the individuals' perception of the ease of the job at hand. Individuals' expertise in their job will not require them to spend additional efforts. Thus, this study formulates the following hypothesis.

H4b: The person-job fit is positively related to the perceived ease of use.

Relationship between the Perceived Ease of Use and Users' Satisfaction

The main indicator in measuring the success of the information system's implementation in an organization is the users' satisfaction. The users' satisfaction can be measured by several characteristics, such as the ease of and benefits from the use of the system, the information presented, and how the system works (Al Gahtani, 2001). The perceived ease of use becomes the main focus because if a system is not easily understood by the users, it will have an impact on the users' satisfaction. Some researchers find a positive relationship between the perceived ease of use and users' satisfaction, such as Doll and Torkzadeh (1988), Seddon and Yip (1992), and Almarashdeh et al. (2005). Equivalent to the H4 reasoning, the users' will acquire additional benefits and reacquire these benefits more frequently. Then, they get satisfaction. Therefore, this study formulates the following hypothesis.

H5: The perceived ease of use is positively related to the users' satisfaction.

Relationship between the Users' Satisfaction and Net Benefit

The use of information systems does not only affect individual users' and groups' satisfactions, but also influences their individual users' and groups' performances. DeLone and McLean (2003) proposed a new dimension, i.e. the net benefit. The net benefit is the users' perception related to the individuals' net benefits of GM-AFIS. The users may feel satisfied if the system could provide them with benefits to complete their work, or vice versa. Iivari (2005) suggested that the users' satisfaction dominantly influences the individuals' use of the information systems. Another study showing the influence of the users' satisfaction to the net benefit is the research conducted by Khayun et al. (2012). Khayun et al. (2012) and Chong (2010) found a positive effect of the users' satisfaction on the net benefits. The users see their performance increase. Especially, they are able to do their job efficiently and effectively. Thus, this study formulates the following hypothesis.

H6: The users' satisfaction is positively related to the net benefit.

Relationship between the Task-Technology Fit and Person-Job Fit against the Net Benefit

Goodhue and Thompson (1995) found the dimension of the task-technology fit (TTF) in the use of information systems. The TTF becomes a significant factor to estimate the improvement in

performance and effectiveness of the system's report users. Staples and Seddon (2004) found a strong correlation between the task-technology fit and performance. We posit that the users' performance improvement is one of the biggest benefits of the application of the system. They do their job with little expenditure of effort. Therefore, we formulate the following hypothesis.

H7a: The task-technology fit is positively related to the net benefit.

The person-job fit is an individuals' perception regarding how well an individuals' ability fits with the characteristics of the jobs they handle. For example, the workers may be asked whether their work is suited to their needs or preferences (Kristof, 1996). The person-job fit describes the extent to which the individuals feel that the technology they use will help them in completing the task. Several studies find that the person-job fit has an impact on performance (Caldwell and O'Reilly, 1990; Cable and Judge, 1996; Harris and Mossholder, 1994). All these studies indicated that the person-job fit had a positive impact on the net benefits, such as the increase in performance. We also posit that the users' performance improvement occurs because of their cognitive fit. It means that they have the capabilities and competencies to match the information systems requirements. Thus, we formulate the following hypothesis.

H7b: The person-job fit is positively related to the net benefit.

This research implicitly wants to show that the inducement of the task-technology fit into the DeLone and McLean model has a stronger relationship with the success of the application of GM-AFIS as compared to the inducement of the person-job fit. The citation is based on the assumption that the suitability of abilities, tasks handled, and the technological abilities of the users of the information systems will help the users in using the system. They will be assisted by, and have no difficulties, in using the system. Meanwhile, the suitability of the jobs with the expertise of the users does not guarantee that they are able to use the information systems if they are not support by posessing technological abilities. Accordingly, this study formulates the following hypothesis.

H8: The inducement of the task-technology fit has a stronger association than that of the person-job fit.

RESEARCH METHOD

Subject

The subjects of this study are the users of the GM-AFIS at the Directorate of Finance, Gadjah Mada University (GMU), Yogyakarta. In early 2013, the Directorate of Finance GMU started to enforce information system use onto the entire academic community. The information system is called the GM-AFIS, Gadjah Mada Accounting and Finance Information System. The application of the GM-AFIS is aimed at simplifying and shortening the process of prepaid expense proposals at 18 faculties and the university level. GM-AFIS is an integrated web-based system. The initial purpose of this system's development was to realize the transparency of the approval stage of account prepaid expense proposals. There are several reasons behind the implementation of the GM-AFIS at GMU, such as the increase in performance, the task complexity of GMU, the changes in the university's status, the level of security risk, and support for the "Go Green" policy.

This study chose the Directorate of Finance GMU as the research subject because it had developed the applications for the GM-AFIS. On the other hand, GMU is part of the public sector in education. Most research shows that the implementation of financial information systems is more successful in the private sector than in the public sector (Lhaksmi, 1991; Goldfinch, 2007). A similar phenomenon was also shown in research conducted by Thompson et al. (2009) and Khayun et al. (2012) who found that information systems applications in the public sector were not fully utilized.

Data and Sample

This study collected the data using survey techniques by distributing questionnaires. The

population in this study contained all the users of the GM-AFIS. The study then conducted a purposive sampling technique with criteria, i.e. (1) users must have a GM-AFIS account, (2) users must have submitted a prepaid expense proposal and performed the approval process and been verified at least once since the system was implemented. We developed the questionnaire helped by the *google drive* application and sent it to the respondent's e-mail address. We also distributed questionnaires manually by visiting the respondents. In addition to providing the questionnaires, we also conducted direct observation of all the users of the GM-AFIS applications. We had to conduct these observations to ensure that the system actually was of good quality and the system had been established. Figure 2 and Figure 3 describe the research model investigated in this study.

RESEARCH MODEL

The measurement of the constructs of the system quality, information quality, service quality, users' satisfaction, and net benefits used a 4-item questionnaire which was adapted from DeLone and McLean (2003). The measurement of the task-technology fit constructs used a 10-item questionnaire adapted from Goodhue (1995). Meanwhile, the measurement of the person-job fit construct used 5 questions adapted from Cable and DeRue (2002). The measurement of the perceived ease of use by employees had 5 questions adapted from Davis (1989). We measured all indicators using a Likert scale. This study considers that a Likert scale is the most appropriate technique for measuring a person's behavior where point 1 shows a strong disagreement answer and 5 for a strongly agree answer.

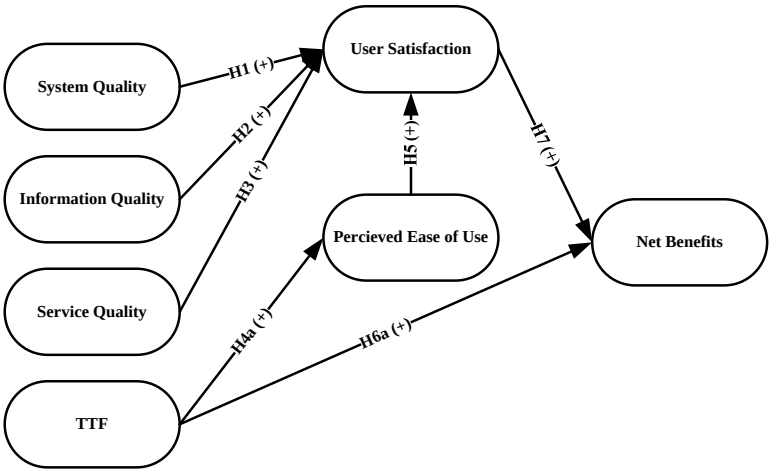

Figure 2. Research Model 1

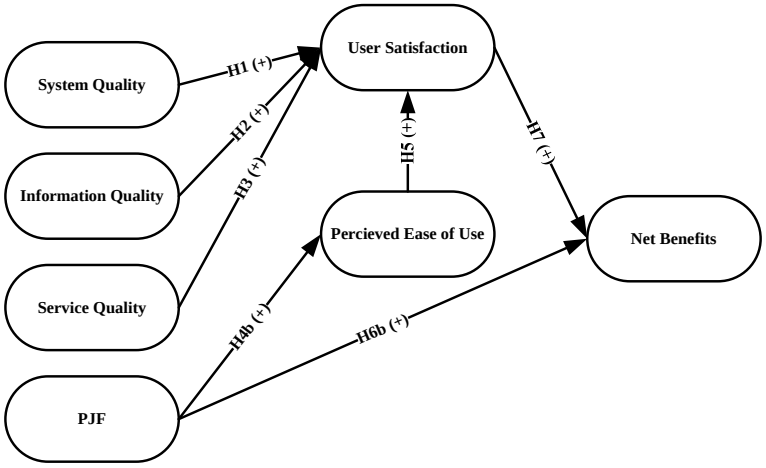

Figure 3. Research Model 2

This study examined the validity and reliability along with the goodness of fit and our hypothesis. This study used structural equation modeling (SEM). We believe that SEM is the most appropriate tool to examine the relationships between complex variables, to examine the existence of unobservable or latent variables, and to test the model for goodness of fit (Gudono, 2012). The assessment of the goodness of fit processes the data whether they meet the assumptions required by the SEM or not. Whether a model is fit or not can be seen from the value of chi-square which has a significant probability, the value of the root mean square of approximation (RMSEA) which falls between 0.05 and 0.08, the value of the goodness of fit index (GFI), and adjusted goodness of fit index (AGFI) which are greater than 0.90; the grades CMIN/DF which are smaller than 2.00, and the value of the Tucker Lewis index (TLI) which is greater than 0.95 (Hair, 2003).

ANALYSIS, RESEARCH FINDINGS AND DISCUSSION

Descriptive Statistics

This study uses data obtained from the results of the distributed questionnaires. The number of questionnaires distributed via e-mail was 175. Among those, 125 were returned. Meanwhile, the questionnaires that were directly distributed numbered 190, only 11 of which were not returned. Thus, the number of questionnaires which we used was 304, or 96% of the total distributed questionnaires. We distributed and collected the research data between September 12th, 2013 and December 17th, 2013. Table 1 presents the demographics characteristics of the respondents as follows.

Table 1. The Demographics Characteristics of Respondents

No	Item	Characteristics	Number	Percentage
1	Gender	Male	132	43%
		Female	172	57%
		Total	304	100%
2	Age	21-30	74	24%
		31-40	138	45%
		41-50	82	27%
		51-60	10	3%
		Total	304	100%
3	Education	High School	23	8%
		Academy	80	26%
		Undergraduate	163	54%
		Post-Graduate	29	10%
		Doctoral	9	3%
		Total	304	100%
4	Major	Accounting	157	52%
		Non-Accounting	147	48%
		Total	304	100%
5	Positions	Submitter	242	80%
		Approval Supervisor	54	18%
		Verifier	8	3%
		Total	304	100%
6	Frequency of Use	1-3 times	61	20%
		4-6 times	71	23%
		≥ 7 times	172	57%
		Total	304	100%

We grouped the demographics characteristics of the respondents into 6 categories, i.e. gender, age, education level, background study (major in table 1), position, and frequency of using the GM-AFIS. Table 1 shows that the majority of respondents were female (57%). Most respondents are at the undergraduate level (54%). Therefore, based on their educational background, the majority of users have an undergraduate level accounting background. When viewed from the frequency of GM-AFIS use, most users have processed transactions more than 7 times daily since the system was implemented.

The descriptive statistics presented in Table 2 below is an overview of the respondents' answers to the items on the questionnaire. The table contains the values of minimum, maximum, mean, median, mode, and standard deviation of the respondents' answers.

Table 2 shows that the respondents' answers in each construct in this study produced good results. We can infer that the standard deviation values are smaller than the mean value. In addition, the data of all the respondents' perceptions distributes normally. This study also investigated the reliability and validity of each construct as described in the following section.

The Results of Validity and Reliability Analysis

This research determined the validity of the research instrument from its value resulting from the confirmatory factor analysis (CFA). A research instrument is valid if the value of the CFA is greater than 0.50. Meanwhile, an instrument is reliable when its reliability value is greater than 0.70 (Hair et al., 1998). Overall, each construct met the lowest standard requirements. The construct of task-technology fit originally consisted of a 10-item questionnaire, but this study found that 5 questions were considered invalid. Items which had CFA values below 0.50 are excluded from our analysis. Furthermore, factor loading analysis for each indicator or item questioned met the minimum standard requirements of 0.70 (Hair et al., 1998). It means that all indicators have a good fit of validities. Table 3 shows the results of validity and reliability examinations for each construct.

Analysis and Findings

Figure 4 and Figure 5 summarize and present the results of the hypotheses examinations. The numbers in the figures are the β coefficient. The results of hypotheses examination show that only 1 of the 8 hypotheses proposed in the research model 1 (TTF-DM) is not supported. The first hypothesis (H1) is statistically supported. This result supports previous research by Seddon and Kiew (1994), Lin (2007), and Iivari (2005). The second hypothesis (H2) is statistically supported. This result supports the findings of DeLone and McLean (2003) and Lin (2007). The third hypothesis (H3) is not supported. The service quality is not positively related to the users' satisfaction. It does not support the research by Khayun et al. (2012). The fourth hypothesis (H4A) is statistically supported. This result supports the research by Dihshaw and Strong (1999) and Klopping and McKinney

Table 2. The Descriptive Statistics of Respondents' Answers

Constructs	Minimums	Maximums	Means	Medians	Modes	Std. Deviations
KS	1.00	5.00	3.535	4.00	4.00	.790
KI	1.00	5.00	3.599	4.00	4.00	.751
KL	1.00	5.00	3.040	3.00	3.00	.898
TTF	1.00	5.00	3.610	4.00	4.00	.787
PJF	2.00	5.00	3.720	4.00	4.00	.736
PEU	1.00	5.00	3.674	4.00	4.00	.776
KP	2.00	5.00	3.686	4.00	4.00	.748
NB	2.00	5.00	4.034	4.00	4.00	.638

N: 304; KS = System Quality, KI = Information Quality, KL = Service Quality, TTF=Task-Technology Fit, PJF = Person-Job Fit, PEU = Perceived Ease of Use, KP = Users' Satisfaction, NB = Net Benefit

Table 3. The Results of Validity and Reliability Examination

Constructs	N of Items	Indicator	Factor Loading	CFA	Construct Reliability
System Quality	4	Flexibility	0,589	0.687	0.807
		Turnaround	0,828		
		Recovery	0,644		
		Usability	0,688		
Information Quality	4	Informativeness	0,657	0.724	0.875
		Accessibility	0,736		
		Adaptability	0,825		
		Format	0,680		
Service Quality	4	Visualization	0,527	0.687	0.719
		Organization	0,738		
		Empathy	0,841		
		Service	0,606		
Task-Technology Fit	5	Reliability	0,632	0.594	0,715
		Availability	0,581		
		Up-to-date	0,575		
		Training	0,609		
		Time to Respond	0,571		
Person-Job Fit	5	Skill	0,612	0.667	0.929
		Need-supplies fit	0,801		
		Demand-ability fit	0,760		
		Performance	0,605		
		Education Background	0,559		
Perceived Ease of Use	5	Ease of use	0,778	0.729	0.865
		Informativeness	0,549		
		Clarity	0,819		
		Ease to learn	0,766		
		Complexity	0,735		
User Satisfaction	4	Performance	0,882	0.775	0.914
		Experience	0,920		
		Decision	0,704		
		Helpful	0,514		
Net Benefit	4	Timeliness	0,742	0.790	0.963
		Valuable	0,773		
		Usefulness	0,830		
		Motivation	0,814		

(2004). The fifth hypothesis (H5) is supported. This result is consistent with Seddon and Yip (1992). The sixth hypothesis (H6) is supported. This result is consistent with the previous study by Khayun et al. (2012). Lastly, the seventh hypothesis (H7a) is supported.

Meanwhile, the research model 2 (PJF-DM) shows that of the 8 hypotheses examined, 2 hypotheses are not supported. Hypothesis (H1) is statistically supported and this result corresponds with previous research by Seddon and Kiew (1994), Lin (2007), and Iivari (2005). Hypothesis (H2) is statistically supported and so is in accordance with the research by DeLone and McLean (2003) and Lin (2007). Hypothesis (H3) is not statistically supported, and so it is conflict with a previous study by Khayun (2012). Hypothesis (H4b) is not statistically supported and so it is not in agreement with the previous study by Dihshaw and Strong (1999). Hypothesis (H5) is statistically supported and so in harmony with the result of the research by Staples and Seddon

(2004). Hypothesis (H6) is statistically supported and concomitant with the research by Khayun et al. (2012). Lastly, hypothesis (H7b) is supported. This result is consistent with research by Staples and Seddon (2004). For more details, Table 4 shows the results of the hypothesis examinations of both research models.

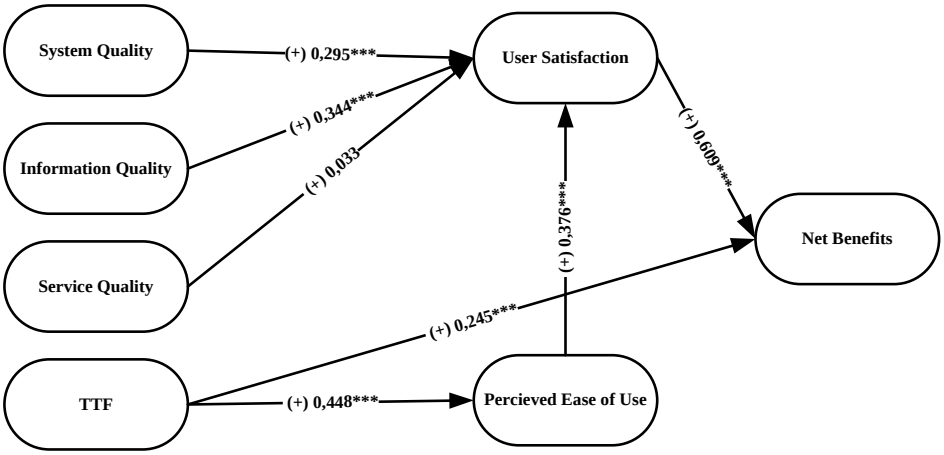

Figure 4. Hypotheses Examination of Research Model 1 (TTF-DM)

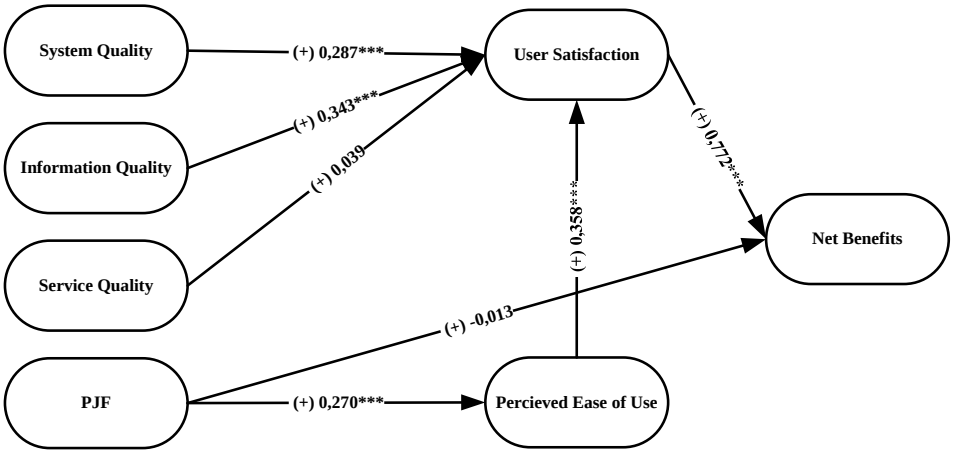

Figure 5. Hypotheses Examination of Research Model 1 (PJF-DM)

Table 4. The Results of hypotheses Examinations

Hypo-theses	Causality Relationships	Research Model 1 (TTF-DM)		Research Model 2 (PJF-DM)	
		Coefficient	C.R#	Coefficient	C.R#
H1 (+)	*System Quality → User Satisfaction*	0,295	4,399***	0,287	4,199***
H2 (+)	*Information quality → User Satisfaction*	0,344	5,138***	0,343	5,144***
H3 (+)	*Service Quality → User Satisfaction*	0,033	0,616	0,039	0,761
H4a (+)	*Task-Technology Fit → Perceived Ease of Use*	0,448	6,480***	-	-
H4b (+)	*Person-Job Fit → Perceived Ease of Use*	-	-	0,270	3,767***
H5 (+)	*Perceived Ease of Use → User Satisfaction*	0,376	6,122***	0,358	5,272***
H6 (+)	*User Satisfaction → Net Benefit*	0,609	7,752***	0,772	10,188***
H7a (+)	*Task-Technology Fit → Net Benefit*	0,245	3,485***	-	-
H7b (+)	*Person-Job Fit → Net Benefit*	-	-	-0,013	-0,240

Note: *** significant at 0.01 level; ** at 0.05 level; * at 0.1 level. # C.R used in the SEM is equivalent to t-value or calculated-t value in other software.

Goodness of Fit Test of the Research Model

All of the results are mostly consistent with the research by Staples and Seddon (2004); therefore the eighth hypothesis (H8) is supported. This study finds that more hypotheses of the research model 1 are supported than that of the research model 2. Our test provides the results of the goodness of fit test of the model as follows. The results of the goodness of fit test of the research model 1 and 2 show that both models are fit. Most of the criteria are met. Table 5 presents the results of the goodness of fit test of the research models.

Table 4 shows that the chi-square value of the research model 1 is greater than that of model 2. The probability of both models show significant values. The significant values of chi-square are expected in this study. The values of the CMIN/DF in both models show good results. The value of CMIN/DF in both models is less than 2.00. The value of CMIN/DF in the research model 1 is less than that of research model 2. The values of RMSEA, GFI, AGFI, and CFI in both models also meet the criteria. Both models are free from endogeneity problems, because their errors do not correlate with their independent variables, as shown by the low value of CMIN/DF and RMSEA compared with their standards. The values of RMSEA, GFI, AGFI, and CFI in the research model 1 are greater than that of research model 2.

Implications

Practically, the GM-AFIS has adequate quality. It provides the menus to access the data needed. The system has a dashboard that contains the module to process the prepaid expense proposals. In addition, its information quality is also adequate. One of the criteria for assessing the system quality is its time saving. The GM-AFIS is able to provide the time efficiency and information currency to its users. This evidence is laid down in the approval log provided by the system. This approval log is a history or track record that displays the process of prepaid expense proposals. Thus, the users can monitor the progress of their prepaid expenses, they are either still being processed or have been processed. In the event of a revision to the prepaid expenses proposal at the approval supervisor or verifier level, they can immediately find out and revise it.

The service quality of the GM-AFIS has not been able to give satisfaction to the users. Sometimes, the proposals for prepaid expenses are not immediately processed. The users still have to notify the competent authorities manually when there is a new prepaid expenses proposal. In addition, the system does not provide FAQ (Frequently Asked Questions) and an on-line chat system. This condition forces the users to use other media if they want to communicate with the administrators when they encounter problems regarding the system. The user is forced to contact the administrator by phone, memo, or e-mail. These conditions make the users waste time when experience difficulties with the system. Hence the system does not provide an adequate service quality to its users.

The suitability of the work handled by each GMU employee with the ability to use the GM-AFIS has not yet been able to provide any benefits for the individuals and organizations. Factually, the application of the system is still far

Table 5. The Results of the Goodness of Fit Test of the Research Models

Goodness of Fit	*Cut-off Standards*	Model 1 (TTF-DM)	Model 2 (PJF-DM)
Chi-Square	Small	659.739	692.822
P	≥ 0.05	0.000	0.000
CMIN/DF	≤ 2.00	1.718	1.818
RMSEA	≤ 0.08	0.049	0.052
GFI	≥ 0.90	0.880	0.875
AGFI	≥ 0.90	0.885	0.847
TLI	≥ 0.95	0.922	0.914
CFI	≥ 0.95	0.931	0.924

from ideal. It is more applicable due to its mandatory use, but the users do not feel the benefits of the system. Additionally, they are more inclined to use the system just to meet their obligations and the procedural requirements in the process of prepaid expense proposals for their operational activities. In addition, the necessary training in the system use is still less than adequate. Training was only conducted when the system was about to be applied. The training is also considered as less than adequate as the educational background and skills of the users are different so that their comprehension of the system also differs.

On the other hand, the users have to run the system manually for submission of prepaid expense proposals. Their performance does not meet optimal levels because they have to submit the prepaid expense proposals twice, manually and by computer. This, of course, increases the users' workload and therefore the application of the GM-AFIS is not efficient. From the organizational point of view, every functional department must still have a budget issued for papers and take an even longer time just to process the submission of prepaid expense proposals. The principle of the system was to reduce the time taken for the processing of prepaid expense proposals. In addition, the system has some disadvantages because it requires the users to continue the process despite the fact that they are on their way out. There are many approval supervisors and verifiers who do not posses the required tools to complete this process.

In our study, the results from the research model 1 (TTF-DM) are better than those of research model 2 (PJF-DM). Research model 1 (TTF-DM) provides a better explanation of the success of mandatory information systems. The suitability of tasks, expertise, and technology determine the success of the GM-AFIS application. The users who have the high task-technology fit will find it easier to operate the system. They have no doubts about using the technology because the tacit knowledge within the users has been formed. It can be seen from the educational background of the users between S1 up to S3. In addition, the users who have the task-technology fit are less likely to face obstacles in operating the mandatory system. The mandatory information system insists that the users operate the system. Thus, the users are considered to be free from all obstacles in using the technology.

This study has some findings which are expected to contribute to all related parties. The findings imply that policy makers should take changes in the practical conditions into considerations. When the facts on the ground indicate inefficient use of the system, a new policy enforcing a full on-line process of prepaid expense proposals should be put in place. Manual activities should be performed only when printing a statement or bank transaction receipt. Consequently, a good quality system, like the application of the GM-AFIS, does not always run smoothly in its implementation. Before the system is implemented, the readiness of the related parties must be ensured. We documented that, in this case, the prepaid expense proposal, it is not a "stand alone" system (but requires both manual as well as computerized submissions).

The implication for senior management is that their roles are very critical to the success of the implementation of new information systems. The top managers should be focused on the service improvements required and increasing the users' knowledge since most of the obstacles are not in terms of the technological capabilities. They need to get more acquainted with the use of the GM-AFIS. The number of system users is reaching 1000 and there are different levels of understanding of the system. Many users experience technical faults when using the system. Training, which should have been provided before implementing the system, is still not adequate. Thus, the human resources department needs to provide more periodic training sessions and reviews regarding the use of this system. Senior management should also monitor the total number of GM-AFIS user's accounts. We observed that there are users who have more than 1 account. Too many users' accounts in the system will make it more difficult for management to monitor and control.

For the system designers, an on-line communication system between the administrator and the user, such as FAQs and/or on-line chat, is a necessity. An on-line communication facility is needed to connect the users to assistance when they experience problems using the system, so they can get the help they need without having to wait long periods to get answers to the problems they face. In addition, the system designers should consider a more user friendly system. The users are often confused by the sub-menus in the system, such as tax calculation or journal entries. The system designers have the responsibility to conduct socialization and training for all users. The training should focus on the suitability between the users' tasks and their capabilities. The facts show that the problems which arise in the system implementation are rarely caused by a mismatch between the users' tasks and their knowledge.

The users should get more acquainted with the GM-AFIS. They must ascertain their readiness before using the system. Any parts of the system that they do not understand should be dealt with speedily. This can be achieved by forming on-line groups or forums to inform and share knowledge. In addition, top management should retire any incapable users.

CONCLUSION

This study compares the inducement of the task-technology fit with the person-job fit in the model of information system success. The results show that, from the research model 1, only 1 hypothesis is not supported. That hypothesis relates the service quality to the users' satisfaction. Meanwhile, in research model 2, 2 hypotheses are not supported. These hypotheses are the relationship of the service quality to the users' satisfaction and the relationship of the person-job fit to the net benefit. It means that the task technology fit has a stronger association with the success of information system implementation than the person job fit model.

There are reasons to explain this comparison result. It signifies that the current users already possess the required ability and agility to use the new technology. But, the users still need to adjust their capabilities and competencies to the characteristics of the technology, once this is done it would make the individuals' performance more effective and efficient. It means that the user should not require extra cognitive efforts to use this GM-AFIS. We support the cognitive fit theory. On the other hand, the person-job fit is considered insufficient to ascertain the success of the information system implementation. This is because, in addition to the suitability of the individuals' characteristics for the job they handle, they too must adjust their capabilities and competencies with the characteristics of the technology in order to gain the most benefit from the information system implementation.

This study suggests that the inducement of person job fit is low-to-moderately supported. We argue that most users' educational background is somehow irrelevant to their jobs. It has implications for the job qualifications and recruitment policies. The Gadjah Mada human resources department should consider the users' capabilities and competencies in conformity with their job qualification. For the recruitment policies, the non-accounting and finance staff would be better replaced by those with the right expertise. It means that the GM-AFIS should be supported by human resources whose specialized capabilities and competencies are in accounting and finance.

This study has several limitations. Firstly, the researchers have no control over the respondents who answered the questionnaires. Thus, this study has a bias in the administrated questionnaires and delivery of the subjective judgments regarding the use the GM-AFIS. However, the researchers tried to anticipate this condition by directly observing the system application in use. Secondly, the researchers found some difficulties in researching the respondents. This occured because some users have the same data and there were difficulties in meeting the users at the level of approval supervisors and verifiers. Thirdly, the limitations of this study possibly appear in the reasons for the justification of hypothesis H8. The researchers only relied on the statistical figures in the results of

each parametric hypothesis examination to compare both models. Fourthly, the researchers did not use a specific test to obtain a stronger research model to illustrate the application of a mandatory information system. Lastly, the number of questions in this survey is relatively small in comparison with the large number of respondents. This will affect the results of the data normality test.

Further study should be aimed at examining the modified DeLone and McLean model by inducing the person-environment fit. This fit theory consists of 3 concepts, namely, the task-technology fit, person-job fit, and person-environment fit. Researchers can further compare these 3 concepts of fit theory to determine the best inducement to describe the success of the implementation of the mandatory information systems. The person-environment fit is the balance relationship between the individual and the environment. The person-environment fit focuses on the work pressure faced by each individual in completing their work. Further research can use the measure of person-environment fit adopted from Cooper et al. (2001).

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Journal of Indonesian Economy and Business
Volume 29, Number 2, 2014, 118 – 128

THE IMPACT ON FARM PROFITS OF A COMPANY'S PARTNERSHIP WITH A POTATO FARM

The Case of the Partnership Between PT. Indofood Fritolay Makmur and Potato Farmers in Sembalun District, in the Province of West Nusa Tenggara

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ABSTRACT

This research aims to explain the impact of the partnership on potato farms' profits in Sembalun District, West Nusa Tenggara Province. To achieve this goal, we looked at 142 farmers, comprising of 111 partnered farmers and 31 non-partnered farmers. The conclusions from our profit function analysis were: (i) the partnership had a positive impact on potato farmers' profits in Sembalun District, West Nusa Tenggara Province; (ii) productivity, input costs, and labor costs had a significant influence on profits as an impact of the partneship. In this context, it is recomended that the local government encourage and facilitate potato farmers who have not yet established a partnership to enter such an arrangement with the company, so that their productivity and incomes increase. In addition, the local government is expected to build storage facilities for potato seeds. Future research should search for potato seeds that can replace the imported ones.

Keywords: *impact, partnership, profit, potato*

INTRODUCTION

Over the past 2 decades, economic liberalization has led to rapidly increasing activity in the agro-industry of developing countries. However these new opportunities favour the large-scale producers and marketers more than the smaller ones. Farmers with large areas of land, easy access to capital and market information find institutional support easily (Patrick, 2003: 3). Conversely, farmers with little land do not find it easy, and even become marginalized and excluded from the marketing of high-value agricultural and export oriented products, even though they can produce them (Drabenstott, 1995: 14).

This phenomenon indicates that the information among the actors in the agricultural sector is not perfect (imperfect information), whereas perfect information in neo-classic economic theory is a prerequisite for market equilibrium (Bates, 1995: 31; North, 1995: 17). Imperfections such as information are coupled with the uncertainty and high transaction costs that were assumed to be absent in neoclassic economic theory (North, 1995: 18). Therefore, in an effort to overcome these problems, the presence of institutions in such things as agricultural partnerships becomes very important (Grosh, 1994; Key and Runsten, 1999). White (1997) defines agricultural partnerships (contract farming) as a way to organize agricultural production, where small farmers (outgrowers) are contracted by a company to supply agricultural crops in accordance with the terms specified in a contract or agreement.

The motivation for the actors in such partnerships (contract farming) is basically the same, namely to minimize risks and optimize profits. For companies, the motivation to partner primarily is to avoid uncertainty in the supply of the raw materials they need, from the production and action of speculators in the free market. For

farmers, involvement in contract farming reduces the risk of uncertainty in the marketing of their products (Kirsten & Kurt Sartorius, 2002). In addition to securing a market, the farmers who participated in the partnership are provided with credit for production inputs such as seeds, fertilizer and pesticides by the partner companies who will be repaid after the harvest.

Several empirical studies demonstrate the impact of partnerships in agriculture, these partnerships may increase the production and income of farmers as a result of the use of new technologies, a reduction in transportation costs and in marketing costs. Warning and Key (2000) indicated in the results of their research in Sinegal that small farmers participating in a partnership involving peanut production received higher incomes than those who did not participate. Similarly, Winter, et al. (2005) from the results of their studies on the evaluation of hybrid corn seed contracts between the farmers and an American multinational company in East Java concluded that partnerships have a significant effect on the revenue of farmers, the allocation of labor utilization, and the cost of chemical inputs such as pesticides, herbicides, and fertilizers. On the allocation of household resources usage and the use of chemical inputs, Singh (2002) from the results of his research in the Indian Punjabi agricultural sector concluded that the partnership had a positive impact on household resource use, in particular the allocation of household labor and the increasing intensity of the use of chemical inputs for agricultural production.

Empirical studies of the impact of agricultural partnerships have also been carried out by Tatlidil and Akturk (2004) which focused on the comparative analysis between contracted and non-contracted farmers in the production of tomatoes in Biga District, Canakkale Province, Turkey. The research found that: (i) the contracted farmers use more inputs of seeds and chemical fertilizers than non-contracted farmers, (ii) their cost of production per unit of output is lower than that of non-contracted farmers, and (iii) the net profit of contracted farmers is 19 per cent higher than non-contracted farmers. The same conclusions have been found by Hamidi (2010), who focused his studies on the impact of partnership on the profits of Virginia tobacco farmers in Lombok Island. Hamidi found that: (i) the partnership had a positive impact on profits, (ii) the level of productivity, the price of tobacco, the price of fertilizer inputs of NPK, KNO, pesticides, labor, kerosene, and interest rates all have a significant effect on profits as a result of the partnership.

Meanwhile, empirical studies on the impact of partnerships on the profits of potato farmers using a profit function model are very limited. Previous studies focused more on the marketing aspects, as was done by Adiyoga, et al. (2006) who examined the integration of the potato market in some major cities acting as consumption centers (Bandung, Jakarta, Medan, Singapore), the marketing of seed potatoes in West Java (Bachrein, 2004), and the pattern of distribution of potatoes in Bandung, West Java (Agustian and Mayrowani, 2008). It was on the basis of this existing limited research related to the impact of partnerships on the profits of potato farmers that this research was conducted. In addition to the above reason, potatoes became of concern to this study because they are a horticultural commodity that has a very high growth demand. Data from the Ministry of Agriculture (2012) showed that the demand for potatoes rose from 572,342 tons in 1992 to 1,318,690 tons in 2012. The increase in demand cannot be satisfied by domestic production, so potatoes must be imported. In 2005 the import of potatoes from the USA, Canada, Australia, New Zealand, the Netherlands and Germany reached 2,864 tons, and increased to 4,069 tons in 2007. The District of Sembalun was nominated as a research location because it had become one of the top 10 potato producing regions in Indonesia, and the central production point for seed potatoes that are free from the disease Sis Yellow Nematode (PCN).

The presence of PT. Indofood Fritolay Makmur to partner with the potato farmers in the district of Sembalun is expected to significantly increase the benefits for the potato growers. The problem is, is it true that such partnerships can

increase profits for farmers who run potato farms? If true, does productivity, the cost of capital input and labor costs affect the profits as a result of the partnership? Specifically, this study aims to (1) analyze the impact of these partnerships on the benefits for potato farmers in the district of Sembalun, West Nusa Tenggara Province; (2) analyze the effects of factor productivity, capital input cost, and labor cost on profit as a result of the partnership.

THEORY

Partnership (contract farming) originated from the new institutional economic theory or the New Institutional Economics (NIE), that was created to overcome the problem of market failure caused by asymmetric information and other factors that affect transaction costs (Grosh, 1994; Key and Runsten, 1999). Market failure is mentioned by Kirsten and Sartorius (2002) in that agribusiness companies know more information about production technology and input-output markets than farmers do.

In the analysis of the impact of partnerships in this study the Cobb-Douglas profit function was applied. Lau and Yotopoulos (1973) in Sadoulet (1995: 245), stated that the profit function can be derived by using the technique of Unit Output Price Cobb-Douglas Profit Function (UOP-CDPF), with the assumption that producers maximize profits more than satisfaction. UOP-CDPF is a function which involves the production and production factors that are normalized by the output price. Mathematically, profit maximization can be derived from the production function and cost function as shown by Nicholson (1998: 377).

For example, the production function for potato farming is:

$$q = \gamma X^{\alpha} Z^{\beta} \tag{1}$$

with, q = output quantity
X = quantity of the variable input
Z = quantity of the fixed input
γ = intercept (constante)
α and β = elastisity of output from input X dan Z

Cost function: $C(q) = vZ + wX$ (2)

v : capital rent for fixed input
ω : price of variable input

If and are prices of input and output, then profit function (π) becomes:

$$\pi(X,Z) = Pq - C(q)$$
$$= Pf(X,Z) - (\omega X) \tag{3}$$

With, π = profit
P = output price per unit

If $\omega = \omega$/P is the normalized price of variable input, then the equation (3) can be normalized with output so that the output Price Profit (UOP Profit) is as follows:

$$\pi/_{P}(X,Z) = Pq - C(q)$$
$$= Pf(X,Z) - (\frac{\omega}{P}X) \tag{4}$$

The primary requirement for maximizing profit is that the first derivative of the profit function equals zero.

$$\pi = P\gamma X^{\alpha} Z^{\beta} - \omega X$$

$$\partial\pi/_{\partial X} = \alpha P\gamma X^{\alpha-1} Z^{\beta} - \omega = 0 \tag{5}$$

$$\alpha P\gamma X^{\alpha-1} Z^{\beta} = \omega \tag{6}$$

$$X^{\alpha-1} = \left(\frac{\omega}{\alpha P\gamma Z^{\beta}}\right) \tag{7}$$

$$X^{*} = \left(\frac{\omega}{\alpha P\gamma Z^{\beta}}\right)^{\frac{1}{\alpha-1}} \tag{8}$$

Equation (8) indicates that the quantity of input that needs to be provided for profit maximizing depends on the output price, input prices, and fixed input Z. By substituting the equation (8) with (1) optimum output (q*) is gained as follows:

$$q = \gamma X^{\alpha} Z^{\beta}$$

$$q = \gamma\left[\left(\alpha\gamma Z^{\beta}\frac{P}{\omega}\right)^{\frac{1}{1-\alpha}}\right]^{\beta} Z^{\beta}$$

$$= \gamma\left[\left(\gamma Z^{\beta}\right)^{\frac{1}{1-\alpha}}\left(\alpha\frac{P}{\omega}\right)^{\frac{1}{1-\alpha}}\right]^{\alpha} Z^{\beta}$$

$$= \gamma\left[\left(\gamma^{\frac{\alpha}{1-\alpha}}\right)\left(\alpha\frac{P}{\omega}\right)^{\frac{\alpha}{1-\alpha}} Z^{\frac{\beta}{1-\alpha}}\right]$$

$$= \gamma^{\frac{1}{1-\alpha}}\left(\alpha\frac{P}{\omega}\right)^{\frac{\alpha}{1-\alpha}} Z^{\frac{\beta}{1-\alpha}} \quad (9)$$

The equation (9) shows that the optimum output quantity produced to obtain maximum profit depends on output price, input prices, and Z. The formula is:

$$X^* = X^*(P, \omega, Z) \quad (10)$$

By substituting equations (8) and (9) into the profit function then maximum profit is:

$$= P\left[\gamma^{\frac{1}{1-\alpha}}\left(\alpha\frac{P}{\omega}\right)^{\alpha/1-\alpha} Z^{\frac{\beta}{1-\alpha}}\right] - \varpi\left[\gamma\alpha Z^{\beta}\frac{P}{\omega}\right]^{\frac{1}{1-\alpha}}$$

$$= P\left[\gamma^{\frac{1}{1-\alpha}}\alpha^{\frac{\alpha}{1-}}\left(\frac{P}{\omega}\right)^{\frac{\alpha}{1-\alpha}} Z^{\frac{\beta}{1-\alpha}}\right] -$$

$$\omega\left[\gamma^{\frac{1}{1-\alpha}}\alpha^{\frac{1}{1-\alpha}} Z^{\frac{\beta}{1-\alpha}}\left(\frac{P}{\omega}\right)^{\frac{1}{1-\alpha}}\right]$$

$$= \gamma^{\frac{1}{1-\alpha}}\alpha^{\frac{\alpha}{1-\alpha}}(1-\alpha) Z^{\frac{\beta}{1-\alpha}} P^{\frac{1}{1-\alpha}}\omega^{\frac{-\alpha}{1-\alpha}} \quad (11)$$

The equation (11) shows that the maximum profit (π^*) received by potato farmers depends on output price (p), variable input prices (w), and fixed input Z.

METHODS

Data Collection and Sampling Locations

Collecting data for this study used a survey method with face to face interviews of potato farmers with guidance from a structured questionnaire. The study was conducted in the District of Sembalun, East Lombok, West Nusa Tenggara Province for 3 months, running from April to June of 2013, the selected study location was based on consideration of (i) it is the only location in NTB for potato development, (ii) the development is carried out through a partnership, and (iii) it has become a center for potato production in Indonesia and the center for producing seed potatoes that are free from the disease Sis Yellow Nematode (PCN).

Determination of the location of the village for our sample was by purposive sampling, giving consideration to the location of the development, and the number of potato farmers. Based on data from the Office of Agriculture and Animal Husbandry, in 2012 the District of Sembalun became known as the location for the development of the potato, which happened in 3 of the 5 villages in Sembalun. They were Sembalun Lawang, Sembalun Bumbung and Sembalun Timba Gading villages.

Sampling of Respondents

The respondents in this study are potato farmers who are either partnered or not-partnered with PT. Indofood Fritolay Makmur. Determination of the number of samples of respondents in this study used the following formula (Sugiarto, et al., 2003: 60)

$$n = \frac{N}{1 + (N(Moe)^2)} \quad (12)$$

with:

n = number of samples
N = population
Moe = margin of error

Based on data from the Institute of Agriculture and Animal Husbandry, in 2012 Sembalun District had a potato farming population of (N1) 1,098 people who were in partnership, and non-partnered farmers consisted of (N2) 310 people. By taking a margin of error of 10 per cent, then the sample size for partnered farmers (n1) is 111 and for non-partnered farmers (n2) is 31 people. Then the selected sample farmers were distributed to their respective village locations proportionally. Furthermore, determining the respondent farmers in each village used a simple random sampling method by way of lottery.

Variables and Data Analysis

Data collected from the surveys, was then edited, tabulated, and analyzed. The analysis model used was the Cobb-Douglas Profit Function which includes 4 explanatory variables, i.e. productivity, capital input costs, labor costs, and a dummy variable of partnerships. Compared with other possible functions, the Cobb-Douglas function has the following advantages: (i) the solution is relatively easy compared to other functions, such as quadratic, and can be easily transferred to a linear form; (ii) the results of the estimation line through the Cobb-Douglas function produces regression coefficients which also identify the coefficient of elasticity; (iii) the elasticity shows the figure for the returns of scale. However, there are also limitations, primarily located in the estimation problems involved in these least square methods, such as an error in the variable measurement, multi-collinearity, and so on. Because of the primacy of the Cobb Douglas function then this study applied this analysis.

The Empirical Model Profit Function of Cobb-Douglas in this analysis is shown by equation (13) as follows:

$$\pi_{i=\varphi} v^{\alpha} \omega^{\beta} Z^{\gamma} D_i^{\delta} \quad (13)$$

To facilitate the estimation of the equation (13) and also data on profit distribution (π_i) and the determinants of profit nearing normal distribution, then the equation is transformed into a linear form by making it logarithmic, so that the equation becomes:

$$\ln \pi_i = \ln \phi + \alpha \ln v_i + \beta \ln \omega_i + \gamma \ln Z + \delta D_i + \varepsilon_i \quad (14)$$

π_i = Profit (Rp) of potato farmers, partnered and not, and has been normalized with potato prices
ϕ = Cross line of profit function
v_i = Productivity of potato farms, both partnered and non-partnered (kg/ha)
ω_i = Cost of capital input of partnered and non-partnered potato farmers (Rp/ha)
Z_i = Cost of labor input of partnered and non-partnered potato farmers (Rp/ha)
D_i = 1 for parnered farmers
0 for non-partnered farmers

The empirical model equation (14) is hypothesized as follows:

(i) The partnership had a positive impact on the productivity of potato farms, indicated by partnered/non-partnered.

(ii) Productivity (v), the cost of capital input (ω), and the cost of labor input (affect potato farm profits). The hypothesis is accepted when the value of on partnered profit function value of on non partnered farmers at .

(iii) Partnership had a positive impact on profit, based on the coefficient of the dummy variable of partnered farmers ($\delta > 0$) The hypothesis is accepted when the value of δ on the partnered dummy variable (D_i) of the profit function of the partnered is more than the non-partnered farmers at .

RESULTS AND DISCUSSION

Potato Farming Partnership in Brief

The partnership between PT. Indofood Fritolay Makmur and potato growers in the district of Sembalun, West Nusa Tenggara Province started in 2005, at a time when the experiment was tried in a small area of 10 are (1 are = 100 m^2). The experiment showed positive results, so that in 2008 it was expanded to an area of 150 hectares, with 968 farmers involved. In 2013 the number of potato farmers being partnered reached 1,098 belonging to the 3 village groups involved.

In the operationalization of the potato farming partnership in the District of Sembalun, the rights and obligations of the farmers were not laid down in the form of a written contract, but on the basis of mutual trust, which was represented by the groups, rather than individual farmers. Farmers' rights in the partnership included receiving loans in the form of seeds, fertilizers, and pesticides, which were to be repaid after the harvest, while their duties included selling potatoes to the partner company at the specified price agreed upon previously.

The number of seeds, and amounts of fertilizer and pesticides provided to the farmers

depended on the area they planted with potatoes. For an area of 1 hectare the farmers were given 2000 kgs of potato seeds, 3-4 tons of petrorganic fertilizer, 500 kgs of SP36, 500 kgs of NPK, 300 kgs of ZA, and 100 kgs of KCl. Besides these products, they were also provided with a fungicide (such as 2 liters of repus), 20 kgs of nemospore, and insecticides like indomektilin (0.5 liters), 25 grams of cirotex, and herbicides. The farmers do not actually harvest their crop themselves, this is the responsibility of the group which also bears the labor costs of Rp200-300 per kg, depending on the farm's position and the farm's road.

Empirical Model of Profit

In economic theory, the level of profit received depends on the amount of revenue and the production costs incurred. The results showed that the magnitude of the profit for potato farmers who are partnered in farming is Rp26,904,063 per hectare or 14.48 per cent higher compared to non-partnered farms, who received Rp23,501,701 per hectare. The difference in the profit of partner farmers and non-partner farmers is significant at = 0.01 with a p-value of 0.000 (Table 1).

The higher profit of the partnered farmers is due to their higher revenues, i.e. Rp85,772,240 per hectare or 12.03 per cent higher compared to non-partnered farmers who received Rp76,574,572 per hectare. Difference acceptance between partnered and non-partnered farmers is significant at = 0.01 with a p-value of 0.000 (Table 1). The higher revenue of the partnered farmers is caused by their productivity and the selling price of potatoes, although the cost of the capital inputs of partnered farmers is slightly higher than the non-partnered farmers.

The results showed that the productivity achieved is 22,270 kgs per hectare for partnered potato farmers or 9.06 per cent higher than the non-partnered farmers (at 20,419 kgs per hectare). The difference in productivity between the two groups of farmers is significant at = 0.01 with a p-value of 0.000. Similarly, the average selling price of potatoes that partnered farmers received was Rp3,850 per kg, while the non-partnered farmers only received Rp3,750 per kg. The difference in the selling price per kg of potatoes between the 2 groups of farmers is also significant at = 0.01 with a p-value of 0.000 (Table 1).

In general, costs for partnered farmers to cultivate potatoes are higher than the non-partnered farmers. For the various types of capital input, costs incurred by the partnered farmers reached Rp37,743,572 per hectare, or 4.78 per cent higher than the non-partnered growers who paid Rp36,019,866 per hectare. The difference between these 2 capital input costs of the farmers groups is significant at = 0.01 with a p-value of 0.000. However, for the cost of labor inputs for both the partnered and non-partner farmers are relatively equal at Rp14,124,802 per hectare for the partnered farmers and Rp14,115,689 per hectare for the non-partnered farmers. Thus, the test for the differences in the averages of the 2 samples showed no significant difference between the 2 groups of farmers (Table 1). Furthermore, to test the hypothesis whether the partnership with the potato farmers had a positive impact on their profitability, a test of the profit function for partnered farmer groups, non-partnered farmer groups, and combined groups in dummy variables was conducted. Similarly, the testing for the influence of productivity, cost of capital input, and labor

Table 1. Profit of potato farming per hectare in Sub Sembalun, 2013

No	Item	Potato farmer		t-stat	p-value
		Partner	Non-partner		
1	Profit (Rp/ha)	26,904,063	23,501,701	4.4473	0.000
2	Revenue (Rp/ha)	85,772,240	76,574,572	12.1603	0.000
3	Productivity (kg/ha)	22,270	20,419	9.3739	0.000
4	Capital cost (Rp/ha)	37,743,752	36,019,866	10.1805	0.000
5	Labor cost (Rp/ha)	14,124,802	14,115,689	0.0369	1.6659

costs against profits was made by using the regression model of the Cobb-Douglas Profit Function summarized in Table 2.

The regression model for the potato farm profit function in Table 2 shows that the value of the coefficient of determination R^2 is respectively 0.594 for non-partnered farmers, 0.987 for partnered farmers, and 0.842 for the combined farmers. This means that about 59.4 per cent of the variation in profit for non-partner farmers, 98.7 per cent of the variation in profit for partnered farmers, and 84.2 per cent of the variation in profit for the combined farmers can be explained by the explanatory variables of productivity of potato production, costs of capital input, and the cost of labor input. The rest of the 40.6 per cent f = 1 per cent for non-partnered farmers, 1.3 per cent for partnered potato growers, and 15.8 per cent for the combined potato farmers can be explained by other factors.

In the Cobb-Douglas production function of degree 1, the influence of other factors that are not incorporated into the model can be explained by the intercept, which is also an indicator of economic efficiency. Regression analysis showed that the intercept of the profit function of non-partner potato growers amounted to 14.466 lower than the 16.010 of partnered farmers, with a significance at = 1 per cent. Even with the inclusion of a dummy variable, the intercept value of partnerships increased to 21.162 and was significant at = 1 per cent. According to Nicholson (1998: 291), the increasing value of the intercept indicates that the economic efficiency of the production systems has increased. The increased economic efficiency which occurred for partner farmers cannot be separated from the influence of the use of new technologies, technical developments, improvements in production systems, improved economies of scale, the economics of scope, and other benefits bought by the partner companies.

Furthermore, the results of the regression analysis in Table 2 also show that the value of the F statistic for non-partnered farmers was 17.565 lower than those who were partnered, at 976.008. Both values are statistically significant at F = 1 per cent so it can be concluded that all 3 explanatory variables included in the model, i.e. productivity, costs of capital input, and labor

Table 2. Estimates of Farm's Potato Profit earned by Non-Partner Farmers, Partner Farmers, Combined Farmers, in Sembalun District, 2013

No	Explanating Variable	Farmer Profit Function		
		Non-Partner	Partner	Combined
1	Intercept	14.466 (2.556)	16.010 (3.236)*	21.162 (3.291)*
2	Productivity(ln PRODTV)	0.676 (6.115)*	1.097 (50.159)*	1.206 (16.370)*
3	Cost of Capital Input (ln C)	-0.264 (-2.481)	-0.107 (-4.268)*	-0.304 (-3.790)*
4	Cost of Labor Input (ln L)	-0.333 (-2.879)	-0.277 (-9.592)*	-0.253 (-4.725)*
5	Dummy of Partnership (DUMMY)	-	-	0.182 (1.859)**
Adjusted R^2		0.594	0.987	0.842
F		17.565*	976.008*	99.27*
Number of Observation		35	40	75

Source. Analysis profit model from earned Non-Partner Farmers and Partner Farmers, Combined Farmers
Figures in brackets show the statistics of t.
** show statistical significance of = 10%
* show statistical significance of = 1%
Dependent variable is ln profit (π /ha).

input costs incurred by partnered farmers, non-partner farmers, and combined farmers jointly and significantly affect the potato farm's profits in the district of Sembalun, West Nusa Tenggara. Even with the inclusion of dummy variable partnerships, the value of the F statistic for combined farmers increased to 99.87 from the previous 17.565 and significant at = 1 per cent. This increase in the value of the F statistic was followed by a growing number of significant explanatory variables.

Nevertheless, based on the results of the t-test, it is known that not all explanatory variables have significant affects on potato farming profits. For partnered farmers, all explanatory variables significantly affect potato farming profits in the district. The variables include productivity, costs of capital input, and labor costs. For the non-partnered farmers, of the 3 explanatory variables included in the model, only 1 variable significantly affects the potato farm's productivity (ln PRODTV), while the other two explanatory variables, namely the costs of capital input (ln C) and labor input (ln L) have no significant affect. This happens because the usage and input prices as well as the amount of capital and labor among non-partner and partnered farmers are relatively equal. The impact of settlements of farmers who are in a stretch of making the behavior of farmers in the use of capital and labor inputs are relatively the same, so even if the sample is enlarged, possible variations will not show any significance.

The entry of the partnership dummy variables into the model resulted in all explanatory variables, productivity (ln PRODTV), the cost of capital inputs (ln C) and labor inputs (ln L) becoming significant at = 1 per cent. In the explanatory variable productivity (ln PRODTV), both partnered and non-partnered farmers have a positive regression coefficient (as expected). For partnered farmers, productivity per unit of land area (hectares) has a significant affect on the increase in the farm's profits. An additional 1 per cent productivity can increase the profit by 1,097 per cent and is significant at = 1 per cent. In the case of the non-partnered farmers, they experience a lower additional profit of only 0.675 per cent when productivity increased by 1 per cent. The entry of the partnership dummy variable into the model turns the coefficient explanatory variable of productivity to 1.206 and is significant at = 1 per cent. This means that the farmer's participation in the potato farming partnership program is sensitive to an increase in profits as a result of increased productivity. An additional 1 per cent productivity can increase the profit to 1.206 per cent from 0.675 per cent previously. The higher share of the additional profits earned by the farmers is due to the productivity of partnered farmers producing 22,270 kgs per hectare, or 9.06 per cent higher than the non-partnered farmers (20,419 kgs per hectare).

The higher productivity of the partnered farmers over the non-partnered farmers, in addition to their use of new technology, improvements to the production system and the technical guidance of partner companies is also very likely due to better land used. One of the determinants of the productivity variable is the volume of the use of production inputs, which to a certain extent explains that when more inputs are used, the productivity will be higher. In this context, partnered farmers use more than the non-partnered ones. In the use of seeds, for example, partnered farmers used 2,264 kgs while the non-partnered ones used 2,014 kgs per hectare. NPK fertilizer was used by the partnered farmers (567 kgs), while non-partnered farmers only used 504 kgs per hectare. Likewise with the other input types used, such as the SP36, ZA, Petroganic, pesticides, and herbicides. These significant affects on the productivity of potato farming profits as described above is in line with the results of research by Hamidi (2010), entitled "The impact of partnership on profit of Virginia tobacco farming in Lombok Island", that found that the inclusion of dummy variables into the model causes the coefficient explanatory variable of productivity to increase to 0.5777 from previously 0.1037 and significant at = 1 per cent.

In the variable of the input cost of capital (ln C), both partnered and non-partnered farmers have a negative regression coefficient (as expected), but for non-partnered farmers it is not significant at = 1 per cent or 10 per cent . With

partnered farmers, an additional 1 per cent cost of capital input (ln C) can reduce their profit by 0.107 per cent lower than that of non-partnered farmers, which is at 0.264 per cent. The lower proportion of the reduction of profits earned by the partnered farmer is due to the prices of inputs such as the fertilizer NPK which is lower at Rp2,500 per kg compared to Rp2,600 per kg for non-partnered farmers, SP36 price of Rp2,300 per kg lower than the non-partnered farmers of Rp2,500 per kg. Similar to other inputs, such as the pesticide Delta, partnered farmers receive a price of Rp104,000 per liter, non-partner farmers receive Rp110,000 per liter. The entry of the partnership as dummy variable caused the variable of input cost of capital (ln C) significantly affect the profit at = 1 per cent, which previously was non-significant at = 1 per cent or 10 per cent. This means that farmers participating in the partnership program would reduce profit lower than non-partner farmers as a result of lower input prices received. In the variable labor costs (ln L), the coefficient regression for both partnered and non-partnered farmers is negative (as expected), it was -0.333 for non-partnered farmers and -0.277 for the partnered farmers. This means that for every 1 per cent increase in labor costs, partnered farmers' profits will decrease by 0.277 per cent lower than non-partnered farmers at 0.333 per cent. The entry of the partnership dummy variable into the model caused the coefficient of the explanatory variable of labor cost to rise to -0.253 from -0.333 earlier. This means that farmers participating in the partnership program can reduce the decline in profit as a result of increased labor costs from the previous 0.333 per cent to 0.253 per cent. The lower the percentage decrease in profits that occurred in the partner farmers due to the average wage paid per man-days (person-days) lower, i.e. Rp46,624 per person-day, while for non-partner farmers at Rp49,566 per person-day.

The entry of the partnership dummy variable into the model function indicates that the combined profit gained from potato farming increased because of the institution of partnerships. This is shown by a positive coefficient of dummy variable of partnership of 0.182 and significant at = 10%. This means that the involvement of the farmers in partnerships can increase their profits by 0.182 times. The increase in their profit happens because of the application of new technology, improvements in their production systems and technical guidance from the company, which improves the productivity of the potato farms and also increases the product price as well as decreasing the prices of inputs including fertilizers, pesticides, and herbicides.

The empirical examination above concluded that such a partnership has a positive impact of the profit of potato farmers in the District of Sembalun. The indicators are: (1) the intercept of the profit function of partnered farmers is higher than the non-partnered ones; (2) the coefficient of the dummy variable of partnership is positive and significant at = 10 per cent. These conclusions support the theory of NIE that states that partnership is an institution in agricultural sectors that can increase profits as a consequence of reduced transaction costs (North, 1995:18) so that cost per unit output reduces because the farmers receive lower priced inputs as transportation can be done in a collective way (Hennessy, 1996). These conclusion also support the results of previous research into partnerships that showed that farmers who participate in partnerships receive more income that those who do not (Glover, 1994; Little and Watts, 1994, Warning and Key, 2000; Tatlidil and Akturk, 2004. Winters, et al., 2005; Hamidi, 2010).

CONCLUSIONS AND RECOMENDATIOS

Conclusion

This study aimed to explain whether partnerships have a positive or negative effect on profit for potato farmers in the District of Sembalun, West Nusa Tenggara. This research concluded that:

1. Partnership has a positive impact on the potato farmer's profits. This conclusion is drawn from (i) the intercept of the profit function in potato farming for partnered farmers which is higher than that of the non-partnered farmers, (ii) the coefficient of the

dummy variable of partnership is positive and significant at = 10 per cent.

2. Productivity, cost of capital inputs, cost of labor inputs significantly affect the profit as a result of the partnership.

Recommendations

1. Partnership evidenced a profit increase for potato farmers. Thus, this study recommends government programs to push farmers to increase their involvement in partnerships with the company, in order to increase productivity and profits and thus help reduce poverty rates in rural areas.
2. One of the main problems in potato farming is the availability of seeds, which currently must be imported. Also cold storage facilities are needed for storing the seeds until they are distributed. Therefore, more research on seeds and their cold storage is suggested. The government, through the ministry of agriculture, in collaboration with the agricultural office of West Nusa Tenggara, should build seed storage facilities, in the expectation that potato seeds become more readily available, cheaper and with certainty of supply, so that the profits from potato farming will increase.

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Journal of Indonesian Economy and Business
Volume 29, Number 2, 2014, 129 – 141

PRICE STABILIZATION AND IPO UNDERPRICING: AN EMPIRICAL STUDY IN THE INDONESIAN STOCK EXCHANGE

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ABSTRACT

We attempt to investigate IPO underpricing and stabilization activities. We find IPO underpricing of around 25% in the Indonesia market. Return distribution for the first 30-trading days shows a positive skew, the distribution becomes closer to normality as the period lengthens. We then develop and test five algorithms to detect IPO intervention. An important goal of this paper is to develop an algorithm that will be able to detect IPO intervention using public data. We find that the number of closing prices that are equal to the offer prices and the skewness of the IPO return in the first 30-trading days are the 'best' stabilization measures. Having found "the best measures", then we investigate under what conditions IPO intervention is more intensive. We find that underwriters tend to stabilize more on more expensive IPOs.

Keywords: *IPO, Indonesia, underpricing, stabilization*

INTRODUCTION

IPO underpricing is a common phenomenon found in practically all the capital markets around the world. For example, in the Indonesian market, Utamaningsih (2013) found that IPO underpricing, calculated by the difference between the closing price on the first trading day, to the original offer price on the Indonesian Stock Exchange, averages around 30%. Underpricing is considered as an implicit cost to the company issuing its shares to the public, in addition to being an explicit cost, such as the cost of underwriting. A company, issuing shares to the public loses an opportunity to obtain a larger amount of funds collected from the IPO sales.

Various theories have been advanced to explain the IPO underpricing. Baron (1982) developed a model based on asymmetric information between a company and its underwriter. The underwriter possesses better information than the company. The underwriter prefers to have a lower offer price so as to be able to sell the shares more easily to public investors. Hence, the underwriter will prefer to set a lower offer price; which tends to increase underpricing. Using an asymmetry framework, other researchers argue that the IPO is a signal to the market. Good companies offer higher underpricing to investors to signal their quality. This signal is costly; it is difficult for poor companies to imitate. Thus the signal is credible. The company can benefit from the signal, for example, the company can be expected to receive a more favorable price when it issues seasoned equity offers.

Rock (1986) developed a winner's curse model to explain IPO underpricing. In his model, there are 2 types of investors: informed and uninformed investors. Informed investors will buy good IPOs and do not buy bad ones. Uninformed investors do not have good information about which IPO is good or bad. Uninformed investors buy both good and bad IPOs. As a result, informed investors will always gain at the expense of the uninformed investors. In an equilibrium setting, uninformed investors will eventually withdraw from the IPO market, leading to

* We thank anonymous referees for their comments and suggestions. We also thank participants of 2014 Faculty of Economics and Business seminar for Case and Research Results Dissemination.

the collapse of that market. To keep uninformed investors participating in the IPO market, uninformed investors must be compensated. IPO underpricing is a form of compensation for uninformed investors to keep them in the IPO market.

Deliberate IPO underpricing is difficult to reconcile with reasonable logic and empirical evidence. Why is a company willing to give up about 30% of the 'money on the table'? This number is significant. The logic of Rock's (1986) model is also questioned, since empirical vidence shows that IPOs are generally oversubscribed. Why does the company need to provide compensation when there are so many potential buyers for its IPO? In general, models based on information asymmetry seem to receive little support.

Ritter (2002) argued that the most potential explanation for the IPO phenomenon may come from the agency theory and behavioral finance. The agency theory for IPOs explores several issues, such as how the IPO is allocated between institutional and individual investors (Aggarwal et al., 2002), stabilization activities in the IPO market (Aggarwal et al., 2002; Ruud, 1993), the effect of ownership structure on IPO performance (Brennan and Franks, 1997), and flipping activities on the first trading day of IPOs (Aggarwal, 2000; Wilhelm, 1999). Behavioral finance for IPOs discusses issues such as the prospect theory (Kahneman dan Tversky, 1979) for IPOs and market sentiment related to the IPO market (Cornell et al, 2006).

This research attempts to extend the literature on IPOs by investigating price stabilization on Indonesian IPOs. Price stabilization is an action to prevent or decrease the price fall for IPO stocks (Aggarwal, 2002). The action covers various mechanisms, such as share purchasing by the underwriter in secondary markets, discouraging flipping activities in IPO's market, IPO allocation (the underwriter allocates the IPO to investors who will not flip the IPO stocks), and other mechanisms as well. Although price stabilization is a promising explanation for the phenomenon of IPO underpricing, empirical research on this issue is relatively less known. This paper attempts to fill this void. We also investigate various algorithms to detect price stabilization in IPO markets using public data. We consider 5 alternative algorithms: (1) the number of closing prices in the first 30 trading days that are equal to or higher than the offer prices, (2) the number of closing prices in the first 30 trading days that are equal to the offer price, (3) the ratio of return distribution for the first 30 trading days to that for the first 60-90 trading days, (4) the skewness of the first 30 trading day return, and (5) the number of closing prices, in the first 30 trading days, that are above the offer prices and preceded by closing prices below the offer price on the previous day.[1]

We find that the return distribution for the first 30 trading days for IPOs on the Indonesian Stock Exchange is positively skewed, suggesting that there is price stabilization. This result is consistent with that of Ruud (1993). Then we compare the 5 price stabilization algorithms to determine which 1 is the best indicator to predict price stabilization. A natural approach is to compare price stabilization to the degree of IPO underpricing. Thus we regress various price stabilization algorithms on IPO underpricing. Our result show that the algorithms that uses the number of closing prices in the first 30 trading days that are equal to the offer price, and the degree of skewness of the IPO return in the first 30 trading days, predict IPO underpricing well. In the last part, we show that stabilization activities exist more in shares with a higher ratio of price to book value.

We organized our paper as follows. In the next section, we present the literature review, followed by the empirical results. The last section offers our conclusions.

Literature Review

IPO stabilization can be defined as the actions to prevent the IPO price from falling below its offer price. These actions can be done either with pre and/or aftermarket IPOs. Various premarket actions can be done, such as

[1] We consider more than five algorithms in this research. However, for brevity, we report only four algorithms in this paper.

determining IPO allocations (allocate it to investors who will not flip the IPO), and discouraging flipping activities. Aftermarket actions are done after IPO trades in the secondary market. Aftermarket actions in many situations are closely related to premarket actions. Aggarwal (2002) showed 3 aftermarket stabilization actions: (1) 'pure' stabilization, in which the underwriters post bid prices not exceeding offer prices, (2) short covering from a short position taken before the IPO trades in the aftermarket. Underwriters initially sell shares in excess of the original IPO amount offered, effectively taking a short position. Then this short position will be covered either by exercising the overallotment option and/or short covering in the aftermarket, (3) underwriters penalize investors who flip the IPO quickly, referred to as a penalty bid. Short covering has an advantage compared to pure stabilization, since underwriters do not have to disclose this plan. Aggarwal (2002) showed that pure stabilization is actually relatively minor compared to the other means.

The literature offers several explanations on why underwriters provide IPO price support (Lewellen, 2006): Price support as a reward to investors and as a bonding mechanism, price support as a form of price manipulation, and price support to maintain the underwriter's reputation. In the first explanation, underwriters provide compensation to investors, more specifically uninformed investors. Chowdhry & Nanda (1996) based on Rock's (1986) model, argue that stabilization is an alternative to compensation to uninformed investors in the winner's curse setting for the IPO. A commitment to buy an IPO at the offer price is effectively equal to giving a 'put' option to investors, which is an additional value to investors who buy the IPO, especially uninformed investors. Uninformed investors, in Rock's model (1986) are parties who will likely end up buying poor IPOs. Chowdhry & Nanda (1996) argue that stabilization may be more efficient than underpricing in compensating uninformed investors for the problem of adverse selection costs.

In the second explanation, underwriters stabilize IPO markets to manipulate prices. Hanley et al. (1993) argued that stabilization activities may increase stock prices and disguise poor IPOs. However, this argument may be questionable since it is hard to deceive rational investors. One may argue that while stabilization may not deceive informed investors, but it could well deceive uninformed investors. Schultz & Zaman (1994) argued that stabilization can be expected to increase the aftermarket price. This can be done by reducing the supply of IPO shares. Price support at the offer price can be expected to reduce cascading from price decline, since the underwriter promises to buy the IPO at offer price.

In the third explanation, the underwriter attempts to maintain his/her reputation. An overpriced IPO may signal the underwriters' incompetency, lack of effort, and honesty. The incident of IPO overpricing may affect the underwriters' future revenue, and may have adverse impacts on the underwriter. Beatty & Ritter (1986) and Dunbar (2000) showed that an underwriter that prices IPOs inaccurately loses market share, and experiences a decline in the underwriters' market value in the subsequent period. Larger underwriters may stabilize to a greater extent than smaller ones since their stake is larger, and also the ability to stabilize at greater extent is stronger for larger underwriters than for smaller ones.

Stabilization activities are difficult to measure, and even to detect. Lack of data and transparency from the industry are probably the main causes of this difficulty. Using proprietary data, Lewellen (2006) developed 3 measures of stabilization activities. First, Lewellen (2006) identified unusually high selling volumes from investors to underwriting syndicates and then calculated changes in the market maker's inventory position after the offer. The idea is that any attempt to stabilize the market (purchase shares) will inflate the share price to an artificially higher level. Rational investors recognize this situation, and start taking advantage by selling shares at higher than normal prices. This action leads to a decrease in the market maker's inventory position. This change in the market maker's inventory position are used as a proxy for stabilization activities.

Second, a stickiness in the stock price during a stabilization period may indicate stabilization activities. Underwriters attempt to prevent the price declining to below the offer price. They will allow the price to decline only after efforts to maintain prices fail. This action creates a stickiness in a stock price during stabilization periods. Third, Lewellen (2006), in a similar spirit to Ruud (1993) and Prabhala & Puri (1999), used a dummy with the value of 1 for IPOs that close at offer price on the first trading day (stabilized) and 0 for IPOs that close below offer price (not stabilized). Ruud (1993) and Prabhala & Puri (1999) found that the return distribution for IPO was almost censored at 0. The return distribution for IPO returns is heavily skewed to the right (positive skewed). This method assumes that no stabilization activities occurred for the IPOs that closed below or even above the offer price.

Lewellen (2006) showed that stabilization activities are more complex than those that can be described in the third measure. However, the third measure has the advantage of its novelty. This paper takes that spirit of novelty to measure stabilization activities. Specifically, we attempt to measure stabilization activities using published data, which are the daily closing prices. Once we are able to develop such a measure, we will be able to detect and measure stabilization activities using a simple, yet powerful technique.

In the Indonesian market, stabilization by underwriters is allowed by the Bapepam (Badan Pengawas Pasar Modal or Indonesia Capital Market Supervisory Agency). Practically, in many countries, IPO stabilization is probably the only non-natural capital market transaction that is allowed. Stabilization activities are regulated by a Capital Market decree, (Number 88/PM/1996), which was then replaced by a revised decree in 2009. The regulation basically allows market stabilization for the first 30 trading days of the IPO. Underwriters have to state any stabilization plans in the prospectus. The IPO intervention prices have to be at the offer price.

EMPIRICAL RESULTS

1. Sample and Data

We used IPOs in the Indonesian market from 1995 to 2012. 1995 was the start of the JATS (Jakarta Automated Trading System), where all transactions are recorded electronically. We do not use IPOs from before 1995, since this older IPO data are more difficult to verify their validity. We collected 231 IPOs for our sample. For regression analysis in the section of the determinants of stabilization activities, we used only samples with complete data. For this section, we were able to collect around 140 IPOs for our sample. We collected the first day closing price of IPOs, the offer price, the size of the IPO (both in Rupiah and in shares), the percentage of the IPO relative to the total outstanding shares, the ratio of Price to Book Value, and the daily closing price for up to 120 trading days in the IPO aftermarket. The data are collected from the Indonesian Stock Exchange and IPO prospectuses.

2. Underpricing and Return Distribution

Table 1 reports the underpricing (initial return) and aftermarket return for our sample. Aftermarket returns consist of 5, 30, 60, and 90 day returns. The table shows that the mean of underpricing (initial return) in the Indonesian market is around 23%. This number is lower than the number reported by Utamaningsih (2013). The median for the initial return is lower than the mean, suggesting that the distribution of the initial return is not normal. The distribution seems to have a positive skew. Normal distribution would show little difference between the mean and the median.

5 day aftermarket returns shows similar characteristics to the initial returns. The median is lower than the mean, suggesting a positive skew. The maximum return is around 187%, while the minimum is around 47%, suggesting overpricing of this IPO. 30, 60 and 90 day aftermarket returns show a trend toward normal distribution. The averages tend to move lower as the number of days grows larger. The average for 90 day aftermarket returns is around 18%, which is much lower than the initial returns. The

Table 1. IPO Initial Return and Aftermarket Return in the Indonesian Stock Exchange

Initial return is calculated as ln (price at period t/offer price). 5-day return is calculated as ln (price at day 5 relative to first trading day/offer price). Similar calculation is done for 30, 60, and 90 day return. The sample consists of IPOs from year 1995 to 2012 in the Indonesian Stock Exchange.

	Initial Return	5-dayreturn	30-day return	60-day return	90-day return
Mean	0.2306	0.2714	0.2562	0.2150	0.1795
Median	0.1542	0.1445	0.1432	0.1178	0.1398
Standard Deviation	0.3105	0.3909	0.4828	0.5757	0.6277
Minimum	-0.7178	-0.4745	-0.8824	-1.1982	-1.7987
Maximum	1.7579	1.8718	2.1401	2.0794	2.0149
Number of Observation	231	232	232	231	231

Source: Center for Business and Economic Data, Faculty of Economics and Business, Universitas Gadjah Mada

differences between the mean and median of aftermarket returns tends to grow smaller as the aftermarket lengthens, suggesting that return distribution conforms more closely to normal distribution as the time period grows.

Lower returns in the 90 day aftermarket suggest price reversal of the IPO. Initial returns show larger returns and reverses in the aftermarket. Interestingly, returns in the aftermarket period decrease gradually as the length of aftermarket period increases. This pattern seems to be consistent with the tendency to move towards a normal distribution as the length of aftermarket period increases.

Table 2 shows the initial return distribution based on the year of the IPO. Interestingly we find that the initial return is very volatile. Initial returns have negative values in 1995 and 2011. In 2001 and 2010, means of the initial return have the largest value. Table 3 shows the initial return distribution based on the type of industry. Our definition of industry follows that of the Indonesian Stock Exchange. Again, the amount of the initial return varies among the industries. Real Estate and Basic Chemicals record the largest IPO initial return. The initial return does not seem to be homogenous across the various industries and years. Ritter & Welch (2002), using US data, found that the initial return varies across the years. There were fewer IPOs in the US from 1935 to 1959 than in 1969 alone. La Porta et al. (1997) reported wide differences in IPO activities across countries. This pattern leaves questions on why in certain years there are more IPOs and higher initial returns than in other years, why initial returns are higher in some industries than in other industries, and why there are more IPOs in some countries than in other countries.

3. Return Distribution of IPO returns

Stabilization activities are difficult to measure directly. Limited data and the lack of transparency from the underwriter prevented us from measuring stabilization directly. This paper attempts to measure intervention activities indirectly, using published data. Specifically, we attempt to investigate patterns of IPO returns surrounding the IPO period. Bapepam (Supervisory Agency for Indonesia Stock Market) allows intervention by the underwriter for the first 30 days of IPO trading activities in the secondary market. We believe that such activities will be reflected in the return pattern of the IPO, such as the distribution of the IPO return (Ruud, 1993). For example, if intervention activities do affect the return distribution, then we can expect that return distribution to differ in the days beyond 30, (for example in the first 60 to 90 trading days in the secondary market) from that in the first 30 days in the secondary market. That first 30 trading day period is when intervention is allowed. We can expect that the return distribution in the first 30 trading days will depart from non-normality distribution (a more positive skewness), while return distribution in days 60 to 90, which is a 'normal' period, will conform more closely to the normal distribution. The ratio of the degree of skewness in the normal to

Table 2. Initial Return Distribution Based on the IPO's Year

This table presents initial return based on the year of the IPO. Initial return is calculated as ln (price at period t/offer price). The sample consists of IPOs from 1995 to 2012 in the Indonesian Stock Exchange.

Year	Mean	Median	Standard Deviation	Minimum	Maximum	Number of Observation
1995	-0.0009	0.0043	0.1513	-0.2963	0.3646	14
1996	0.1047	0.0732	0.1185	-0.0870	0.3857	16
1997	0.0807	0.1301	0.2123	-0.7178	0.4055	30
1998	0.1069	0.0877	0.3345	-0.2513	0.7138	6
1999	0.2745	0.1610	0.2568	0.0000	0.7885	8
2000	0.3823	0.2451	0.3341	-0.0513	1.0647	21
2001	0.5011	0.3765	0.4970	-0.3567	1.7579	31
2002	0.2452	0.2546	0.2749	-0.3939	0.5306	22
2003	0.0637	0.0353	0.1149	-0.0645	0.2683	6
2004	0.1549	0.0912	0.1632	0.0000	0.5188	12
2005	0.1245	0.0852	0.1457	-0.0526	0.3895	8
2006	0.3016	0.2965	0.1830	0.0377	0.5831	12
2007	0.2310	0.1782	0.2308	-0.1376	0.5306	25
2008	0.2187	0.2007	0.2200	-0.1863	0.5306	19
2010	0.5278	0.5278	.	0.5278	0.5278	1
2011	-0.0101	-0.0101	.	-0.0101	-0.0101	1

Source: Center for Business and Economic Data, Faculty of Economics and Business, Universitas Gadjah Mada

Table 3. Initial Return Distribution Based on the type of Industry

This table presents initial return based on the year of the IPO. Initial return is calculated as ln (price at period t/offer price). The sample consists of IPOs from 1995 to 2012 in the Indonesian Stock Exchange. Industry categories follow the Indonesian Stock Exchange definition.

Industry	Mean	Median	Standard Deviation	Minimum	Maximum	Number of Observation
Miscellaneous Manufacturing	0.2427	0.1431	0.3306	-0.3075	0.7178	13
Consumer Goods	0.0831	0.0660	0.2239	-0.2963	0.6444	11
Basic Chemicals	0.3018	0.1884	0.3236	-0.0870	0.9651	20
Infrastructure, Utility, and Transportation	0.0287	0.0241	0.0312	0.0000	0.0619	3
Financials	0.1688	0.1398	0.3056	-0.7178	1.0116	39
Trades and Services	0.2955	0.1823	0.4461	-0.3567	1.7579	31
Mining	0.1389	0.0426	0.2688	0.0000	0.7397	7
Agriculture	0.3155	0.1823	0.3350	0.0000	1.0598	9
Real Estate	0.4087	0.2231	0.4315	-0.1252	1.3106	15
Others	0.2060	0.1695	0.2057	-0.1863	0.5831	84

Source: Center for Business and Economic Data, Faculty of Economics and Business, Universitas Gadjah Mada

non-normal period may measure the degree of IPO intervention in the secondary market.

Table 4 shows the distribution of IPO returns for the initial return and the aftermarket returns in the secondary market. We report 5, 30, 60, and 90 day aftermarket returns.

The table seems to confirm our prediction. Initial returns show a positive skewness distribution. The values of the skewness for returns up to 30 days are positive. As IPO intervention diminishes[2], the skewness becomes closer to zero, suggesting that return distribution moves closer to normal distribution. The value of the skewness for normal distribution is zero. Kurtosis tends to decrease as the length of the period increases. While the value of kurtosis for normal distribution is 3, the decrease in kurtosis

[2] We use the first 30 trading days as a period of IPO intervention. Bapepam regulation states that the underwriter may intervene in IPO trading during the first 30 trading days.

Table 4. Kurtosis, Range, and Skewness of the IPO Return

Initial return is calculated as ln (price at period t/offer price). 5-day return is calculated as ln (price at day 5 relative to first trading day/offer price). Similar calculations are done for the 30, 60, and 90 day returns. The sample consists of IPOs from 1995 to 2012 in the Indonesian Stock Exchange. Kurtosis, range, and skewness, are calculated cross-sectionally for our sample IPOs.

	Initial Return	5-day return	30-day return	60-day return	90-day return
Kurtosis	3.1073	1.5883	1.2620	0.6932	0.5000
Range	2.4757	2.3463	3.0225	3.2777	3.8136
Skewness	1.1737	1.2169	0.9484	0.6922	0.2592

Source: Center for Business and Economic Data, Faculty of Economics and Business, Universitas Gadjah Mada and Authors' calculation

for the aftermarket returns suggests that return distribution widens. The highest value for kurtosis for the initial return seems to suggest that initial returns peak at a certain value, which we believe is zero return (closing price is equal to offer price). This pattern seems to support the stabilization hypothesis for the IPO market.

4. Measures of Stabilization Activities

As explained in the previous section, we attempted to measure the degree of stabilization in the IPO market. We showed that the return distribution for IPO markets in the first 30 trading days does not conform to normal distribution. In this section, we attempt to develop further measures for IPO stabilization. We develop 5 algorithms to measure the degree of stabilization. First, during the first 30 trading days, we count the number of closing prices that are equal to the offer price. Bapepam regulations state that the underwriter is allowed to support the IPO stock at its offer price. In other words, the underwriter could bid the IPO stock at a maximum of its offer price. Thus, this regulation provides us with a first and simple clue to measure the degree of stabilization.

If an IPO stock closes below its offer price, then we believe that the underwriter has not intervened with the IPO stock. If the closing price is above the offer price, then this method argues that the underwriter also does not intervene with the stock. Intervention or stabilization only exists if the closing prices are equal to the offer prices. In this situation, the underwriter has attempted to support the IPO stock, to prevent the price from going below its offer price.

In the second algorithm, during the first 30 trading days, we calculate the number of closing prices that are the same or higher than the offer price. During the first 30 days, attempts by the underwriter to support the IPO price will result in prices either being the same or higher than the offer price. Closing prices do not have to be the same as the offer price for stabilization conditions.

In the third algorithm, we develop the following method. If the closing price of the IPO stock at day t is above the offer price, and the closing price at day t-1 is below the offer price, then that indicates there have been stabilization activities. The underwriter attempts to maintain his/her reputation, so the underwriter will attempt to support the IPO price to stop it from falling below its offer price. With this method, we argue that stabilization activities start the next day. Thus the situation in which the closing price is below the offer price becomes a trigger for the stabilization activities.

The fourth algorithm uses the skewness measure for the return distribution of the first 30 trading days. As explained in the previous section, skewness may indicate support to maintain the price of the IPO stock. Our fifth algorithm uses the ratio of skewness in the first 30 trading days to the skewness in days 60 to 90 relative to the initial trading. In the previous section, we showed that return distribution for the first 30 trading days departs significantly from normal distribution, while the return distribution for days after 30 relative to the initial trading conforms more closely to normal distribution. The degree of non-normality in the first 30

trading days will be captured by the ratio of skewness in the first 30 trading days to the skewness in days 60 to 90. We expect that this ratio will be able to measure the degree of IPO stabilization in the first 30 trading days.

Table 5 reports descriptive statistics for the 5 algorithms to detect IPO stabilization.

For our sample, the mean of daily closing prices during the first 30 days that were equal to the offer price was 1.94 days. During the first 30 trading days, most of the IPOs in our sample had closing prices that were higher than their offer prices. The mean for the second measure of stabilization is 21.59 days, while the median is 29 days. The incident of positive returns at day t is higher than the offer price following negative return at day t-1, the third measure of stabilization, is not common. The average for this measure is only 0.30. The maximum for this measure is 4. The fourth stabilization measure uses the skewness of the return distribution for the first 30 trading days. The average of this skewness is positive which is consistent with our findings in the previous section. The number in this table is different from that in table 2, since the methodology in this table is different. The last measure shows a negative number of -1.31. We note extreme values for this measure, from -166.17 for the minimum to 45.55 for the positive number.

5. In Search of a Good Stabilization Measure

One of our goals in this paper was to formulate an algorithm to detect stabilization activities using public data. We already proposed 5 algorithms to detect stabilization activities. In this section, we attempt to validate the 5 algorithms we developed in the previous section. Stabilization activities are difficult to observe directly, hence we attempt to validate the measures indirectly. Specifically, we will correlate the measures with other variable(s) that are expected to measure stabilization activities. We chose IPO underpricing as the candidate. The literature shows that underpricing and stabilization activities are closely related (Ruud, 1993; Lewellen, 2006). The objective of stabilization is to prevent the IPO prices from falling below the offer price, hence to create a positive initial return (or IPO underpricing). Thus, intuitively we expect a positive relationship between our measures and underpricing, should the measures be valid.

Table 6 reports the regression results of various stabilization measures on IPO underpricing.

Table 5. Descriptive Statistics For Stabilization Measures

This table reports descriptive statistics for stabilization measures. In Stab1, we use the number of closing prices from day1 to 30 that are equal to or higher than the offer price. In Stab2, we calculate the number of closing prices that are equal to the offer price. In Stab3, we count the number of the following incidents: closing price at day t is above the offer price, preceded by closing price at day t-1 being below the offer price. In Stab4, we use skewness of the IPO return during the first 30 trading days (day1 to 30). In Stab5, we use a ratio of the skewness of the IPO return during the first 30 trading days to that in trading days 60-90. Return is calculated as ln (closing price at day t / offer price). Independent variable is initial return, calculated as ln (closing price at first trading day/offer price).

	Stab1	Stab2	Stab3	Stab4	Stab5
Mean	1.94	21.59	0.30	0.019	-1.31
Median	0	29	0	0.041	-0.047
Standard deviation	5.64	11.53	0.67	1.058	15.38
Minimum	0	0	0	-5.420	-166.17
Maximum	29	29	4	2.711	45.55
Number of observation	247	247	247	225	222

Source: Center for Business and Economic Data, Faculty of Economics and Business, Universitas Gadjah Mada and Authors' calculation

Tabel 6. The Effect of Stabilization on IPO Underpricing

This table reports Ordinary Least Square regression results of various stabilization measures on IPO underpricing. We use the following algorithms to measure stabilization activities. In column (1), we use the number of closing prices from day1 to 30 that are equal to or higher than the offer price. In column (2), we calculate the number of closing prices that are equal to the offer price. In column (3), we count the number of the following incidents: the closing price at day t is above the offer price, preceded by the closing price at day t-1 being below the offer price. In column (4), we use the skewness of the IPO return during the first 30 trading days (day1 to 30). In column (5), we use a ratio of the skewness of the IPO return during the first 30 trading days to that in trading days 60-90. Return is calculated as ln (closing price at day t/offer price). Dependent variable is initial return, calculated as ln (closing price at first trading day/offer price).***,**, and * denote significance at 1%, 5%, and 10% level, respectively.

	(1)	(2)	(3)	(4)	(5)
Intercept	0.2455***	-0,0773	0.2480***	0.2278***	0.2293***
	(<0.0001)	(0.1389)	(<0,0001)	(<0,001)	(<0,0001)
Stabilization	-0.0119***	0,0130***	-0,0842**	0,0256	-0.0008
Measure	(0.0031)	(<0.001)	(0,0140)	(0,2648)	(0.5814)
Adj R-square	0.00332	0,1436	0,0217	0,0011	-0.0032
F value	8.92***	39.73***	6.13**	1.25	0.30
(prob)	(0.0031)	(<0.001)	(0,014)	(0.2648)	(0.5814)
N	231	231	231	223	220

Source: Center for Business and Economic Data, Faculty of Economics and Business, Universitas Gadjah Mada and Authors' calculation

The table shows that the second and fourth measures have positive regression coefficients as expected. The other measures have negative regression coefficients. However further inspection shows that only the second measure, which is the total number of days in the first 30 trading days in which closing prices are equal to the offer price, shows a positive and significant regression coefficient. The other measures show either negative significant regression coefficients or insignificant positive ones. We conclude that the total number of closing prices that are equal to the offer price is the best measure of IPO stabilization activities.

6. Determinants of Stabilization Activities

Having established the "valid" stabilization measure, in this section we want to investigate in which conditions the underwriter intervenes in the IPO market more intensely. In other words, we want to investigate variables that affect an IPO's stabilization. We consider 5 variables in this section: the total number of IPO shares, the IPO's offer price, the total value of the IPO in Rupiah, the percentage of the IPO relative to the total outstanding shares, and the underwriters' reputation. Table 7 shows descriptive statistics for the variables of interest in this section.

The average offer price is 750 Rupiah, which is around 7.5 US cents ($0.075). This amount is definitely considered a penny stock by US standards. The percentage of the IPO is around 25%, which is similar to 30% of the average shares sold to the public in Indonesia. The size of the shares underwriting is calculated for each underwriter during the period of this study. The amount is probably not a perfect measure since the amount for this variable covers various years, and we do not deflate the amount for this variable. This limitation also holds for other variables, such as the IPO size in Rupiah.

We attempt to investigate the variables that affect stabilization activities using a regression technique. We consider 3 variables: the information asymmetry variables, the pricing variables, and the underwriters' reputation. Benveniste et al. (1996) and Chowdhry & Nanda (1996) used an information asymmetry framework in their IPO underpricing model. Chowdhry & Nanda (1996) showed that underpricing is needed to compensate uninformed investors in the winner's curse setting of Rock's (1986) model. Benveniste et al. (1996) modelled information asymmetry between underwriters and investors.

Table 7. Descriptive Statistics for IPO size, IPO percentage, Offer Price, and Price to Book Value, Underwriters Proceeds

This table shows descriptive statistics of the IPO size, the offer price, the percentage of IPO, and the Price to Book Value. IPO size consists of the IPO size in millions of shares and in billions of Rupiah. IPO percentage is the percentage of shares offered to the public by the IPO relative to the total outstanding shares. Total underwriter IPO proceed is accumulated during the period of study. This variable is used as a proxy for the underwriters' reputation. Price to Book Value is a ratio of offer price to book value of the company stated in its IPO prospectus.

	Mean	Median	Standard deviation	Minimum	Maximum	N
IPO size (in millions of shares)	36,099,908	130	268,059,662	1	2,847,433,500	151
IPO offer price (Rp)	750	500	823	100	4,650	150
IPO size (billion Rp)	8,773,486	60	54,769,368	0	455,589,360	151
Percent (%)	25.72	25	10.57	0.38	66.67	148
Shares underwriting size (million shares)	61,561,297	199,237	144,522,593	0	561,859,248	147
Price to Book Value	2.17	1.60	1.80	-2.50	11.58	153

Source: Center for Business and Economic Data, Faculty of Economics and Business, Universitas Gadjah Mada and Authors' calculation

A commitment to stabilize the IPO at the offer price is needed to prevent investors' losses from overpriced IPOs. The larger the information asymmetry, the larger the need for stabilization; hence we expect a positive relationship between information asymmetry and stabilization activities (Lewellen, 2006). We use the IPO's size as a proxy for information asymmetry. We have 2 variables that measure the IPO's size: the IPO size in millions of shares and the IPO size in billions of Rupiah. Both variables have a strong correlation, which may lead to the problem of multicollinearity. We chose IPO size in millions of shares as the measure of IPO size.

The offer price may affect stabilization activities. A higher offer price may result in IPO overvaluation. In the Benveniste et al. (1996) model, underwriters stabilize as a commitment to prevent investors' losses from overpriced IPOs. The probability of price decreases in the aftermarket for this IPO is higher than those with a low offer price. Stabilization activities in this situation can be expected to be more intense. Hence we expect a positive relationship between the offer price and stabilization activities. We have 2 measures for the offer price: the offer price in Rupiah and the offer price in relative terms. In relative terms, we use the ratio of price to book value (PBV). Again, we have to choose 1 as a proxy for the offer price. We chose the price to book value over the offer price in Rupiah as our proxy for the offer price.

Another variable that may affect stabilization activities is the underwriters' reputation. Lewellen (2006) showed that underwriters' reputations affect price stabilization. As explained in the previous section, a negative return in the IPO aftermarket may provide negative signals about the underwriters to investors: incompetent, poor commitment, lack of effort. These negative signals may have an adverse impact on the underwriters' business. This argument seems to have support from empirical evidence. For example, Dunbar (2000) found that larger underwriters lost their market share by significant amounts as a consequence of inaccurately priced IPOs. We may predict that the underwriter will attempt to maintain his/her reputation using price stabilization. Price decrease in the underwritten IPO may damage their reputation, so the underwriters will be more active to stabilize the IPO's price in the aftermarket. We expect that underwriters with good reputations will stabilize the IPO more intensely than those with a worse reputation. The stake is larger for those with a higher reputation. We expect to have a positive relationship between the underwriters' reputation and stabilization activities. We use the amount of IPOs underwritten during the period of our study as a proxy for the underwriters'

reputation. The larger the number of IPOs an underwriter underwrites, the higher the reputation of that underwriter. Specifically, we accumulated the amount of IPOs for each underwriter during the period of our study. Then we calculated the average of the accumulated IPOs. We assign a dummy variable of 1 for the underwriters with accumulated IPOs higher than the average, and zero otherwise. Underwriters with a dummy variable of one have a higher reputation than those with the zero value.

Table 8 shows the regression results. Overall, regression analyses do not seem to provide convincing results. However, there is an indication that the Price to Book Value has a positive relationship with stabilization activities. In column (3), the regression coefficient for Price to Book Value shows a positive and significant sign. Underwriters seem to intervene more intensely for the more expensive IPOs. The more expensive IPOs may create higher uncertainty, and higher information asymmetry. Thus our results seem to support underpricing models that are based on asymmetry framework (Chowdhry & Nanda, 1996; Benveniste et al., 1996). Our results are not consistent with those of Lewellen (2006) who found no support for underpricing models based on asymmetric information, but did find support for underwriters' reputations. Lewellen (2006) founds that larger investment banks stabilize more than smaller ones. Further, Lewellen (2006) showed that retail investment banks stabilize even more.

CONCLUSION

We attempted to investigate IPO underpricing in the Indonesian market, and develop measures for stabilization activities in the IPO market. We found that IPO underpricing in the Indonesian market is around 25%. The distribution of the IPO return is heavily positively skewed. The distribution becomes closer to normality as the periods are lengthened. Thus the distribution for the initial return is more positively skewed than that for 5, 30, and 90 day returns. We found that the number of days in which the closing prices

Table 8. Regression Results of the Determinants of Stabilization Activities

This table reports Ordinary Least Square regression results of the various determinants of stabilization activities. In column (1) and (2), we use the number of closing prices during the first 30 trading days that are equal to the offer price. In column (3) and (4), we use the skewness of the daily return of the IPO during the first 30 trading days. The Price to Book Value is calculated as the offering price divided by book value in the year of going public. For underwriters' reputation, we use a dummy with the value of 1 for underwriters that have total IPO proceeds during our period of study higher than the mean of IPO proceed, and 0 otherwise. IPO size is the number of millions of shares of the IPO. The percentage is the percent of the IPO relative to total outstanding shares. ***,**, and * denote significance at 1%, 5%, and 10% level, respectively.

	(1)	(2)	(3)	(4)
Intercept	22.7044***	24.27344***	0.15432	-0.14152
	(<.0001)	(<.0001)	(0.6105)	(0.4033)
Price to Book Value	-0.06836	-0.10879	0.07459	0.07544*
	(0.8864)	(0.812)	(0.1157)	(0.0946)
Underwriters' reputation	-1.48504	-1.04476	0.02799	-0.0194
	(0.4475)	(0.5711)	(0.8799)	(0.9125)
IPO size	0.17859		-0.0223	
	(0.4088)		(0.3011)	
IPO percentage	0.02226		-0.00669 (0.4012)	
	(0.7879)			
Adjusted R-Square	0.08	0.0029	0.0319	0.0198
F-value	0.28	0.21	1.13	1.42
(prob)	(0.8893)	(0.8108)	(0.3448)	(0.2442)
N	143	145	141	143

Source: Center for Business and Economic Data, Faculty of Economics and Business, Universitas Gadjah Mada and Authors' calculation

are equal to the offer price, and the skewness of the first 30 day return, are the 'best' measures of stabilization activities. There is an indication that underwriters stabilize more the more expensive the IPO is.

We believe that this study on IPO stabilization provides a promising future. As data become more easily available, the study can be extended in several directions. For example, transaction data can be used to study the intraday price behavior during first day or first 30 trading days in the aftermarket, in which stabilization activities are conducted. Various types of underwriters (for example retail or institutional underwriters) may have different stabilization behaviors. We leave these issues for future research.

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Journal of Indonesian Economy and Business
Volume 29, Number 2, 2014, 142 – 164

DEVELOPING A MEASURE OF LOCAL GOVERNMENT'S FINANCIAL CONDITION[1]

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ABSTRACT

This study develops an instrument to measure the financial condition of local governments (LG) in Indonesia. The instrument will serve as an early warning system for local governments' financial management. The instrument to measure their financial condition consists of six dimensions, namely short-term solvency, long-term solvency, budgetary solvency, service-level solvency, financial flexibility, and financial independence. Each dimension has its own indicators. There are a total of eighteen indicators examined in this study. These indicators are combined to form a composite index, called a Financial Condition Index (FCI). The reliability and validity of the composite index is analyzed and the results show that the measures developed in this study are reliable and valid. In addition, the instrument possesses the criteria of a good measure: it is theoretically sound, a comprehensive assessment, it has predictive ability, distinctive ability, it is practical, objective, and a resistant to manipulation and gaming.

***Keywords**: financial condition, local government, short term solvency, long term solvency, budgetary solvency, service-level solvency, financial flexibility, financial independence*

INTRODUCTION

In 1999 Indonesia began a new era of local government autonomy in which the central government decentralized many aspects of its authority over local government (LG). As a result, one aspect of the new local autonomy is fiscal decentralization granting LGs the right to manage revenue, expenditure, and finance (Act 22/1999). However, one result of this fiscal decentralization is that more than thirty percent of the central government budget is now being distributed to LGs through a decentralization fund that has increased sharply, almost five times - from $US9.08 billion in 2001 to $US43.66 billion in 2011, (assuming 1 $US = Rp9,000) (State Budget Acts, 2000 – 2010). However, the central government only provides the principles of managing local finance to LGs rather than the detailed rules it provided previously. In turn, the financial conditions among LGs will vary. For example, there were 124 out of the 491 LGs in Indonesia experiencing financial problems paying their employee's salaries in the fiscal year 2011 (*Harian Surya*, 2 August 2011, p.1). In the Province of Central Java, 11 out of 35 LGs experienced such problems (*Harian Kedaulatan Rakyat*, 16 June 2011, p.1).This variation of financial conditions creates the need for central governments, central and local parliaments, and communities to have an effective instrument to monitor the soundness of the wide range of LGs in managing their finances.

LGs in Indonesia, at each of the provincial, municipal, and district levels, must prepare financial statements consisting of balance sheets, statements of actual performance compared to budget, and statements of cash flows (Act 17/2003, Act 1/2004, Act 32/2004, and Government Regulation 58/2005). These financial statements must be audited by The Supreme Audit

[1] This paper been presented in international conferences: The 13th Annual Conference Asian Academic Accounting Assotiation (AAAA), Kyoto, Japan, 2012; International Public Sector Conference, Kinabalu, Malaysia, 2012 and Airlangga Accounting International Conference, Bali, Indonesia, 2012.

Board of The Republic of Indonesia in order to assure compliance with the Government Accounting Standards (Act 15/2004). These financial statements inform users about the values of total assets, total debt, net assets, total revenues, total expenditures, and cash inflows and outflows. However, these audited financial statements do not adequately inform users about the LGs financial conditions.

Knowing the financial condition of LGs is important because it is the main provider delivering services directly to the public, including health, education, and roads and bridges services (just to name a few). However, a LG can deliver these services if, and only if, it is in a healthy financial condition. Such a financial condition assures the sustainability of the LG in delivering services of an appropriate quality. In addition, a LG with a healthy financial condition not only directly impacts on the local community, but also plays an important role in the economy. If the LG fails to meet its financial obligations, the regional economy could be adversely affected (Honadle and Lloyd Jones, 1998).

Unlike the business sector in which the financial assessment of firms is clearly defined, research assessing the financial conditions of LGs is relatively new because such research only started in the 1980s (Kloha et al., 2005). This can be contrasted to the business sector where such research commenced 20 years earlier. In the business sector, Beaver (1966) and Altman (1968) established a seminal model to assess the financial condition of a firm. In the LG sector, scholars and practitioners have tried to develop measures for assessing local financial conditions using various dimensions and indicators (Groves et al., 1981, Brown, 1993, Brown, 1996, Hendrick, 2004, Honadle et al., 2003, Kleine et al., 2003, Kloha et al., 2005, Ladd and Yinger, 1989, Nollenberger et al., 2003, Mercer and Gilbert, 1996, Wang et al., 2007, Zafra-Gómez et al., 2009, Kamnikar et al., 2006, Rivenbark et al., 2009, Rivenbark et al., 2010, Rivenbark and Roenigk, 2011, Berne and Schramm, 1986, Casal and Gomez, 2011). However, there is still little agreement about what appropriate dimensions and indicators can be used to measure the specific financial conditions that can occur in different contexts (Wang et al., 2007, Dennis, 2004).Therefore, the objective of this study is to develop a measure of the financial condition of LGs based on the government's financial reporting framework.

CONCEPT OF THE FINANCIAL CONDITION

1. Definition of the Financial Condition

Many scholars have tried to define LGs' financial conditions during the last few decades. Berne and Scramm (1986) proposed a definition of financial condition as the probability that a government will meet its financial obligations to creditors, consumers, employees, taxpayers, suppliers, constituents, and others as these obligations come due. Groves et al. (1981) and Nollenberger et al. (2003) defined financial conditions as a LG's ability to finance its services on a continuing basis. They distinguished cash solvency, budgetary solvency, long-run solvency and service-level solvency. Cash solvency is the ability of a LG to generate enough cash over 30 or 60 days to pay its bills. Budgetary solvency is a LG's ability to generate sufficient revenue to fund its current or desired service levels. Long-run solvency is a LG's ability to fulfill all of its expenditure activities including regular expenditures as well as those that will appear only in the years in which they must be paid. Furthermore, service-level solvency is a LG's ability to provide services at the level and quality that are required and desired by its people. The definition proposed by Groves et al. (1981) and Nollenberger et al. (2003) above is adopted by Wang et al. (2007). They define the financial condition as the level of financial solvency, which includes the dimensions of cash, budget, long-run, and service-level solvency.

The Canadian Institute of Chartered Accountants (CICA, 1997) defines a government's financial condition as its financial health, which is measured from the aspects of sustainability, vulnerability, and flexibility within the overall context of the economic and financial environment. Sustainability is a condition in which the government is able to maintain the programs that

already exist and meet the requirements of creditors without incurring a debt burden on the economy. Flexibility is a condition in which the government can increase its financial resources to respond to increased commitments, either through increased revenues or by increasing its debt capacity. Vulnerability is a condition in which the government becomes dependent, resulting in vulnerability, to sources of funding beyond its control or influence, both from domestic and international sources. Kamnikar et al. (2006) build a definition of the financial condition based on definitions offered by Nollenberger et al. (2003) and CICA (1997). They define the financial condition as a LG's ability to meet its obligations as they become due, and the ability to continue to provide the services its constituency requires.

Kloha et al. (2005) and Jones and Walker (2007) define the financial condition in the context of fiscal distress. Kloha et al. (2005) defined it as a condition in which LGs cannot meet the standards in operations, debt, and the needs of their societies for several consecutive years, whereas Jones and Walker (2007) interpret fiscal distress as an inability to maintain pre-existing levels of services to the community. On the other hand, Hendrick (2004) defined the financial condition in terms of fiscal health. She defined it as a LGs' ability to meet its financial obligations as well as services to the community. Rivenbark et al.(2009, 2010), Rivenbark and Roenigk (2011) define it as a LG's ability to meet its ongoing financial, service, and capital obligations based on the status of resource flow and stock as interpreted from annual financial statements. Their definition is developed based on two reasons, why financial statements are prepared and on the objectives of financial reporting. Berne and Scramm (1986) state that the reasons to prepare financial statements are to report on the flow of resources during a given time period (i.e. shown in operating statements) and to report on the stock of resources at a given point in time (i.e. shown in balance sheets), whereas the financial reporting objective is to provide information necessary to determine whether an organization's financial position improved or deteriorated as a result of the resource flow(GASB, 1987).

From the various definitions that have been developed by previous researchers and institutions, the most widely accepted definition of LG financial condition is the ability of a LG to fulfill its financial obligations in a timely manner and the ability to maintain the services provided to the community. Unfortunately, the researchers mentioned above do not develop a definition of financial condition stemming from the objectives of a nation. It is argued that the definition of the financial condition of LGs should be derived from the objectives of a nation.

2. Conceptualizing the Definition of the Financial Condition of LGs

This current study argues that in defining local government financial condition it should be derived from the national objectives, because the financial condition of local governments is a financial effect resulting from local governments' activities to achieve the national objectives. In the context of Indonesia, there are four national objectives as stated in the preamble to the Constitution: to protect all the people of Indonesia and the entire country of Indonesia; to promote the welfare of the people; to intellectualise the life of the people; and to establish a world order based on freedom, eternal peace and social justice (Constitution, 1945).

To achieve those objectives, they must be implemented together by the central government and local governments. To achieve the national objectives, local governments implement programs and activities to serve the community in all areas of public services including health, infrastructure, education and so-forth. In the framework of local government autonomy, as stated in Act 32/2004 regarding regional autonomy, each local government is granted the right to design its own policies to achieve the national objectives as long as they are in congruence with the central government's strategic plan. As a result, each local government has its own programs and activities based on its people's perceptions, both economic and political. The implementation of programs and activities is

financed by the local government budget. Because each local government has different programs and activities, this will impact on its financial condition. The central government only provides local government with the principles for managing local finance rather than the detailed rules it provided previously (Act 32/2004; Act 33/2004; Government Regulation 58/2005). As a result, the financial condition of each local government varies. Therefore it can be concluded that the financial condition of local government is a financial effect resulting from local government activities to achieve the national objectives.

During the process of implementing its own programs and activities, local government interacts with its stakeholders and environments. The interaction among local government, stakeholders and environments will create certain rights and obligations for the local government. These obligations to the community can be ordinary obligations, such as the fulfillment of minimum service standards in the areas of health, education and infrastructure, or extraordinary obligations that are caused by extraordinary events such as natural disasters, riots and other matters. Article 21 of Act32/2004 details the rights of local government to organize and manage their own affairs and administration; select regional leaders; manage local officials; manage the wealth of the region; raise taxes and levies; obtain the results from the management of natural resources and other resources that are in the area; find sources of legitimate income, and other rights stipulated by legislation. In addition, article 22 of Act 32/2004 describes the obligations of local government to its stakeholders. The obligations are to protect the people, maintain unity and national harmony, as well as the integrity of the Unitary Republic of Indonesia; improve the quality of life of society; develop democracy; provide justice and equity; improve basic educational services; provide health care facilities; provide appropriate social and public facilities; develop a system of social security; prepare spatial planning; develop productive resources in the area; preserve the environment; manage the administration of residence; preserve social and cultural values; establish and implement regulations according to its authority; and other obligations set out in the legislation.

However, local government efforts to achieve the national objectives are constrained by resource availability, including human, financial, equipment, time resources and so on. Therefore, local government has to optimize limited resources to achieve the national objectives. Local government must ensure that its obligations to stakeholders are satisfied. In addition, local government must be able to execute its rights effectively and efficiently. Thus, a good local government is a local government that can meet all of its obligations and can execute its rights efficiently and effectively in order to achieve national objectives.

Bringing the argument above into the financial context, the sound financial condition of a local government occurs when a local government is able to execute its financial rights (i.e. collecting revenue) efficiently and effectively and is able to meet all its financial obligations to its stakeholders in order to achieve the national objectives. The ability to execute financial rights efficiently and effectively is shown by an increase in a local government's own revenues. In turn, this condition will lead to an increase in the financial independence of local governments.

The ability to meet financial obligations is shown by the capability of a local government to repay its short-term and long-term liabilities (i.e. short-term solvency and long-term solvency), the ability to cover its operating expenses (i.e. budgetary solvency) and the capacity to supply services of the standard and quality needed and requested by its people (i.e. service-level solvency). In addition, a sound financial condition of local government occurs when a local government is able to anticipate events that are unexpected in the impending future (i.e. financial flexibility), such as natural disasters or social disasters. The following figure shows the process of conceptualization of the definition of local government financial condition.

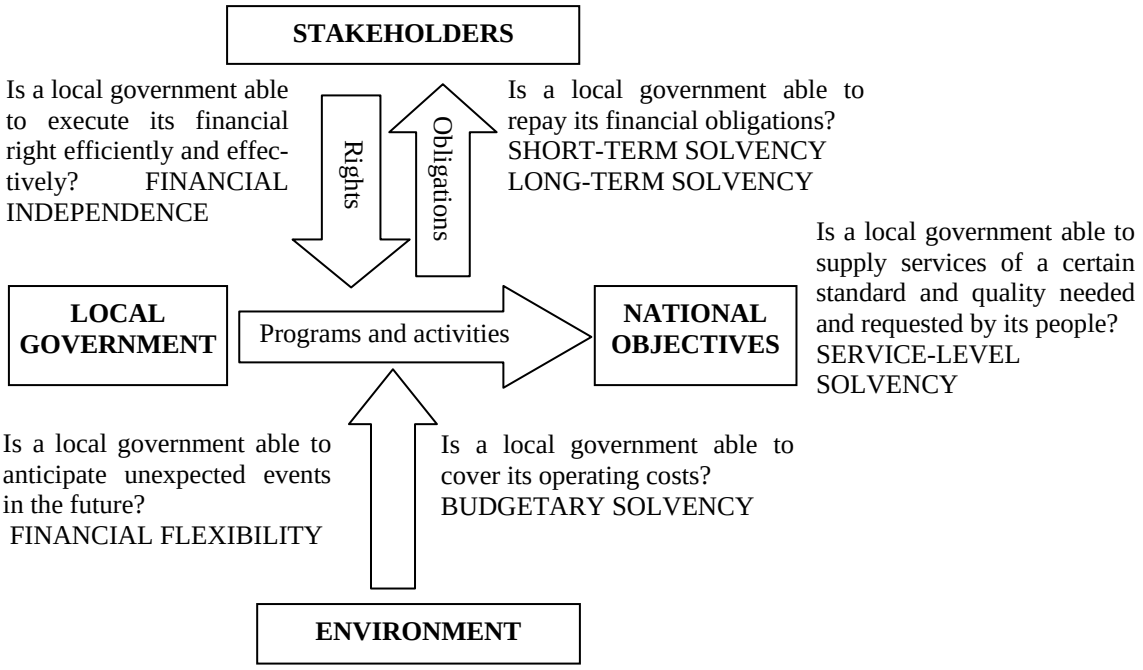

Figure 1. Conceptualizing the definition of financial condition of local government

Based on the argument stated above, there are six dimensions forming the financial condition of local governments. The dimensions are:

1. the capability to fulfil short-term obligations, hereafter called *short-term solvency*
2. the capability to fulfil operational obligations, hereafter called *budgetary solvency*
3. the capability to fulfil long-term obligations, hereafter called *long-term solvency*
4. the capability to overcome unexpected events in the future, hereafter called *financial flexibility*
5. the capability to execute financial rights in an effective and efficient manner, hereafter called *financial independence*
6. the capability to supply services to the community, hereafter called *service-level solvency*.

Thus, this study defines the financial condition of a local government as its financial ability to fulfill its obligations (short-term obligations, long-term obligations, operational obligations and obligations to provide services to the public), to anticipate unexpected events and to execute financial rights efficiently and effectively. As shown in the previous paragraphs, the step of conceptualization of the definition of the financial condition is used as guidance in determining the elements or dimensions of the local government financial condition. This important step was not taken in previous studies (see Brown, 1993, 1996; Casal & Gomez, 2011; Chaney et al.,2002; Dennis, 2004; Kamnikar et al., 2006; Kloha et al., 2005a; Mercer & Gilber, 1996; Wang et al.,2005; Zafra-Gomez et al., 2009a).

3. Dimensions and Indicators of the Financial Condition of Local Government

Based on the definition of financial condition conceptualized in section 2.2, which refers to the financial capability of a local government to fulfill its financial obligations (short-term obligations, long-term obligations, operational obligations and obligations to provide services to the public), to anticipate unexpected events and to execute financial rights efficiently and effectively, it can be concluded that there are six dimensions forming the local government financial condition: short-term solvency, long-term solvency, budgetary solvency, financial independence, financial flexibility and service-level solvency. Compared to Wang et al.'s (2007) and CICA's (1997) definitions, which have four dimensions and three dimensions respectively,

the dimensions and indicators used in this thesis are more comprehensive in capturing the aspects of the financial condition of local government.

Ratios are used to measure each dimension because ratios can eliminate the effect of the size of the objects measured (Jones & Walker, 2007). The more indicators used to measure a dimension, the better the result will be, because they can measure the dimension comprehensively. The ratios developed in this study are based on financial statements prepared by local governments in Indonesia. These financial statements are prepared based on the Government Accounting Standards (Government Regulation No. 24/2005; 71/2010), which must be followed by local governments in Indonesia. The six dimensions and their operational definitions are as follows.

a. Short-term solvency

Short-term solvency demonstrates the ability of the local government to fulfill its obligations that mature within 30 to 60 days (Nollenberger et al., 2003). However, this study uses the duration of 12 months rather than 30 to 60 days because the disclosure in balance sheets is for current liabilities, which fall due within 12 months.

The financial information about local government obligations that will mature within 12 months is shown in the current liabilities segment in the statement of financial position, whereas local government resources that are available and are intended to be used within 12 months are depicted in the current assets segment of the balance sheet. Therefore, to show short-term solvency, the numerator of the ratio is local government current revenues and the denominator is local government current liabilities. The ratios to measure the short term solvency of a local government are as follows.

$$\text{Ratio A} = \frac{(\text{Cash and Cash Equivalent} + \text{Short term Investment})}{\text{Current Liabilities}}$$

$$\text{Ratio B} = \frac{(\text{Cash and Cash Equivalent} + \text{Short term Investment} + \text{Account Receivables})}{\text{Current Liabilities}}$$

$$\text{Ratio C} = \frac{\text{Currents Assets}}{\text{Current Liabilities}}$$

Ratio A is the most conservative ratio in measuring short-term solvency, followed by Ratio B and Ratio C, respectively. In general, the higher the value of these three indicators, the more current assets are available to guarantee the current liabilities. Thus, an increasing value of these indicators indicates an improving quality of short-term solvency. However, values that are too high in these ratios indicate that a local government has excessive current assets (i.e. idle capacity), which could be better used to deliver services to the community. Therefore, excessive current assets lead to the sub-optimal delivery of services to the community.

b. Budgetary solvency

Budgetary solvency demonstrates the ability of local government to generate revenue to cover its operations during the period of the financial budget (Nollenberger et al., 2003). Thus, the indicators of this dimension must show a balance between operating revenues (i.e. as the numerator) and operating expenditures (i.e. as the denominator) during the financial period. The ability is measured by the following ratios.

$$\text{Ratio A} = \frac{(\text{Total Revenues} - \text{Special Allocation Fund Revenue})}{(\text{Total Expenditures} - \text{Capital Expenditure})}$$

$$\text{Ratio B} = \frac{(\text{Total Revenues} - \text{Special Allocation Fund Revenue})}{\text{Operational Expenditure}}$$

$$\text{Ratio C} = \frac{(\text{Total Revenues} - \text{Special Allocation Fund Revenue})}{\text{Employee Expenditure}}$$

$$\text{Ratio D} = \frac{\text{Total Revenues}}{\text{Total Expenditure}}$$

The elimination of the special allocation fund revenue from total revenues is because it is not a regular revenue and is beyond the local government's control. In the first ratio, Ratio A, capital expenditure is deducted from total expenditures because it is not a part of the operating activities of a local government. In the case

of Ratio C, the use of employee expenditure as the denominator is because it is the most important part of the operating expenditures. In general, a higher value for all ratios indicates a better ability by a local government to obtain revenue to cover its operating expenditure.

c. Long-term solvency

Long-term solvency indicates the capacity of a local government to repay its long-term liabilities (CICA, 1997; Nollenberger et al., 2003). The dimension indicates the sustainability of a local government. Long-term obligations can only be met by local governments if they have sufficient assets that are financed from their own resources. To reflect long-term solvency, the appropriate ratios are to place long-term liabilities as the denominator and total assets or investment equities as the numerator. Larger values of the ratio show a greater ability of a local government to meet its long-term liabilities. Conversely, lower ratios indicate a lesser capability of a local government to meet its long-term liabilities.

Another ratio that could be used to measure long-term solvency is the proportion of investment equity scaled to total assets or long-term liabilities. This ratio indicates what portion of a local government's total assets or long-term liabilities is financed or covered by its own resources. Larger values of the ratio denote a better ability by a local government to meet its long-term liabilities. The formulas for these above mentioned ratios are as follows.

$$\text{Ratio A} = \frac{\text{Long Term Liabilities}}{\text{Total Assets}}$$

$$\text{Ratio B} = \frac{\text{Long Term Liabilities}}{\text{Investment Equities}}$$

$$\text{Ratio C} = \frac{\text{Investment Equities}}{\text{Total Assets}}$$

d. Service-level solvency

Service-level solvency is the capability of local governments to supply and maintain the quality of public services needed and desired by the community (Wang et al., 2007).To meet that definition, the denominator in this dimension should be the number of people served by the local government. The numerator of this ratio is a number that reflects the facilities owned by local governments used to provide services to the people. Total assets indicate the accumulation and availability of resources owned by local governments in serving the community for the future (Chaney et al., 2002). Total equities are also appropriate as the numerator because they are the net assets, which are the difference between total assets and total liabilities, which are owned by a local government to serve its community. This can be thought of as assets not claimed by creditors. These assets are the net resources available to provide services in the future (Chase & Philips, 2004). Thus, the value of total assets or total equities is a suitable figure to represent the purpose. The higher the ratio of total asset value per population, the better the local government provides public services to its people.

Another ratio to measure service-level solvency is the ratio of total expenditure to population (Wang et al., 2007). This ratio indicates how much cost a local government incurs to serve each resident. The higher the values of this indicator, the more services and goods (either quantity or quality) local government is delivering to the community.

Therefore, growing values of those ratios show increasing quantity and quality of service level-solvency. The formulas for these above mentioned ratios are as follows.

Ratio A = Total Equities : Population

Ratio B = Total Assets : Population

Ratio C = Total Expenditures : Population

e. Financial flexibility

Financial flexibility is a condition in which a local government can increase its financial resources to respond to increased commitments, through either increasing revenues or increasing its debt capacity (CICA, 1997). Thus, based on the definition, the indicators of this dimension must show a balance between revenue capacity and debt capacity during the financial period. The numerator of this dimension should be

represented by revenue capacity after deducting mandatory expenses and/or restricted revenues, whereas the denominator is represented by the amount of obligations to other parties. This ratio should indicate local government's ability to cover its debt burden (Chase & Phillips, 2004). The condition is measured by debt-servicing capacity ratios as follows.

$$\text{Ratio A} = \frac{\text{(Total Revenues} - \text{Special Allocation Fund Revenue} - \text{Employee Expenditures)}}{\text{(Repayments of Loan Principal} + \text{Interest Expenditures)}}$$

$$\text{Ratio B} = \frac{\text{(Total Revenues} - \text{Special Allocation Fund Revenue} - \text{Employee Expenditures)}}{\text{Total Liabilities}}$$

$$\text{Ratio C} = \frac{\text{(Total Revenues} - \text{Special Allocation Fund Revenue} - \text{Employee Expenditures)}}{\text{Long Term Liabilities}}$$

$$\text{Ratio D} = \frac{\text{(Total Revenues} - \text{Special Allocation Fund Revenue)}}{\text{Total Liabilities}}$$

Higher values of these four ratios demonstrate a higher level of local government flexibility to face extraordinary events, which could either come from internal sources or be external to the local government organization. Therefore, increasing values of these ratios show an improving quality of financial flexibility.

f. Financial independence

Financial independence is a condition in which a local government is not vulnerable to sources of funding beyond its control or influence, from both national and international sources (CICA, 1997). To fulfill the definition, the numerator of the ratio should be the local government's own revenues and the denominator should be total revenues or total expenditures. As mentioned in Act 32/2004 and Act 33/2004 about fiscal balance between the central and local government, the local government's own revenues consist of local tax revenues, local retribution revenues, dividends from the local government's investment and other local revenues.

A higher value of these ratios shows the more that local government's own revenues contribute to its total revenues. Thus, the larger the result of the two ratios, the better is the financial independence of the local government. This condition is measured by the following ratios.

$$\text{Ratio A} = \frac{\text{Total Own Revenues}}{\text{Total Revenues}}$$

$$\text{Ratio B} = \frac{\text{Total Own Revenues}}{\text{Total Expenditures}}$$

The lower the value of these ratios the less is the financial independence of a LG. Thus, the higher the value of the two ratios, the higher is the financial independence of the LG.

4. Criteria for Developing a Measure of the Financial Condition of LG

It is argued that to develop a good measure one must set criteria as guidance. Previous researchers fail to develop a good measure of LG financial condition because they did not establish criteria (see Brown, 1993). Only a few studies have set criteria for such measures (see Kloha et al.,2005; Wang et al., 2007). Therefore, to develop a good measure of the financial condition of LG, this study sets criteria or attributes that must be met by the measures as follows.

1. Be theoretically sound, which means that dimensions and indicators developed are derived from theories on the financial condition of LGs (Kloha et al.,2005; Wang et al., 2007)
2. Possess the qualities of measurement validity and reliability (Wang et al., 2007, Cooper and Schindler, 2011). Validity is the extent to which a test measures what it actually wants to measure, whereas reliability is related to the accuracy and precision of a measurement procedure (Cooper & Schindler, 2011).
3. Assess the financial condition of the entire LG rather than only part of it (Wang et al., 2007).
4. Provide predictive ability, which means that information provided by the measure, can be

used to recognize financial distress before it becomes a financial emergency (Klohaet al.,2005)

5. Be practical, as Cooper & Schlinder (2011) explain that practicality is related to various factors of economic, convenience, and interpretability.
6. Use publicly available, uniform, and frequently collected data. As a result, the measure will be objective and resistant to manipulation and gaming (Klohaet al.,2005).
7. Be accessible and parsimonious, which is easily understood by LG officials and the public (Kloha et al.,2005). The criteria are achieved through the creation of a composite index of the financial condition.

METHODS

1. Data and Data Sources

This study uses secondary data which are LG financial statements audited by the Supreme Audit Board of the Republic of Indonesia (BPK RI) for the period of the fiscal years 2007-2010. LG financial statements, which are publicly available, were taken from the BPKRI. In addition, socio-economic data was collected from the Central Bureau of Statistics of the Republic of Indonesia for the period 2007 to 2010.

2. Steps in Developing the Measure of the Financial Condition

The steps to develop the measure of the financial condition are as follows:

Step 1: Reliability Test

Reliability indicates consistency of measurement. Consistency occurs when the measurement is free from measurement error. The reliability of indicators forming a dimension is tested by using the correlation test. This correlation coefficient indicates the intensity and direction of the relationship between two or more variables (Wang et al., 2007). Furthermore, the reliability of the measure of financial condition is analyzed using the Cronbach Alpha coefficient.

Step 2: Build a Composite Index of LG Financial Condition

After developing dimensions and indicators for the financial condition, the next step is to construct a composite index of LG financial conditions. Unlike Wang et al (2007) which used z values to build a composite index, the method of preparation of the composite index in this study adopts the method of developing the Human Development Index (HDI), developed by the United Nations (UNDP, 2011)[1].This is because the unit value of the dimensions and indicators of the financial conditions are different. Another reason is that the method has been acknowledged worldwide.

Step 3: Validity Test

The validity of a measurement indicates whether a test or a model measures something that it is intended to measure. This study uses predictive, concurrent, and convergent validities to assess the validity of the measure.

FINDINGS

1. Data

In order to achieve homogeneity so that comparability is maximized, this study uses financial statements of district and municipal LGs in Java as the sample. LGs in Java are relatively homogenous in environment, socio-economic factors, culture, and infrastructure. The length of the observation period was four fiscal years from 2007 until 2010. This study does not include the fiscal year 2006 because it is the first year of the implementation of the Government Accounting Standards. In that year LGs experienced a year of transition to adopt the new accounting standards. Therefore, the fiscal year of 2007 was chosen as the starting year of our observation as the LGs had become accustomed to the standards.

There are 445 items of data (i.e. financial statements) that could be observed from 2007 until 2010. However, three financial statements are not available, two in 2007 (Kabupaten Kla-

[1] How this study adopted the UNDP method is explained in section 4.5.

ten and Kota Serang) and one in 2008 (Kota Jogjakarta). Therefore, there are 442 items of data available for analysis. Based on the data availability, ratios for each dimension are calculated. After completing the computation of all the ratios, the next step is to identify outlier data. A case is considered to be an outlier if its standard score[2] is more than three (Hair et al., 2006). The outlier data should not be used in the analysis because it could disturb the picture of objects analyzed (Judd and McClelland, 1989). The number of outlier data is 29 for the dimension of flexibility and 2 for the dimension of service level solvency. As a result, there is a range of 413 data (i.e. dimension of flexibility) to 440 data (i.e. dimension of service level solvency) used in analyzing the reliability of indicators forming the dimensions.

2. Descriptive Statistics

After removing the outlier data[3], the descriptive statistics to summarize and describe the object analyzed are run. The result of the descriptive statistics could be used as a benchmark or general patterns by LGs. The descriptive statistics of the observed data is as follows Table 1.

Table 1 shows that the data for all indicators are not normally distributed as indicated by the values of skewness which are more than 0 for all indicators. Therefore, the median is a better statistic to represent the population (Kamnikar et al. 2006).

Short Term Solvency. The median of Ratios A, B, and C show that LGs have, 34.72, 41.51, and 45.36 times the specified assets to cover their current liabilities. This condition indicates that LGs have considerable idle current assets which should be avoided. LGs should optimize their current assets in order to deliver services to their communities. Based on the ratios above, it is concluded that LGs have a strong short term solvency.

Long Term Solvency. The median of Ratios A and B are 0.000044 and 0.000048 respectively. It means that every one rupiah of long term debt is guaranteed by 22,727.27 rupiahs of assets (i.e. 1/0.000044) or 20,833.33 rupiahs of investment equities (i.e.1/0.000048). This indicates that LGs have a strong ability to fulfill their long term obligations. Ratio C indicates that most of LGs' assets, 94.38%, are financed by their own resources. Therefore, based on the three ratios, it can be concluded that LG has strong long term solvency.

Budgetary Solvency. The median for indicator A, B, C, and D is 1.15, 1.17, 1.69, and 1.00 respectively. This condition indicates that LGs have large revenues to cover their operational expenditures. Based on these ratios, it is concluded that LGs have good budgetary solvency.

Financial Independence. The median of the two ratios for independence are 8.17% and 8.36 %, respectively. It means that only around 8% of LGs' revenues are under their control. In other words, it can be said that LGs rely on sources of funding beyond their control or influence. Based on these ratios, it is concluded that LGs have weak financial independence.

Financial Flexibility. The median of Ratios A, B, C, and D show that LGs have the capacity of 788.9, 196.5, 77.1, and 1,998.2 times to anticipate extraordinary events which could come from internal or external sources to LG organizations.

Service Level Solvency. The median of Ratios A and B show that LGs have Rp2.089.057 and Rp2.104.560 in assets, respectively, to serve each of its residents. In the case of ratio C, it indicates that LGs incur expenditure of Rp813.278 to serve each of their residents.

[2] The standard score of a case is computed by using formula: z = (X – Mean)/Standard Deviation, where X is the value of a case.

[3] Outliers data prove that regional decentralization causes variations in local government financial conditions as stated in the introduction section although LGs in Java are relatively homogenous in environment, socioeconomic, culture, and infrastructure.

Table 1. Descriptive Statistics of Indicators of Financial Condition

Dimensions	Indi-cators	N	Mean	Median	Standard Deviation	Maximum	Minimum	Skewness	Standard Error of Skewness
Short Term Solvency	Ratio A	436	1,868,032,846.84100	34.724515	12,687,754,001.8474	134,741,000,000.00	0.13	7.89	0.1169
	Ratio B	436	2,001,559,542.57002	41.517633	13,475,809,519.9921	142,595,000,000.00	0.16	7.81	0.1169
	Ratio C	436	2,200,772,276.61266	45.360556	14,578,971,622.2791	158,419,000,000.00	0.26	7.62	0.1169
Long Term Solvency	Ratio A	430	0.00089	0.000045	0.0022	0.02	0.00	4.18	0.1177
	Ratio B	430	0.00095	0.000048	0.0024	0.02	0.00	4.18	0.1177
	Ratio C	430	0.93700	0.943769	0.0412	1.00	0.65	(2.10)	0.1177
Budgetary Solvency	Ratio A	430	1.16980	1.155093	0.1209	1.64	0.84	0.75	0.1177
	Ratio B	430	1.18955	1.179005	0.1245	1.66	0.84	0.66	0.1177
	Ratio C	430	1.73115	1.693231	0.2747	2.71	1.21	0.77	0.1177
	Ratio D	430	1.00927	1.003508	0.0554	1.26	0.84	0.53	0.1177
Financial Independence	Ratio A	437	0.09316	0.081714	0.0417	0.24	0.00	1.16	0.1168
	Ratio B	437	0.09398	0.083575	0.0424	0.24	0.00	1.15	0.1168
Financial Flexibility	Ratio A	413	59,148,134,192.46220	788.939210	122,445,729,322.4140	560,037,000,000.00	2.85	1.99	0.1201
	Ratio B	413	5,028,410,185.96003	196.520972	47,376,481,797.3506	650,188,000,000.00	3.80	10.23	0.1201
	Ratio C	413	2,190,560,751.20167	77.102020	20,118,904,217.7258	235,450,000,000.00	1.59	9.39	0.1201
	Ratio D	413	120,452,904,022.78700	1,998.210879	173,449,827,439.9560	1,177,960,000,000.00	1.79	1.65	0.1201
Service Level Solvency	Ratio A	440	3,148,747.23106	2,089,057.129000	2,997,138.0705	22,154,984.72	54,865.69	2.65	0.1164
	Ratio B	440	3,160,164.49706	2,104,560.680000	3,000,894.0514	22,155,129.89	90,998.09	2.64	0.1164
	Ratio C	440	988,849.02930	813,278.133450	627,030.2626	7,284,677.00	285,159.56	3.80	0.1164

3. Analyzing the Reliability of Indicators Forming a Dimension

The Pearson's correlation test was used to analyze the reliability of the indicators forming each dimension. Before analyzing the data, assumptions underlying the test were examined. The assumptions are normal data distribution, the linearity relationship between variables, homoscedasticity, and no outliers. After the assumptions were met, the Pearson's correlation test was run.

Short-Term Solvency. All three short term solvency indicators were significantly correlated ($p < 0.01$) with high intensity correlation (Pearson Correlation coefficient, r, nearly equal to 1for all pairs). Thus, it can be concluded that the three indicators measure the same construct or dimension of short-term solvency.

Long-Term Solvency. The ratio of Long-Term Liabilities to Total Assets (Ratio A) and the ratio of Long Term Liabilities to Investment Equities (Ratio B) are significantly correlated ($p < 0.01$) with high intensity (Pearson Correlation coefficients, r, equal to 1for all pairs). However, the ratio of Investment Equities to Total Assets (Ratio C) is not correlated with the 2 other indicators. This is indicated by p values > 0.05.Thus, it can be concluded that only 2 ratios similarly measure the construct or dimension of long-term solvency, they are the ratio of Long-Term Liabilities to Total Assets and the ratio of Long-Term Liabilities to Investment Equities.

Budgetary Solvency. All 4 budgetary solvency ratios were significantly correlated ($p < 0.01$) with moderate intensity correlation (Pearson Correlation coefficient, r, between 43.6% - 96.5%). Therefore, it can be concluded that the 3 ratios measure the same construct or dimension of budgetary solvency.

Financial Independence. The 2 independence indicators were significantly correlated ($p < 0.01$) with high intensity (Pearson Correlation coefficient, r, nearly equal to 1for all pairs). Thus, it can be concluded that both ratios measure the same construct or dimension of financial independence.

Financial Flexibility. All 4 flexibility ratios were significantly correlated ($p<0.01$) with varying intensity between pairs (Pearson Correlation coefficient, r, ranging from 25% to 99.7%). Thus, it can be concluded that the 4 ratios measure the same construct or dimension of financial flexibility.

Service Level Solvency. All 3 service level solvency indicators were significantly correlated ($p < 0.01$) with a sufficiently strong intensity correlation between pairs (Pearson Correlation coefficient, r, ranging from 72.1% to 99.8%). Thus, it can be concluded that the 3 ratios measure the same construct or dimension of service level solvency.

4. Analyzing the Reliability of the Measure of Financial Condition

After determining the indicators forming the dimensions of the measure, then the Cronbach Alpha test was used to analyze the reliability (internal consistency) of all indicators as to whether they reliably measure the same underlying construct (the financial condition of LG).

The standardized Cronbach coefficient alpha was used instead of the raw coefficient to analyze the result because there was a mixture of multi-unit variables. For example the unit of measure of the Ratio B of Total Assets to Population is the amount of money per resident, whereas the unit of measure of Ratio C of Current Assets to Current Liabilities is expressed as "times". One consequence of using the standardized Cronbach alpha is the values of the variables were transformed to a standard score before running the test. The following table 2 shows the result of the Cronbach Alpha test.

The Cronbach coefficient Alpha is 0.8430[4]. Based on the coefficient, it can be concluded that all indicators demonstrate good internal consistency (reliability) to measure the same construct (financial condition of LG) because it is more than 0.70. An instrument is reliable if it has a coefficient of Cronbach Alpha equal to or greater than 0.70 (Nunnaly and Bernstein, 1994).

[4] The raw Cronbach coefficient alpha is 0.8088

Table 2. Outputs of Cronbach Alpha Test

```
****** Method 1 (space saver) will be used for this analysis ******
R E L I A B I L I T Y   A N A L Y S I S   -   S C A L E   (A L P H A)
                                                        N of
Statistics for       Mean   Variance    Std Dev   Variables
      SCALE        0.0232    84.5679     9.1961         18
Item-total Statistics
               Scale          Scale      Corrected
               Mean         Variance       Item-            Alpha
              if Item        if Item       Total           if Item
              Deleted        Deleted    Correlation        Deleted
ZSERV_A        0.0201        75.2356        0.4807         0.8222
ZSERV_B        0.0200        75.2738        0.4784         0.8223
ZSERV_C        0.0210        77.4486        0.3475         0.8291
ZLONG_A        0.0210        74.7683        0.5087         0.8208
ZLONG_B        0.0210        74.7736        0.5083         0.8208
ZSHOR_A        0.0232        73.8100        0.5679         0.8176
ZSHOR_B        0.0232        73.7757        0.5700         0.8175
ZSHOR_C        0.0232        73.8730        0.5640         0.8178
ZBUDG_A        0.0227        77.3288        0.3542         0.8288
ZBUDG_B        0.0229        78.1885        0.3037         0.8314
ZBUDG_C        0.0223        76.5398        0.4011         0.8264
ZBUDG_D        0.0187        81.0247        0.1419         0.8393
ZINDP_A        0.0222        80.5496        0.1678         0.8381
ZINDP_B        0.0217        80.0263        0.1977         0.8367
ZFLEX_A        0.0223        77.6763        0.3337         0.8298
ZFLEX_B        0.0239        73.2828        0.5999         0.8159
ZFLEX_C        0.0238        72.7032        0.6362         0.8139
ZFLEX_d        0.0210        74.8198        0.5055         0.8209
Reliability Coefficient
N of Cases =    394.0                  N of Items = 18
Alpha =    0.8333
```

The values in the column **Cronbach's Alpha if Item Deleted** show Cronbach Alpha values obtained when the item (variable) on the line is removed. If an item (variable) has a Cronbach alpha value greater than the overall value of the Cronbach Alpha measurement scale, the item (variable) should be deleted or revised for the purposes of analysis. Based on the results of the reliability analysis, all values in the column **Cronbach's Alpha if Item Deleted** are less than or equal to 0.8430 so that no items (variables) need to be removed.

5. Developing the Indicator Index and Dimension Index

To develop the indicator index for each dimension, the first step is to determine which LGs have similar characteristics (cohort) in order to achieve homogeneity among the LGs. There are two groups of LGs, namely district LGs (83 LGs) and municipal LGs (29 LGs). The second step is determining the minimum value and maximum value of each indicator in order to create an index of the indicator. The minimum and maximum values are determined for each year. The index of each indicator is calculated by using the following formula:

$$\text{Indicator Index} = \frac{\text{Actual Value} - \text{Minimum Value}}{\text{Maximum Value} - \text{Minimum Value}}$$

A value of 0 indicates a minimum value and a value of 1 indicates the maximum value for the index; 1 meaning a perfect score of financial condition, while 0 means the worst financial condition.

Before calculating the indicator index, several treatments were done as follows.

1. The values of indicators of service level solvency and flexibility were transformed using Logarithm Natural (Ln) to “new values” so that the difference between minimum value and maximum value becomes smaller. This is the same way the United Nation develops the sub dimension index of income in the Human Development Index (UNDP, 2011). In developing such an index, the UN uses Ln to transform the raw value of income.

2. The values of the ratio of Total Expenditure to Population were inversed so that the inversed values had a similar direction with other ratios (i.e. ratio of total assets to population and ratio of total equities to population). As a result, the 3 ratios can be averaged to create a sub-index of service level solvency.
3. The values of indicators of long term solvency were inversed so that the values had similar meaning with other indicators: the higher the value, the better the condition. After inversing the value of the indicators, the values were transformed by using Ln as the treatment for indicators of service level solvency and flexibility.
4. The values of indicators of short-term solvency and budgetary solvency were multiplied by 10, and then the results transformed by using Ln. The reason for multiplying by 10 is because there was a big variety in the value of indicators ranging from less than 1 to more than 1. There is a difference in the behavior of a number less than 1 and more than 1 if one transforms the number by using Ln. If one transforms a number less than 1 using Ln, the result will be negative. On the other hand, if one transforms a number more than 1 using Ln the result will be negative. To avoid this fact, the values of the indicators are multiplied by 10 so that all the values of the indicators are more than 1. Therefore, the behavior of all the values will be similar.

Next is determining the dimension index by using the arithmetic mean[5] for which the formula is as follows:

$$\text{Dimension Index} = (I_{\text{Indicator-1}} + I_{\text{Indicator-2}} + \ldots + I_{\text{Indicator-n}}) : n$$

where n is the number of indicators forming the dimension.

The dimension index is the average of the indicator indexes that compose it. It is assumed that the indicator indexes have equal importance so that it has similar weight.

6. Developing a Composite Financial Condition Index (FCI)

After each dimension is calculated, the final step is to develop a composite index of financial condition. The formula to create the index is as follows:

$$FCI = w_1 * DI_1 + w_2 * DI_2 + \ldots\ldots + w_n * DI_n$$

Where FCI = Financial Condition Index; w = weight of dimension index; DI = dimension index; and n = number of dimension. The composite index and dimension index are the result of the transformation of the variable value into a value between 0 and 1. A value of 0 indicates a minimum value and a value of 1 indicates the maximum value for the index; 1 meaning a perfect score of financial condition.

The results of the best and the worst 10 of the Financial Condition Index[6] for municipal and district LGs from 2007 to 2010 can be seen in the tables 3, 4, 5, and 6 below. For the fiscal year 2010 the highest 3 ranked municipal LGs are Mojokerto, Madiun and Blitar, whereas the lowest 3 are Serang, Cimahi and Bekasi. In the range between fiscal year 2007 to 2010 the municipal LGs which were consistently in the top 10 ranks are Bogor, Kediri, Mojokerto, and Pekalongan. On the other hand, the municipal LGs that remained in the lowest 10 from fiscal year 2007 to 2010 are Yogyakarta, Cimahi, Bekasi, Tasikmalaya, Surakarta, and Malang. The following tables present the top 10 (Table 3) and the bottom 10 (Table 4) of the composite Financial Condition Index (FCI) of municipal LGs in Java from 2007 to 2010.

In the group of district LGs, the best 5 for the fiscal year 2010 are Bekasi, Sampang, Demak, Sidoarjo, and Bogor consecutively, while the LGs of Purwakarta, Sumedang,

[5] Arithmetic mean is more appropriate than geometric mean because it gives a fairer result than the geometric mean. For example, if a dimension consists of three indicators of which one of the indicators has zero value, so the end result of the geometric mean is zero although the other two ratios have good values. This condition does not happen in the arithmetic mean.

[6] In calculating the Financial Condition Index it is assumed that the weight of each dimension is equal, although the author believes that the weight of each dimension should be different.

Grobogan, Ngawi, and Garut remained in the 5 lowest ranks. Looking at the 4 year trend from 2007 to 2010, the LGs that always stay in the 10 highest ranked positions are Bekasi, Tangerang and Bogor. On the other hand, the LGs of Ngawi, Garut, and Grobogan consistently remained in the bottom 10. The following tables present the highest 10 (Table 5) and the lowest 10 (Table 6) of the composite Financial Condition Index (FCI) for district LGs in Java from 2007 to 2010.

Table 3. The Highest 10 of FCI of Municipal Local Governments in Java From 2007 to 2010

2007	FCI	2008	FCI	2009	FCI	2010	FCI
Kota Bogor	0.69	Kota Mojokerto	0.67	Kota Madiun	0.69	Kota Mojokerto	0.75
Kota Kediri	0.57	Kota Bogor	0.50	Kota Tangerang Selatan	0.65	Kota Madiun	0.59
Kota Banjar	0.56	Kota Salatiga	0.49	Kota Pekalongan	0.62	Kota Blitar	0.57
Kota Pasuruan	0.55	Kota Pekalongan	0.49	Kota Bogor	0.54	Kota Cilegon	0.55
Kota Blitar	0.52	Kota Pasuruan	0.48	Kota Tangerang	0.49	Kota Bandung	0.52
Kota Magelang	0.51	Kota Kediri	0.48	Kota Kediri	0.48	Kota Tangerang Selatan	0.52
Kota Salatiga	0.50	Kota Sukabumi	0.48	Kota Cilegon	0.47	Kota Bogor	0.52
Kota Surabaya	0.49	Kota Batu	0.45	Kota Mojokerto	0.46	Kota Magelang	0.51
Kota Mojokerto	0.49	Kota Madiun	0.45	Kota Bandung	0.45	Kota Kediri	0.50
Kota Pekalongan	0.48	Kota Probolinggo	0.43	Kota Probolinggo	0.43	Kota Pekalongan	0.49

Table 4. The Lowest 10 of FCI of Municipal Local Governments in Java From 2007 to 2010

2007	FCI	2008	FCI	2009	FCI	2010	FCI
Kota Yogyakarta	0.39	Kota Bandung	0.31	Kota Depok	0.32	Kota Pasuruan	0.40
Kota Tegal	0.38	Kota Bekasi	0.31	Kota Yogyakarta	0.32	Kota Yogyakarta	0.38
Kota Cilegon	0.37	Kota Yogyakarta	0.29	Kota Tegal	0.32	Kota Tasikmalaya	0.38
Kota Semarang	0.37	Kota Malang	0.29	Kota Bekasi	0.30	Kota Surakarta	0.33
Kota Cimahi	0.31	Kota Cirebon	0.29	Kota Tasikmalaya	0.29	Kota Malang	0.32
Kota Bekasi	0.31	Kota Semarang	0.29	Kota Cirebon	0.29	Kota Cirebon	0.32
Kota Surakarta	0.30	Kota Tegal	0.28	Kota Cimahi	0.28	Kota Semarang	0.30
Kota Depok	0.28	Kota Surakarta	0.26	Kota Malang	0.26	Kota Bekasi	0.28

Table 5. The Highest 10 of FCI of District Local Governments in Java From 2007 to 2010

2007	FCI	2008	FCI	2009	FCI	2010	FCI
Kabupaten Pati	0.70	Kabupaten Bekasi	0.85	Kabupaten Bekasi	0.84	Kabupaten Bekasi	0.76
Kabupaten Bekasi	0.58	Kabupaten Bangkalan	0.73	Kabupaten Bangkalan	0.68	Kabupaten Sampang	0.71
Kabupaten Gresik	0.58	Kabupaten Pati	0.73	Kabupaten Pati	0.68	Kabupaten Demak	0.70
Kabupaten Tangerang	0.57	Kabupaten Bandung Barat	0.62	Kabupaten Tangerang	0.61	Kabupaten Sidoarjo	0.60
Kabupaten Jepara	0.57	Kabupaten Gresik	0.60	Kabupaten Sidoarjo	0.60	Kabupaten Bogor	0.58
Kabupaten Serang	0.56	Kabupaten Serang	0.60	Kabupaten Bogor	0.58	Kabupaten Jepara	0.52
Kabupaten Bogor	0.56	Kabupaten Bogor	0.59	Kabupaten Serang	0.57	Kabupaten Tangerang	0.50
Kabupaten Bandung	0.55	Kabupaten Tangerang	0.58	Kabupaten Gresik	0.55	Kabupaten Banjarnegara	0.50
Kabupaten Banjarnegara	0.52	Kabupaten Jepara	0.57	Kabupaten Sukabumi	0.53	Kabupaten Jombang	0.50
Kabupaten Sampang	0.52	Kabupaten Sampang	0.56	Kabupaten Banjarnegara	0.52	Kabupaten Bangkalan	0.49

Table 6. The Lowest 10 of FCI of District Local Governments in Java From 2007 to 2010

2007	FCI	2008	FCI	2009	FCI	2010	FCI
Kabupaten Jember	0.34	Kabupaten Ponorogo	0.36	Kabupaten Bojonegoro	0.33	Kabupaten Semarang	0.29
Kabupaten Sukoharjo	0.34	Kabupaten Ngawi	0.35	Kabupaten Kulon Progo	0.32	Kabupaten Tasikmalaya	0.29
Kabupaten Cianjur	0.33	Kabupaten Ciamis	0.35	Kabupaten Mojokerto	0.32	Kabupaten Pekalongan	0.28
Kabupaten Brebes	0.31	Kabupaten Garut	0.35	Kabupaten Garut	0.31	Kabupaten Kediri	0.28
Kabupaten Kuningan	0.30	Kabupaten Kuningan	0.34	Kabupaten Ponorogo	0.31	Kabupaten Pemalang	0.28
Kabupaten Grobogan	0.30	Kabupaten Purwakarta	0.34	Kabupaten Ciamis	0.30	Kabupaten Purwakarta	0.28
Kabupaten Ciamis	0.30	Kabupaten Karanganyar	0.33	Kabupaten Grobogan	0.29	Kabupaten Sumedang	0.26
Kabupaten Garut	0.29	Kabupaten Cianjur	0.33	Kabupaten Wonogiri	0.29	Kabupaten Grobogan	0.26
Kabupaten Ngawi	0.27	Kabupaten Pandeglang	0.32	Kabupaten Blora	0.29	Kabupaten Ngawi	0.25
Kabupaten Pandeglang	0.19	Kabupaten Grobogan	0.32	Kabupaten Ngawi	0.27	Kabupaten Garut	0.21

7. Analyzing the Validity of the Measure

This study utilizes predictive, convergent, and concurrent validity to assess the validity of the measure.

7.1. Analyzing the Predictive Validity

In the predictive validity approach, a measure is considered valid if the measure has a relationship with the factors that are believed to associate with it. It is believed that the financial condition of LGs is associated with socio-economic factors (Wang, Dennis, &Tu, 2007; Zafra-Gomez, 2009). Socio-economic factors include population, population per capita, gross domestic product (GDP), either GDP at current price or GDP at constant price, and GDP per capita. The socio-economic data were collected from the Central Bureau of Statistics of the Republic of Indonesia ranging from 2007 to 2010.

The analysis of predictive validity was examined by looking at the correlations between the financial condition indexes of district LGs and the socio-economic factors. There were 329 observations available from 2007 to 2010. The results of the examination are as follows Table 7.

Based on Table 7, all socio-economic factors are significantly correlated with the financial condition of the LG because the p-values are less than 0.05. All of the associations are positive, meaning that the higher the value of the socio-economic factors and the financial distress the higher is the FCI. The strongest association is the relationship between GDP at constant price and financial condition which has a coefficient correlation of 43.5%, whereas the weakest association is between GDP per capita and financial condition which has a coefficient correlation of 17.1%. Based on these findings, it is concluded that the measure of financial condition developed in this study meets the attribute of predictive validity.

7.2. Analyzing the Convergent Validity

In the convergent validity approach, a measure is considered valid if the measure is interrelated with the factors that are theoretically supposed to be interrelated with it. It is argued that the financial condition of LGs is interrelated with the level of their financial distress, which is the better the financial condition the less is the financial distress of the LG. To measure level of financial distress, the study uses a ratio as follows:

Table 7. Correlation between Financial Condition of LG and Socioeconomic Factors

Socioeconomic Factors	Number of Observations	Pearson Coefficient of Correlation	Significance (2-Tailed)
Population	329	0.264	0.000
Population Density	329	0.319	0.000
GDP at Current Price	329	0.369	0.000
GDP at Constant Price (2000)	329	0.435	0.000
GDP per Capita	329	0.171	0.002

$$\text{Financial Distress} = \frac{(\text{Revenues} - \text{Operating Expenditures})}{\text{Revenues}}$$

The higher the ratio means the less is the financial distress of the LG. The bigger the difference between revenues and operating expenditures means that a LG has more money to fund its non-mandatory activities. This condition shows that the LG experiences less financial distress. On the other hand, a LG experiences a higher level of financial distress if it has a smaller difference between revenues and operating expenditures.

The analysis of predictive validity was examined by looking at the correlations between the financial condition indexes of district LGs and their degree of financial distress. There were 329 observations available from 2007 to 2010. The results of the examination show that there was a significant correlation (i.e. p-value of 0.000 which is less than 0.005) between the financial condition and degree of financial distress. The association is positive 0.329, meaning that the higher score of FCI (i.e. the better financial condition) the higher is the ratio of financial distress (i.e. the less financial distress). Based on these findings, it is concluded that the measure of financial condition developed in this study meets the attribute of convergent validity.

7.3. Analyzing the Concurrent Validity (Distinctive Capability)

In the concurrent validity approach a measure is stated valid if it has an ability to distinguish groups that it should theoretically be able to distinguish between. A good measure should have a capability to distinguish well among the LGs evaluated (Kloha et al, 2005). The analysis of distinctive capability is developed based on the results of concurrent validity which show that there is a correlation between financial distress and FCI. Steps taken in the analysis were as follows:

1. Rank LGs based on FCI scores.
2. Group LGs into 3 groups. Group 1 consists of LGs which have FCI scores less than 1 standard deviation, group 2 consists of LGs which have FCI scores between -1 and 1, and group 3 consists of LGs which have FCI scores more than 1 standard deviation. This division is based on the area of normal distribution which has a bell-shaped curve. In the normal distribution curve, the area of plus and minus 1 standard deviation covers 67% of the population, the area of more than plus 1 standard deviation is 16% of the population, and the area of less than minus 1 standard deviation is also 16% of the population.
3. Analyze the mean difference of financial distress among the 3 groups using a One-Way ANOVA test. The results of the ANOVA test show that p-value is 0.000 which is less than 0.05. This statistic means that the 3 groups of LGs have a significant mean difference of financial distress. Furthermore, results from the Multiple Comparison show that the mean of financial distress of group 3 (good condition) is higher than that of group 2 (average condition), and the mean of financial distress of group 2 is higher than that of group 1 (poor condition). Based on these findings, it is concluded that the measure of financial condition developed in this study is distinctive.

8. Determining the Cut-Off of the Level of Financial Condition

The cut-off of the level of financial condition is determined based on the result of concurrent validity. This study differentiates the level of financial condition into 3 groups which are good financial condition, average financial condition, and poor financial condition. The grouping is based on the characteristic of normal distribution which has a bell curve. LGs are classified as "Good Financial Condition" if their FCI score is more than plus one (+1) standard deviation. If a LG has FCI score between plus one standard deviation and minus one standard deviation, so they will be grouped as "Average Financial Condition". Finally LGs which have FCI scores less than minus one standard deviation will be labeled as "Poor Financial Condition".

Based on the results of the ANOVA test in concurrent validity analysis in the previous section, which show that the FCI score can easily be

used to distinguish the level of financial distress among the groups of LGs, the cut-off scores of the FCI to differentiate the level of financial condition are determined.

How to determine the cut-off scores? First take a look at the FCI scores of LGs lying around the borders between groups of LGs which are the border between the group with a Good Financial Condition (i.e. z-FCI more than 1) and the group with an Average Financial Condition (i.e. z-FCI between -1 to 1); and the group with an Average Financial Condition and the group with a Poor Financial Condition (i.e. z-FCI less than -1). The Table 8 below shows the LGs' FCI scores and its z-score of FCI for LGs around the borders.

Table 8. FCI and Z score of FCI around Borders of Groups with Good, Average, and Poor Financial Condition

Rank	Name of District LG	FCI	Z-FCI
1	Kabupaten AAA	0.190797	-2.36387
…	Kabupaten …	…	…
39	Kabupaten BBB	0.32329	-1.00126
40	Kabupaten CCC	0.323707	-0.99697
…	…	…	…
247	Kabupaten DDD	0.51774	1
248	Kabupaten EEE	0.519136	1.01437
…	…	…	…
329	Kabupaten FFF	0.520528	1.02869

The cut-off point between group with Poor Financial Condition and group with Average Financial Condition is the FCI score of the LG which ranks the lowest in the group with Average. The LG of Kabupaten CCC has the lowest rank in the group of "Average Financial Condition" with a FCI score of 0.323707 which lies just above the -1 standard deviation. Therefore, the cut-off point between the group with Poor Financial Condition and the group with Average Financial Condition is a FCI score of 0.323707. As a result a LG with a FCI score below 0.323707 will grouped into the Poor Financial Condition group and a LG with FCI score of 0.323707 or above will be put into the Average Financial Condition group.

The same process was taken to determine the cut-off point between the group with Average Financial Condition and the group with Good Financial Condition. The cut-off point between these groups is the FCI score of the LG which ranked the highest in the group with Average Financial Condition. The LG of Kabupaten DDD has the highest rank in the group with Average Financial Condition with a FCI score of 0.51774 which lies exactly on the 1 standard deviation. Therefore, the cut-off point between these 2 groups is a FCI score of 0.51774. As a result, LGs with FCI score of 0.51774 or lower will be grouped into the Average Financial Condition group and those with a FCI score higher than 0.51774 will be put into the Good Financial Condition group. The following Table 9 shows the cut-off scores of financial condition.

Table 9. Cut-Off Scores of Financial Condition

Level of Financial Condition	FCI Score
Good Financial Condition	Higher than 0.51774
Average Financial Condition	Between 0.323707 and 0.51774
Poor Financial Condition	Less than 0.323707

DISCUSSION

This study has 3 main implications: theoretical implications; methodological implications; and practical implications. Those implications are discussed in the following sections.

1. Theoretical Implications

This study provides a conceptual framework that is more systematic in the development of measurement models of LG financial conditions because this study firstly conceptualizes the definition of the financial condition before determining the dimensions and indicators of it. This was not done in previous studies (see Groves et al.,1981, Berne and Schramm, 1986; Nollenberger at al., 2003, Brown, 1993, Wang et al.,2007; CICA, 1997; Kloha et al.,2005, Jones and Walker, 2007; Hendrick, 2004; Kamnikar et al., 2006). This study argues that in defining the LG financial condition it should be derived from the objectives of the nation because the financial condition is the result of a LG's effort to achieve

a nation's objectives. In part 2, this study conceptualizes the definition of the financial condition of LG.

This study also provides new dimensions and indicators to measure the FCI. Unlike the business sector which has seminal ratios to assess the financial condition of a company, this study offers new ratios to enrich tools in assessing the financial condition of LG.

2. Methodological Implications

Based on findings discussed in part 4, the model developed to measure the financial condition of LG is reliable and valid. In addition, the model developed meets the set criteria as well, so that it is a robust model. The model satisfies the following criteria.

1. Theoretically sound, which means that dimensions and indicators developed are derived from theories on the financial condition of LG (Kloha et al 2005; Wang et al 2007). To fulfill this criterion this study, first, conceptualizes the definition of the financial condition as a basis to determine dimensions and indicators of it. Part 2 discussed how to conceptualize the definition of the financial condition of LG. Based on the definition, the author develops dimensions and indicators to measure the financial condition. Compared to previous research (see Groves et al., 1981, Berne and Scramm, 1986; Nollenberger at al., 2003, Brown, 1993, Wang et al., 2007; CICA, 1997; Kloha et al., 2005a, Jones and Walker, 2007; Hendrick, 2004; Kamnikar et al., 2006,Casal and Gomez, 2011) which built arbitrary dimensions and indicators of financial condition, this study offers a more logical flow of dimensions and indicators forming the financial condition concept.
2. Possesses the qualities of measurement validity and reliability (Wang et al 2007, Cooper and Schindler, 2010). Part 4 analyzed the reliability and validity of the measure. The reliability and validity of the measure were tested systematically and comprehensively. Results of the analysis show that the measure possesses the qualities of reliability and validity, either for the face, content, predictive, concurrent, and convergent validity.
3. Assesses the financial condition of the entire LG rather than only part of it (Wang et al 2007). This study used LG financial statements which were prepared based on Governmental Accounting Standards to measure the financial condition of the LGs. This circumstance fulfills the criterion.
4. Provides predictive ability, which means that information provided by the measure, can be used to recognize factors that are believed to associate with it. This criterion is fulfilled when this study analyses the relationship of the FCI and the socio-economic factors in part 4.
5. Distinguishes well among the LGs evaluated (Kloha et al, 2005). This criterion is met by developing the cut-off points to distinguish groups of LG. This study sets certain FCI scores to group LGs' financial condition into three groups (good, average, and poor)
6. Use of publicly available, uniform, and frequently collected data. As a result, the measure will be objective and resistant to manipulation and gaming (Kloha et al, 2005). As described in Part 4 the data used to develop the measure (i.e. the financial statements of LGs and socio-economic data) were sourced from the state's institutions, namely the Supreme Audit Board and the Central Bureau of Statistics. The data are periodically released to the public by the institutions. Therefore the data met the criteria of being publicly available, uniform, and frequently collected data.
7. Being practical, as Cooper and Schindler (2010) explain, is related to various factors of economy, convenience, and interpretability. This criterion is satisfied when a model is build based on publicly available, uniform, and frequently collected data. Using such data, LGs incur low costs (i.e. economy) to develop the measure because the data is publicly available. The criterion of convenience is satisfied as the data needed are periodically released by authorized organizations; and

interpretability criterion is fulfilled by its measure stated in an index of 0 to 1 so that it is easily understood by LG officials and the public.

Based on the discussion above, the authors believe that this study offers a new method to assess the financial condition of LG by proposing new dimensions and indicators and also methods in developing a composite index of LGs' financial condition, which will be an improvement on the existing methods.

3. Practical Implications

There are several practical implications of the FCI including benefits of the FCI, parties who should provide the FCI, and who can take benefit from the FCI. The following sections discuss the practical implications.

Benefits of the Financial Condition Index

The existence of a FCI will enhance LGs' public accountability. Previously, the one reference of the LGs' public financial accountability has been the opinion of the financial statements issued by the Supreme Audit Board. With the presence of the FCI, LGs' public accountability will be stronger because the FCI provides information for public financial accountability which is more substantive than the opinion of the financial statements issued by the Supreme Audit Board. .

As previously discussed in the Part 1, LGs in Indonesia, at the provincial, municipal, and district levels, must prepare financial statements consisting of balance sheets, statements of actual performance compared to budget, and statements of cash flows (Act 17/2003, Act 1/2004, Act 32/2004, and Government Regulation 58/2005). These financial statements must be audited by The Supreme Audit Board of The Republic of Indonesia in order to assure compliance with the Government Accounting Standards (Act 15/2004). These financial statements inform users about the value of total assets, total debt, net assets, total revenues, total expenditures, and cash inflows and outflows. However, these audited financial statements do not adequately inform users about the LG's financial conditions or financial health. In other words, the opinion regarding the financial statements tends to look at the attributes of the financial statements rather than the substance of the financial condition. Therefore, this gap is bridged by the existence of the FCI.

The FCI can be used to rank the LGs' bonds. Government Regulation 30/2011 allows LGs in Indonesia to borrow money by issuing LG bonds through the capital markets. In this circumstance, the FCI can be used by credit rating agencies to assign quality ratings to LG bonds. In addition, the rating of the FCI can be used as one of the criteria that must be met by LGs before they issue bonds to the public.

The database used to compile the FCI, can build the "industry ratios" for equivalent LG groups. As discussed in the part 4, this "industry ratios" can be based on the mean or median of equivalent LGs. As is the case in the business sector, the "industry ratios" can be the benchmark for each LG to compare its financial condition to other equivalent LGs.

A further implication of the "industry ratios" as a benchmark is the emergence of competition among LGs. LG leaders will compete to be better than other LGs or at least to better their own financial condition from the previous period. The existence of an atmosphere of competition will make LG more efficient and effective in the delivery of services and products to the community. In turn, community well-being will be improved because the community can get better services and products from the LG.

Who Has Responsibility for Preparing the FCI?

LG prepares the FCI through the LG Inspectorate, the Regional Planning Office, and the Regional Financial Management Office because these 3 bodies have the data to analyze the FCI. Another reason is that the 3 agencies would be the primary users of the FCI information. The Inspectorate will use this information to oversee the financial management of the LG; the Regional Planning Office will use the FCI as an input in the planning of development, while the Regional Financial Management Office will

use the FCI as guidance in areas of financial management.

The Supreme Audit Board (the BPK) also has responsibility to prepare the FCI. After the BPK completes the audit of financial statements from LG, then the BPK can prepare the FCI based on the audited financial statements. First, the LGs are grouped according to their characteristics. The grouping can follow the grouping that has been developed by the police. Second, the BPK sets the LG ranking for each group.

Who Can Take Benefits from the Financial Condition Index?

Based on the practical implications discussed above, it can be concluded that the development of the FCI will contribute benefits to the stakeholders in LG. For the LG itself, assessing the its own financial condition is important because information resulting from the assessment would help it to detect any signs of fiscal distress and in turn to help to avert any fiscal crisis (Jung, 2009) and to improve service delivery (Ngwenya, 2010). In addition, LG can establish a formal early warning system for financial distress, and therefore LG will be in a strong position to detect and to minimize financial distress before it occurs (Kloha et al., 2005).

For the central government, the results of this study will be valuable, especially for the Ministry of Finance and the Ministry of Home Affairs, in monitoring the financial condition of LG and providing an input to these ministries into developing policies and regulations related to managing LG finance.

The legislative members of LG and the community can use the information about LG financial conditions to observe LG executives in managing LG finance. If the LG's score for this year's financial condition is better than last year or better than other LGs' scores, it means that the financial condition of the LG is improved, and vice versa. Thus, by using this information they can monitor and evaluate whether the executives are maintaining LG finance in a good condition, compared to other LGs. As a result, there will be competition among LG executives in managing LG finance.

CONCLUSION, LIMITATIONS, AND SUGGESTION FOR FURTHER STUDY

The study offers a new method to assess the financial condition of LG by proposing new dimensions and indicators and also methods for developing a composite index of financial condition, which will be an improvement on the existing methods. The results show that the measure developed is reliable and valid. In addition, results of this study will contribute benefits to LGs and their stakeholders: the community, the legislature, the central government, and potential investors.

The limitations of this study are that the study assumed that the weight of the dimensions forming the measure is equal. In reality, the weight may be different. Another limitation is the sample of this study is "only" taken from LGs in Java. Therefore it is suggested that future research determine the weight for each dimension and also widen the sample scope. In addition, future research should investigate why some LGs stayed consistently in the top 10 rank or the lowest rank.

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Journal of Indonesian Economy and Business
Volume 29, Number 2, 2014, 165 – 182

THE IMPACTS OF COUNTRY-OF-ORIGIN, PRODUCT INVOLVEMENT, AND PRODUCT FAMILIARITY ON PRODUCT EVALUATION

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ABSTRACT

One of the most interesting phenomena in global business is the existence of a product's country-of-origin (COO). COO as an informational cue has been proven to affect consumer's purchasing decisions in terms of their perception towards the product's attributes as well as their overall evaluation of the product. The objective of this study is to investigate the impacts of country-of-origin on product evaluation in the Indonesian market by considering consumers' product familiarity and consumers' product involvement. Consumers' perception of the product's country-of-origin is assumed to have a significant influence on consumers' considerations in evaluating the product prior to purchase. This impact is supposedly moderated by the extent that consumers are familiar with the product's attributes and to what extent the product is important and interesting to them. A survey design was employed to test the proposed linkages among the variables.

The target population of the survey was Indonesian consumers of imported products. The sample unit is the person who has experience in buying or consuming foreign products. The sample of 307 persons was drawn from Yogyakarta. This study examined televisions to represent a high involvement product. The country stimuli are Korea and Indonesia . The study applied the regression analyses and hierarchical moderated regression to test the proposed hypotheses. The study found that: (1) Indonesian consumers associate positively a product's country-of-origin with their decision in evaluating the product for both Indonesian and Korean products, (2) Indonesian consumers consider the level of economic development of the country-of-origin in evaluating the product, in which the effect of the country-of-origin is stronger for a Korean product than an Indonesian product, (3) Indonesian consumers with different levels of product familiarity do not evaluate a product differently for both Indonesian and Korean products, (4) Indonesian consumers with different levels of product involvement evaluate a Korean product differently.

Keywords: *country-of-origin, product evaluation, Korea, TV Product*

INTRODUCTION

The globalization of business has not only inspired companies to deliver their products and services to consumers all over the world, but also stimulated a higher degree of competition in the global market. One of the most interesting phenomena in global business practices is the existence of a product's country-of-origin (COO). The COO, which is one typically important attribute of every international brand, stands for the country to which people believe a product comes from (Anholt, 2000). The COO as an informational cue has been proven to affect consumer's purchasing decisions in terms of their perception towards the product's attributes as well as their overall evaluation of the product.

The benefit of using a COO strategy is the existence of that country's image, since sometimes consumers already have a relationship with, or opinions about, different countries. Consumers develop stereotypical beliefs about products from certain countries. For instance, Germany is well known for manufacturing high quality automobiles, Japan for electronic products, and Italy for food and fashion products. Therefore, the COO serves as a supporting factor

to any product that has little chance of being marketed internationally on its own (Kleppe et al., 2002). The strong image of the country-of-origin in terms of its competitive and, or comparative advantage is assumed to enhance the quality of the products.

Consumers' perceptions of similar products, or even identical brands, may vary depending upon the country where the products are made. For example, some consumers think that Nikon cameras made in Japan are superior to those made in China, since Japan is perceived to be a country with better craftsmanship than China has. However, nowadays, it is relatively difficult to identify from which country the product originally comes from since the creation of multinational or global companies having cross-border production and marketing activities. In that way, they produce a hybrid product, which may be designed in one country, assembled in another country with components that are sourced in several other countries (Ahmed & d'Astous, 1995, p.35).

Regarding a hybrid product, consumers still think that the first country producing a product is perceived to be the product's country-of-origin. For example, most Indonesian consumers think that Sony's electronic products are still Japanese products, even though Sony already assembles its products in Indonesia. In this case, the country-of-design is perceived to be stronger than the country-of-origin, regardless of which country the product is actually made or assembled in. This phenomenon is summarized in the definition of the COO based on Chao and Rajendran's study (1993). They pointed out that consumers perceive the product to originate from the country with which the firm is most closely associated with, regardless of where the product may actually be produced. This definition does not view the COO as a unidimensional concept, which defines the COO as the only country where the product is made. Instead, it adopts a multidimensional concept by distinguishing the COO into the country-of-design and country-of-assembly (Ahmed & d'Astous, 1995). Thus, the COO can be identified from the country-of-design or country-of-assembly depending on which country is more closely associated with the product.

Consumers in developing countries consider the COO as a status-enhancing symbol in addition to suggesting overall quality. There are some explanations why the COO phenomena is stronger in developing countries (Batra et al., 2000). First, imported products in developing countries are both relatively expensive and limited in quantity compared to local products. Therefore, only rich consumers can buy the imported products, which therefore become more desirable to those without adequate purchasing power. Second, consumers in developing countries are sensitive to insecurity and inferiority, since they are relatively less affluent than those in developed countries, as represented by mostly western countries. Thus, they try to imitate western countries' consumption practices by purchasing a foreign brand as a symbol of an affluent western lifestyle. Third, the willingness to show their competence in relating to alien cultures works as one of the main motivational factors behind the emergence of "cosmopolitan" consumers in developing countries. The possession of imported products is perhaps the only way they can demonstrate that competence. Finally, since not every consumer in developing countries can access imported products, the product, which becomes a symbol of status, affluence, and modernity, can enhance their social status. The more they consume imported products, the higher the social status they get.

In term of product evaluation, consumers usually use the COO as a surrogate indicator to measure the quality levels of the products especially when they are not really familiar with the product. To some extent, consumers with a good education, good income, high familiarity toward foreign products, or international experience accept foreign products and have a more positive attitude toward imported products (Anderson & Cunningham, 1972). When consumer evaluate the product on the basis of its COO, it can be assumed that they consider themselves familiar with the country. Therefore, it is perhaps very difficult for consumers who are not well

informed about the country to use the COO cue to evaluate the product (Johansson, 1989).

In evaluating a product, consumers usually care about the quality of the product when they think the product is important or interesting to them. This situation encourages them to be more involved in evaluating the product in terms of their time and costs searching for information about the product (high involvement product). In contrast, when the product is perceived to be not important or interesting to the consumers, they do not want to spend a lot of effort to evaluate it (low involvement product). Consumers perhaps do not really care about the country-of-origin when they want to buy certain low involvement products.

Among the high involvement product categories available in the Indonesia marketplace, certain electronic products, especially TVs from Asian manufacturers are on the rise. Korean brand TVs, of which Samsung and LG are the main players, and who possess a high market share and growth in the global marketplace, are prevalent. According to the data from an industry analyst, DisplaySearch, in 2011 Samsung had cemented its position as the global leader in plasma and LCD TVs followed by LG in second place. The Japanese brands Panasonic, Sony, and Sharp occupied the next positions. The popularity of Korean products is probably enhanced by the spreading Korean pop music phenomenon (K-Pop) over the world. The surge of K-Pop has begun to attract the interest of the global media, allowing Korea to enjoy a considerable spotlight on its cultural frontiers. In Indonesia, people started to favor not only K-Pop, but also Korean cars, electronics, cosmetics and fashion products.

Along with the growing popularity of Korean culture in the world, several multinationals from Korea now enjoy a better position in the global marketplace. A survey conducted by the Korea Trade-Investment Promotion Agency (KOTRA) in 2012 found that there are favorable responses to the image of "Made in Korea" products and services. The rise of the national brand through culture has led to an increase in preference for Korean products and services as well. Global consumers' perceived price level for Korean electronics has enjoyed a 10.3 point increase compared to its 2006 level, when KOTRA began to release the annual report on the nation brand map.

PROBLEM DEFINITION

Based on previous research findings (Batra et al., 2000), it can be inferred that consumers in developing countries such as Indonesia are considered to be very sensitive to COO effects. Thus, the impact of the COO on product evaluation tends to be stronger. Therefore, the study also aims to confirm whether the COO effect on product evaluation for Indonesian consumers is also strong. It is also proposed that there will be differences between the COO evaluation on national brands (Indonesia) and foreign brands (Korea) by Indonesian consumers. The study contributes new insights in terms of both theoretical and practical contexts. As mentioned by Phau and Prendergast (Phau & Prendergast, 2000), most COO studies have concentrated on high involvement products. The research findings are important to enrich discussions on the research topic of country-of-origin by proposing product involvement as an additional strong relevant factor beside product familiarity.

RESEARCH QUESTIONS

Four research questions can be specified to address proposed linkages among variables as follows:

- Does the country-of-origin positively influence product evaluation?
- Does a more developed country-of-origin have a stronger effect on product evaluation than a less developed country-of-origin?
- Does product familiarity moderate the effect of the country-of-origin on product evaluation?
- Does product involvement moderate the effect of the country-of-origin on product evaluation?

RESEARCH PURPOSE

The purpose of this study is to investigate the impacts of a product's country-of-origin on the

evaluation of the product in the Indonesian market by considering consumers' product involvement and consumers' product familiarity. The study will use TVs produced in Indonesia and Korea for its comparison. Consumers' perceptions of the country where the product comes from is assumed to have a significant influence on consumers' considerations in evaluating the product prior to purchase. This influence is supposedly moderated by the extent that consumers are familiar with the product's attributes and to what extent the product is important and interesting to them.

LITERATURE REVIEW AND HYPOTHESES

1. Product Evaluation

Product evaluation is one stage of the buying decision process (Kotler, 2003). In this stage, consumers try to evaluate the best product among the available alternatives. There are decision evaluation processes, which assume the evaluation process to be cognitively oriented as consumers form their judgments mainly on a conscious and rational basis. To choose among competing products, consumers may face difficulties in assessing product performance and quality. A common response from consumers when they are asked to define quality is "I cannot define quality but I know it when I see it." (Hansen & Bush, 1999). This fact illustrates that the meaning of quality may vary depending on personal differences. Every individual has his or her own way to define the quality of a product.

Previous studies showed that the perceived quality of products would vary depending on consumer perceptions of both the intrinsic and extrinsic marketing cues associated with the product (Bhuian, 1997). A cue is defined as a characteristic, event, quality or object, external to a person, that can be encoded and used to categorize a stimulus object (Schellink, 1983, p. 470). Examples of cues are color, size, price, brand name, style, and country-of-origin (COO). Any object that can be associated with numerous potential cues will result in different perceptions and interpretations among different individuals and situations. Therefore, it is important to categorize and describe cues in order to study the determinants of choice among the different types of cue.

Olson (Rao & Monroe, 1989) pointed out that consumers might use a variety of informational cues to infer product quality. Based on previous studies, the cues consist of extrinsic cues such as the brand name (e.g. Dodds et al., 1991; Jacoby, Szybillo & Busato-Schah, 1977; Peterson & Jolibert, 1976), price (e.g. Dodds et al., 1991; Weathley et al., 1981; Woodside, 1974) and the country-of-origin (e.g. Han & Tepstra, 1988; Chao, 1989a, 1989b) which are not related directly to the product's performance. On the other hand, intrinsic cues such as materials, contents, ingredients and packaging are derived directly from the physical product. Compared to intrinsic cues, extrinsic cues are more general and applicable to a wider range of products, whereas intrinsic cues are more specific to a particular product.

Additionally, Lee and Lou (1995) concluded that consumers are generally more familiar with extrinsic cues such as the brand name, price, and country-of-origin than intrinsic cues. Thus, consumers are likely to rely more heavily on extrinsic cues when evaluating products. This is supported by Dawar & Parker (1994) who argued that in the situation wherein neither infinite time horizons nor the incentive to perform comprehensive comparative assessment prior to purchase exists, consumers tend to rely only on heuristic cues as a cognitive short cut to gauge product quality by using extrinsic cues. It may be caused by several factors: (1) there is a need to reduce the perceived risk of purchase, (2) the consumers lacks expertise and consequently the ability to assess quality, (3) consumer involvement is low, (4) objective quality is too complex to assess or the consumer is not in the habit of spending time objectively assessing quality, (5) there is an information search preference and need for information.

2. Product Evaluation and Country-of-Origin

Although academic research into country-of–origin started over 30 years ago, so far, there is no one acceptable definition of country-of-origin

(COO). The oldest definition of COO is as follows:

> *"The 'made in' image is the picture, the reputation, and the stereotype that businessmen and consumers attach to products of a specific country. This image is created by such variables as representative products, national characteristic, economic and political background, history, and traditions."* (Nagashima, 1970)

That definition deduces that the COO is an extrinsic cue of the product like the brand name or price, which serves as informational stimulus used by consumers to infer beliefs regarding the product quality. Additionally, those definitions assume that the product is designed and manufactured in the same country. However, nowadays, it is very complicated to identify from which country the product originates. The existence of multinational or global companies having cross-border production and marketing activities enables them to produce a hybrid product, which may be designed in one country, assembled in another country with components that are sourced in several other different countries (Ahmed & d'Astous, 1995).

Therefore, the definition of the COO variable used in this study will be based on Chao and Rajendran's study (1993 that viewed the COO as the consumers' perception that generally assumes that the product originates from the country with which the firm is closely associated, regardless of where the product may actually be produced. This definition does not view the COO as a unidimensional concept, which defines the COO as the only country where the product is made. Instead, it adopts a multidimensional concept by distinguishing the COO into country-of-design and country-of-assembly (Ahmed & d'Astous, 1995). Thus, the COO can be identified from the country-of-design or the country-of-assembly, depending on which country is more closely associated with the product. The country-of-origin construct is conceived from the idea in which people attached stereotypical "made-in" perceptions to products from specific countries, and which influenced purchase and consumption behaviors in multinational markets.

3. The Effect of Country-of-Origin on Product Evaluation

To handle complex processing tasks in evaluating the competitive products prior to their purchase, consumers often consider only a few of the multiple attributes of the intended product. By considering a few of attributes, such as the country-of-origin (COO), they attempt to ease the cognitive processing required in their decision making processes (Johansson, 1989). In the process of product evaluation, the COO label eases the utilization of a mental "short-cut" or heuristic approach to eliminate unnecessary information processing since the COO provides a brief summary of the actual attributes of a product (surrogate variable). Therefore, the COO allows consumers to save time and effort in evaluating a product (Verlegh, 2002). However, the impact of the COO on product evaluation decreases when the consumer's ability to process information has increased (Maheswaran, 1994). As consumers gain access to a greater number of cues such as the brand, price, technical specifications, and after sales service, the role of one particular cue, such as the COO, in influencing product evaluation is expected to decrease.

Kleppe et al. (2002) explained the work of the COO cue in the process of consumers' product evaluation. They pointed out that the COO can be viewed as a structure of knowledge in consumers' minds with varied associations of a certain country in terms of uniqueness, favoritism, strength and salience. Those associations, which are called country-related intangible assets (Kim & Chung, 1997), consist of technical advancement, prestige, workmanship, innovativeness, design, economy and service owned by the country. Those associations arise from the consumers' belief that there is something special about them in relationship with the labor forces, technologies, and manufacturing processes involved in producing the product. This image of the COO has a substantial impact on judgments of product evaluation (Kleppe et al., 2002). When consumers think that the country-of-origin

of the product has a positive image, it will lead to a positive result in the product evaluation. A positive result means that the product is considered to be of good quality as well as have a high purchase value, and to stimulate consumers' willingness to buy it. The following hypothesis is suggested to address this issue.

H_1: A positive image of the country-of-origin will be positively associated with a positive result of the product evaluation.

Amine and Shin (2002) proposed that the COO effect on product evaluation in signaling the quality of the product is not absolute for a given country, but it is different for different countries. Their findings indicate that the COO effect on product evaluation tends to be stronger in the developing countries than it is in the developed countries. This result perhaps is influenced by a common myth about the COO, that the products made in developed countries must be of better quality than those made in developing countries. Furthermore, a study by Manrai et al. (1998), which proposed a hierarchy of effects based on the level of economic development, suggested that perceived quality tends to be highest for products sourced in highly-developed countries, followed by newly-industrialized countries, and lowest for Eastern European/ socialist countries as well as developing countries. The next hypothesis is proposed to examine this issue.

H_2: Country-of-origin from a more developed country has a stronger effect on the product evaluation than country of origin from a less developed country.

4. Effect of Product Familiarity in the Relationship between COO and Product Evaluation

In term of product evaluation, Park and Lessig (1981) proposed two approaches to define product familiarity. The first approach is actual knowledge or how much a person knows about the product. What he actually knows about a product may be derived from some objective training or advertising. According to this view, product familiarity may be examined with respect to the knowledge structure of an individual's long-term memory. The second approach is perceived knowledge or how much a person thinks he knows about the product. What the person thinks he or she knows about a product may come from using the product. However, this knowledge perhaps is not objective and complete since it depends simply on his or her experiences in using the product. Referring to this view, product familiarity is based on the person's self report of how much the person knows about the product. The former approach contributes to understanding the impact of memory content on the decision maker's evaluation and choice decisions, whereas the latter approach provides information about decision maker' systematic biases and heuristics in choice evaluations and decisions.

Previous studies have shown that such extrinsic cues as the brand name, price and country-of-origin have a significant effect on product evaluation (e.g. Dodds et al., 1991; Han & Tepstra, 1988; Chao, 1989a: Chao, 1989b). It happens since consumers are obviously more familiar with extrinsic cues than with intrinsic cues. Bettman and Park (1980) supported this argument by pointing out that consumers who are more familiar with a certain product category tend to rely on brand name in their product evaluation and choice processes. They concluded that product knowledge is likely to be brand based wherein consumers with more knowledge tend to use the brand as the basis for their product evaluations. On the other hand, consumers who are less familiar with the product category will evaluate specific attributes of the product, and then integrate their evaluations to reach an overall judgment. For example, unfamiliar consumers perhaps measure the quality of products based on their price or country-of-origin as surrogate indicators due to their lack of knowledge. In terms of price, they think that the higher the price, the better the quality is.

Similarly, in term of the country-of-origin, they perceive that products originating from developed countries must be better than those from developing countries. In addition, Han (1989) explained how product familiarity could

influence the use of the country-of-origin to evaluate the product. Han classified the effects into two models. First, when consumers are not familiar with a country's products, the COO will serve as a halo from which consumers infer a brand's product attributes and which affects their attitude toward the brand indirectly through the product's attribute rating. Second, as consumers become familiar with a country's products, country image becomes a summary of consumers' beliefs about the product's attributes and directly affects their attitude toward the brand. It means that product familiarity will strengthen the impact of the country of origin on the product evaluation. The following hypothesis is proposed to address this issue.

H_3: Product familiarity moderates the effect of the country-of-origin on product evaluation.

5. Effect of Product Involvement in the Relationship between COO and Product Evaluation

There is still little agreement among researchers on how to define the construct of involvement due to the different applications of the term involvement. Zaichkowsky (1985a) suggested that involvement could be related to such different objects as advertisement, product category, or purchase decision wherein every object will lead to a different response. In terms of purchase decisions, involvement will lead consumers to search for more information and spend more time searching for the right selection. This means that the more involved the consumers are, the more information and time they need to make their purchasing decision.

Kapferer and Laurent (1986) found that in marketing, involvement is defined as perceived product importance (e.g. Agostini, 1978; Traylor, 1981; Lastovicka & Bonfield, 1982). However, this definition is in doubt due to its narrow perspective compared to the richness of the involvement relationship. This argument is supported by the study of Hansen (1985) that disagreed with the former definition by describing involvement as the consumer's interest in a product category. Hansen hypothesized that a consumer may think that a television set is important without being involved, when he or she has no interest in that equipment.

Despite differences of opinion among researchers, a consensus emerged as to the following generic definition of involvement from Rothschild (Kapferer & Laurent, 1986, p. 49): "Involvement is an unobservable state of motivation, arousal or interest. It is evoked by a particular stimulus or situation and has drive properties. Its consequences are types of searching, information-processing and decision making."

Korgaonkar and Moschis (Zaichkowsky, 1986) used a factor of differentiation of alternatives as a primary discriminator of high and low involvement products. For example, the degree of substitution with brands and differences in performance are used to classify soft drinks as low-involving products and radios as high-involving products. The question under study is whether high-involving products or low-involving products are evaluated differently after receiving positive or negative information about the product.

The research findings show that a high involvement product is less vulnerable to changes in evaluation after consumers receive discrepant information, than the low involvement product is. The logic underlining this result is that, under high involvement conditions, beliefs about the product's attributes are firmly held by consumers and only influenced by strong, quality arguments, whereas under a low involvement condition, beliefs are not strongly held and are easily manipulated (Zaichkowsky, 1986).

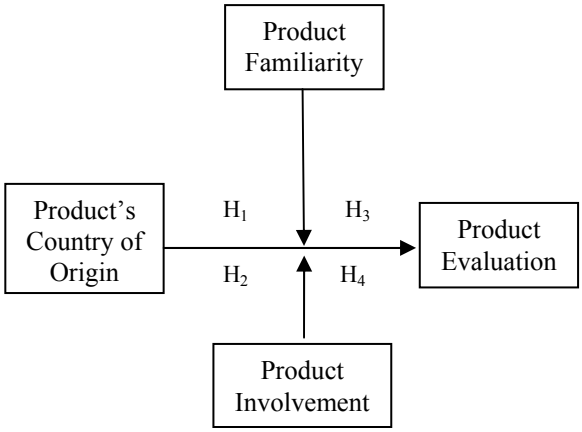
Studies investigating the effects of the country-of-origin on product evaluation have focused mainly on higher involvement goods such as cars and electronic equipment (Alden et al, 1993). Meanwhile, low involvement goods are rarely evaluated prior to purchase. For most low involvement purchasing decisions, consumers tend to rely on a few salient and extrinsic features such as the brand name, price, or country-of-origin which activate generalizations from memory about the product category and brand reputation (Alden et al., 1993). This means that

product involvement will weaken the impact of the country of origin on the product evaluation. The next hypothesis is raised to examine this concern.

H_4: Product involvement moderates the effects of the country-of-origin on product evaluation.

6. The Research Model

The research model can be summarized as that consumers' perception of the country the product comes from is assumed to give a significant impact to the outcome of the product evaluation prior to purchasing. This influence is supposedly moderated by product involvement and product familiarity. The study, therefore, will measure an independent variable of the country-of-origin (COO) and two moderating variables of product involvement and product familiarity in relationship to one dependent variable of product evaluation. The relationship model among the independent variables, moderating variable and dependent variable is drawn in Figure 1.



Source: Envisaged by the authors

Figure 1. Research Model

RESEARCH METHOD

A survey design was employed to test the proposed linkages among variables. This study uses Korean (Samsung and LG) and Indonesian (Polytron) LED Televisions as the study objects. The target population is the Indonesian consumer of imported products. The sample unit is the person who has experience in buying or consuming imported products. The samples are drawn from residents of the special province of Yogyakarta (Daerah Istimewa Yogyakarta). This research site is believed to cover the Indonesian consumer population of imported products since it has a heterogeneous population consisting of various Indonesian races.

Respondents were selected based on their occupations by a quota sampling method. The study used seven occupational groups to classify the respondents as follows: (1) house wife, (2) high school students, (3) university students, (4) operational workers, (5) managerial workers, (6) professional, and (7) businessmen.

A close-ended questionnaire consisting of 41 items was used as the survey instrument to collect the data. All questionnaires were distributed directly to the respondents to ensure a high response rate. 315 questionnaires were distributed and all were returned to the researcher. However, only 307 questionnaires were used for data analysis due to some having incomplete responses. Data collection were conducted in universities, schools, offices, malls, and stores in Sleman and Yogyakarta as both areas comprises of urban lifestyle respondents that were targeted for this research.

MEASUREMENT

Product evaluation is one stage of the buying decision process (Kotler, 2003). In this stage, consumers try to evaluate the best product among available alternatives before purchasing one of them. Product evaluation has evaluative dimensions of perceived quality and perceived value, and intention dimension of willingness to buy (Petroshius & Monroe, 1987). Therefore, product evaluation is measured using three sub-properties:

1) Perceived quality is defined as the consumer's perception on how well a product meets his or her needs.
2) Perceived value is defined as the consumer's perception of the worth of a product in term of value of money.
3) Willingness to buy is defined as the consumer's intention to buy the product.

The COO is an extrinsic cue of the product, like its brand name or price that serves as informational stimulus used by consumers to infer beliefs regarding the product quality. The COO variable used in this study is based on consumers' perceptions assuming that the product originates from the country with which the firm is closely associated, regardless of where the product may actually be produced (Chao & Rajendran, 1993). COO is measured using four sub-properties developed from the study of Darling and Kraft (1991):

1) Innovativeness or consumers' perception of the use of new technologies and engineering advances in products made in a certain country.
2) Design or consumers' perception of the appearance, style, color, variety of products made in a certain country.
3) Prestige or consumers' perception of the exclusivity, status and brand name reputation of products made in a certain country.
4) Workmanship or consumers' perception of the reputation of reliability, durability craftsmanship, and manufacturing quality in general of products made in a certain country.

Park and Lessig (1981) proposed two approaches to define product familiarity as actual knowledge or how much a person knows about the product, and perceived knowledge or how much a person thinks he knows about the product. What the person thinks he or she knows about a product may come from using the product. What he actually knows about a product may be derived from some objective training or advertising. Product familiarity is measured using two sub-properties:

1) Consumer's actual knowledge or what the consumer actually knows about a product. It may be derived from objective training, advertising or word-of-mouth.
2) Consumer's perceived knowledge or what the person thinks he or she knows about a product. It may come from his or her experience in using the product.

Notwithstanding differences of perspective among researchers, broad acceptance is given to the following generic definition of involvement from Rothschild (Kapferer & Laurent, 1986): "Involvement is an unobservable state of motivation, arousal or interest. It is evoked by a particular stimulus or situation and has drive properties. Its consequences are types of searching, information-processing and decision making."

A review of experimental manipulations of involvement (e.g. Festinger, 1957; Zimbardo, 1960; Greenwald & Leavitt, 1984; Park & Young, 1984) of marketing studies and manager's opinions revealed that involvement has five antecedents. It could stem from one or from a combination of the five following antecedents: interest, perceived risk (with two subcomponents, importance and probability), the rewarding nature of the product (pleasure value), and the perceived ability of brand choice to express one's status and one's personality or identity (Kapferer & Laurent, 1986). Therefore, product involvement is assessed using five sub-properties developed from the study of Kapferer and Laurent (1986):

1) Interest or centrality, ego-importance of the product class.
2) Pleasure or hedonic and rewarding value of the product class.
4) erceived sign value of the product class.
5) Risk importance or perceived importance of the negative consequences of a mistaken purchase.
6) Risk probability or subjective probability of making a mistaken purchase.

All variables are measured by 7 likely Likert scales in which the centre scale of neutral is hidden due to the strong tendency of Indonesian people to be conservative in judging the evaluation. The scales start from Strongly disagree (valued as 1) until Strongly agree (valued as 7).

DATA QUALITY EXAMINATION

The study attempted to assess the construct validity of both the independent and dependent variables prior to analyzing the data. The study applied two methods to assess the construct validity: (1) content validity and (2) convergent validity. Content validity is assessed by

conforming to the relevant concepts and theories. Convergent validity is measured using an confirmatory factor analysis. Average variance extracted (AVE) indicators are also calculated to support that validity evaluation. As shown in Table 1, not all measurement items can pass the validity test.

AVE indicators show that product familiarity (PF) is the only variable that has a unsatisfied score (below 0.5). Whereas, all variables have satisfying reliability performances as indicated by Cronbach Alpha scores that are above 0.6. Therefore, the study is still convinced the data are good, and so used the data for further analysis. Additional evaluations, that is a normality test, is applied to examine the data quality. As shown in Table 1, since all K-S indicators are significant. Therefore it confirms that all data are not normally distributed.

Table 1. Data Quality Examination

Variable	Items	Factor Loading	Mean	Standard Deviation	AVE	Cronbach Alpha	Kolmogorov-Smirnov Test Z (Sig.)
Product Involvement (PI)	PI 1	0,582424948	3.4039	0.9311	0.5401	0.794	0.64
	PI 2	0,786104887					
	PI 3	0,824675675					
	PI 4	0,723357705					
Product Familiarity (PF)	PF 12	0,688381274	3.4228	0.9661	0.4581	0.877	0.10
	PF 13	0,719232573					
	PF 14	0,723864942					
	PF 16	0,595202158					
	PF 17	0,649264015					
Indonesian Product's Country of Origin (CI)	CI 18	0,750442763	3.1963	0.7477	0.5279	0.744	0.01
	CI 19	0,729988478					
	CI 21	0,694101125					
	CI 23	0,730603738					
Indonesian Product Evaluation (PEI)	PEI 26	0,778910524	3.3656	0.7775	0.5552	0.836	0.00
	PEI 27	0,719689056					
	PEI 28	0,691295041					
	PEI 29	0,786506736					
Korean Product's Country of Origin (CK)	CK 30	0,772760673	3.3616	1.0059	0.5381	0.925	0.02
	CK 31	0,789916759					
	CK 32	0,780150409					
	CK 33	0,800341936					
	CK 34	0,786719343					
	CK 35	0,500361162					
	CK 36	0,653699531					
Korean Product Evaluation (PEK)	TEK 38	0,781808643	3.5554	1.0466	0.6881	0.931	0.00
	TEK 39	0,841678744					
	TEK 40	0,822773306					
	TEK 41	0,869565085					

Source: Primary data (2014)

HYPOTHESES TESTING

1. The First Hypothesis

The first hypothesis addresses the relationship between the country-of-origin (COO) and the product evaluation. Customers' positive perceptions of the country-of-origin (COO) of the product they want to buy is hypothesized to have an association with a positive product evaluation (PE). As shown in Table 2 and Table 3, the results of regression analysis of both Indonesian and Korean TVs prove that the relationship between the COO and PE are significant ($p<0.05$), and have a positive direction as represented by the positive values of $\beta=0.396$ and $\beta=0.772$ for Indonesian and Korean TVs respectively. Based on this finding, therefore, the study accepts the first hypothesis since the study confirmed that a positive COO could be positively associated with the product evaluation.

This finding shows that Indonesian consumers use the COO label to simplify the complex processing tasks in evaluating products prior to purchasing. The COO label facilitates a mental "short-cut" to eliminate unnecessary information processing by providing a brief summary of the actual attributes of a product. Positive associations with country-related intangible assets (Kim & Chung, 1997) such as technical advancement, prestige, workmanship, innovativeness, design, economy and service, lead to a positive result of product evaluation. It means that the product is considered to be of good quality as well as having a high purchase value, and to stimulate consumers' willingness to buy it. Hence, it can be concluded that Indonesia and Korea have positive country images as country-of-origins for televisions.

2. The Second Hypothesis

The second hypothesis addresses the different effects of country-of-origin (COO) on product evaluation (PE) resulting from different levels of economic development of the country the product comes from. When a product comes from a more developed country, consumers tend to have a more positive product evaluation than when it comes from a less developed country. The results of regression analysis, as revealed in Table 2 and Table 3, present that the effect of the country-of-origin becomes stronger when the product comes from a more developed country. The values of standardized regression weight (β), which represent the effect of the COO on PE in the case of more developed countries, are higher than those in the case of less developed countries.

Table 2. Regression Analysis of Indonesia TVs

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta	B	Std. Error
1	(Constant)	2,049	,179		11,420	,000
	CI	,412	,055	,396	7,533	,000

a Dependent Variable: PEI
Source: Primary data (2014)

Table 3. Regresion Analysis of Korean TVs

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta	B	Std. Error
1	(Constant)	,854	,133		6,432	,000
	CK	,804	,038	,772	21,242	,000

a Dependent Variable: PEK
Source: Primary data (2014)

The value of β coefficient of Korean TVs (0.772) is higher than that of Indonesian TVs (0.396). Based on these findings, therefore, the study accepts the second hypothesis since the study proved that the level of economic development of the country the product comes from differentiate the effect of the COO on PE. To evaluate the product, Indonesian consumers consider the level of economic development of the product's country-of-origin. This finding supports the previous study (Batra et al., 2000), it can be inferred that consumers in developing countries such as Indonesia are considered to be sensitive to COO effects. Thus, the impact of the COO on product evaluation tends to be stronger.

3. The Third Hypothesis

The third hypothesis focuses on the role of product familiarity (PF) in moderating the effect of the country-of-origin (COO) on product evaluation (PE). The usage of the COO information by consumers to evaluate the product they want to buy is more likely made by consumers with low and high product familiarity than by consumers with moderate familiarity (Rao & Monroe, 1988).

The results of hierarchical moderated regression (HMR) analysis, as shown in Tables 4b and 5b respectively, present that the F change between the full model and the restricted model of both Indonesian and Korean TVs are not significant. In the case of Indonesian TVs, α= 0.133 (>0.05) with R square change minus 0.006. Whereas in the case of Korean TVs, α= 0.078 (>0.05) with R square change minus 0.004. Based on these findings, therefore, the study rejects the third hypothesis since the PF does not moderate the effect of the COO on the PE. These results do not support the previous study (Rao & Monroe, 1998) who concluded that the usage of extrinsic cues such as the COO in product evaluation is more likely made by unfamiliar consumers and also highly-familiar consumers.

4. The Fourth Hypothesis

The fourth hypothesis addresses the role of product involvement in moderating the effects of the country-of-origin (COO) on product evaluation (PE). The previous studies show that under high involvement conditions, beliefs about the product's attributes are firmly held by consumers and only influenced by strong high-quality arguments. Meanwhile, under low involvement conditions, beliefs are not so strongly held and are easily manipulated (Zaichkowsky, 1986). Since consumers tend to rely on extrinsic cues such as the COO that activate generalizations from memory about the product category and brand reputation (Alden et al., 1993). Therefore, the COO is likely used by lowly involved consumers rather than by highly involved consumers.

Using the results of hierarchical moderated regression (HMR) analyses to test the fourth hypothesis, Table 6b presents that the F change between the full model and the restricted model of Indonesian TVs was not significant with α=0.909 (>0.05) and no R square change. However, as shown in Table 7b, a positive result was scored by Korean TVs. They had α=0.000 (<0.05) and R square change minus 0.017.

Therefore, the study accepts the fourth hypothesis only in the case of Korean TVs. Since PI moderates the effect of CK on PEK. Based on this result, it can be assumed that to some extent, Indonesian consumers with any different level of product involvement do not use the COO as an extrinsic cue in evaluating the product prior to purchase. This finding supported the study of Zaichkowsky (1986) as well as the study of Alden et al. (1993) as described previously.

Table 4a. The Hierarchical Moderated Regression Analysis of Indonesian TVs to Examine the Moderating Effect of Product Familiarity

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta	B	Std. Error
1	(Constant)	1,650	,527		3,130	,002
	RITCI	,778	,172	,748	4,519	,000
	RITPF	,010	,156	,012	,064	,949
	RITCIRITPF	-,071	,047	-,444	-1,506	,133
2	(Constant)	2,392	,188		12,738	,000
	RITCI	,534	,059	,514	9,090	,000
	RITPF	-,215	,045	-,269	-4,756	,000
3	(Constant)	2,049	,179		11,420	,000
	RITCI	,412	,055	,396	7,533	,000

a Dependent Variable: RITEI
Source: Primary data (2014)

Table 4b. The HMR Model Summary of Indonesian TVs for Product Familiarity

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	,470(a)	,221	,213	,68966	,221	28,665	3	303	,000
2	,464(b)	,215	,210	,69110	-,006	2,267	1	303	,133
3	,396(c)	,157	,154	,71517	-,058	22,616	1	304	,000

a Predictors: (Constant), RITCIRITPF, RITCI, RITPF
b Predictors: (Constant), RITCI, RITPF
c Predictors: (Constant), RITCI
Source: Primary data (2014)

Table 5a. The Hierarchical Moderated Regression Analysis (PF) of Korean TVs to Examine the Moderating Effect of Product Familiarity

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta	B	Std. Error
1	(Constant)	-,222	,413		-,538	,591
	KTCK	,868	,140	,835	6,208	,000
	KTPF	,484	,125	,446	3,877	,000
	KTCKKTPF	-,066	,037	-,378	-1,770	,078
2	(Constant)	,464	,143		3,251	,001
	KTCK	,635	,046	,610	13,720	,000
	KTPF	,280	,048	,258	5,811	,000
3	(Constant)	,854	,133		6,432	,000
	KTCK	,804	,038	,772	21,242	,000

a Dependent Variable: KTEK
Source: Primary data (2014)

Table 5b. The HMR Model Summary of Korean TVs for Product Familiarity

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	,800(a)	,641	,637	,63043	,641	180,117	3	303	,000
2	,798(b)	,637	,635	,63264	-,004	3,133	1	303	,078
3	,772(c)	,597	,595	,66575	-,040	33,767	1	304	,000

a Predictors: (Constant), KTCKKTPF, KTPF, KTCK
b Predictors: (Constant), KTPF, KTCK
c Predictors: (Constant), KTCK
Source: Primary data (2014)

Table 6a. The Hierarchical Moderated Regression Analysis of Indonesian TVs to Examine the Moderating Effect of Product Involvement

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta	B	Std. Error
1	(Constant)	1,670	,628		2,657	,008
	RITCI	,413	,198	,397	2,080	,038
	RITPI	,129	,169	,143	,766	,444
	RITCIRITPI	-,006	,052	-,032	-,114	,909
2	(Constant)	1,737	,223		7,780	,000
	RITCI	,391	,055	,376	7,106	,000
	RITPI	,111	,048	,123	2,323	,021
3	(Constant)	2,049	,179		11,420	,000
	RITCI	,412	,055	,396	7,533	,000

a Dependent Variable: RITEI
Source: Primary data (2014)

Table 6b. The HMR Model Summary of Indonesian TVs for Product Involvement

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	,414(a)	,172	,163	,71123	,172	20,922	3	303	,000
2	,414(b)	,172	,166	,71007	,000	,013	1	303	,909
3	,396(c)	,157	,154	,71517	-,015	5,396	1	304	,021

a Predictors: (Constant), RITCIRITPI, RITPI, RITCI
b Predictors: (Constant), RITPI, RITCI
c Predictors: (Constant), RITCI

Table 7a. The Hierarchical Moderated Regression Analysis of Korean TVs to Examine the Moderating Effect of Product Involvement

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta	B	Std. Error
1	(Constant)	-1,126	,432		-2,605	,010
	KTCK	1,234	,134	1,186	9,207	,000
	KTPI	,634	,124	,564	5,107	,000
	KTCKKTPI	-,138	,037	-,711	-3,779	,000
2	(Constant)	,391	,164		2,393	,017
	KTCK	,748	,039	,719	19,359	,000
	KTPI	,191	,042	,170	4,574	,000
3	(Constant)	,854	,133		6,432	,000
	KTCK	,804	,038	,772	21,242	,000

a Dependent Variable: KTEK
Source: Primary data (2014)

Table 7b. The HMR Model Summary of Korean TVs to Examine the Moderating Effect of Product Involvement

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	,800(a)	,640	,636	,63138	,640	179,276	3	303	,000
2	,789(b)	,623	,620	,64502	-,017	14,282	1	303	,000
3	,772(c)	,597	,595	,66575	-,026	20,923	1	304	,000

a Predictors: (Constant), KTCKKTPI, KTPI, KTCK
b Predictors: (Constant), KTPI, KTCK
c Predictors: (Constant), KTCK
Source: Primary data (2014)

DISCUSSIONS

Based on the research findings, the study can make several final conclusions. First, Indonesian consumers positively associate the country-of-origin (COO) of the product with their decision in evaluating the product prior to purchase. A positive perception of the COO leads to a positive product evaluation. To some extent, it is consistent with the study of Verlegh and Steenkamp (1999), the cognitive mechanism is perceived to work among Indonesian consumers. They tend to use the COO as a signal for overall product quality and quality attributes. It is used to simplify the complex processing tasks in evaluating products prior to purchasing. Positive associations with country-related intangible assets: technical advancement, prestige, workmanship, innovativeness, design, economy and service, lead to a positive result for the product evaluation. The product is considered to be of good quality as well as have a high purchase value, and to stimulate consumers' willingness to buy. Hence, Indonesia and Korea have positive country images as the COOs of televisions.

Second, in the cases of televisions, Indonesian consumers consider the level of economic development of the COO in evaluating the product prior to purchase. The products from developed countries such as Korea are considered to be better than those from developing countries such as Indonesia. Since Indonesian consumers apparently behave rationally in evaluating the product by giving a higher preference to imported products that usually have a high social status symbol for Indonesian people. This conclusion supports the study of Manrai et al.

(1998) that proposed a hierarchy of effects of the COO based on the level of its economic development, since the product's COO is associated with the best technical standards for quality (Maheswaran, 1994). The validity of this research finding is also justified in terms of the research method. To overcome the lack of product object realism (e.g. Bilkey & Nes, 1982; Schooler, 1971), this study used multiple cues in which the COO was not the only information on which respondents made their evaluations. Other extrinsic and intrinsic cues relevant to the products such as the price, brand, features, and packaging were also shown to them. Respondents could comprehensively and objectively evaluate every tested product since those other influent cues are included in the properties of the COO variable.

Third, Indonesian consumers with different levels of product familiarity do not behave differently when using the COO information on their product evaluation. The study indicated that with both Indonesian and Korean TVs, product familiarity did not moderate the effect of the COO information on the product evaluation.

Fourth, Indonesian consumers with different levels of product involvement evaluate product differently after receiving information about the COO only in the case of the Korean TVs. Since product involvement moderates the effect of the COO information on product evaluation, therefore it supported the study of Zaichkowsky (1986) and Alden et al. (1993), which pointed out that the COO is more likely used by lowly involved consumers rather than by highly involved consumers.

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Journal of Indonesian Economy and Business
Volume 29, Number 2, 2014, 183 – 191

UNDERSTANDING SOCIAL ENTERPRISES IN INDONESIA: DRIVERS AND CHALLENGES

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ABSTRACT

Entrepreneurship has been one of the biggest growth topics in the past decades. Some entrepreneurs engage in socially active activities that are strongly embedded in their entrepreneurial activities and are known as social entrepreneurship. This research maps the presence of social enterprises in Indonesia by investigating the personal and organizational contexts of the social entrepreneurs. Qualitative research was conducted by engaging in in-depth interviews with 8 social enterprises in Indonesia. The findings of this research result in a unique and interesting map of the presence of the social entrepreneurs that contributes significantly to the extant literatures of social entrepreneurship.

Keywords*: Social entrepreneurship, small and medium enterprise, entrepreneurship, strategy*

INTRODUCTION

The study of entrepreneurship has increased significantly over the decades. People have begun to understand the meaning and importance of entrepreneurship for economic growth in a country. In practice, the concept of entrepreneurship is growing and broadens dynamically. Creative entrepreneurs began to go beyond profits and evolve to not only being socially responsible individuals but also to embed social values into their organizations. They are doing this because they found social problems were left unsolved or overlooked by businesses, governments, and non-governmental organizations (Zahra, et al., 2009). Creative individuals who strive to develop comprehensive new business models to help solve the social problems are known as social entrepreneurs. Therefore, social entrepreneurship involves the recognition, evaluation, and exploitation of opportunities that result in social values (Austin, et al., 2006).

The early concept for being a social company/entrepreneur was by implementing corporate social responsibility (CSR) programs. These programs, however, were built in response to emerging social problems entrepreneurs found in their surroundings. With the growth of society, it needed a proactive approach to solve several problems it faced. This issue then became a debate and from it emerged new insights for further research: to define what exactly a social entrepreneur is compared to the CSR program operator or commercial entrepreneur and how he/she works in a company. Social responsibility is undeniably important, but it does not equal social entrepreneurship.

With the rise of social entrepreneurship, the boundary of entrepreneurship seemed blurry and confusing, starting with social entrepreneurship, later green entrepreneurship, social venture, social enterprise, non-profit startups, environmental entrepreneurship, social innovation, sustainability, corporate social responsibility, ethics, social justice, and many more arose (Neck, et al., 2009). Therefore, understanding the domain of social entreprenurship *vis-à-vis* commercial and hybrid-types of entrepreneurship is important, especially because many believe that social entrepreneurship could have a wider impact by overcoming social problem

* We would like to thank the anonymous reviewer and participants in the APCBSS 2014 Conference for the insightful discussions, comments and advice for this paper.

such as poverty alleviation and climate change as well as providing social value to society.

Due to the dual aspect of social entrepreneurship – commercial and social – the concept of social entrepreneurship is under on-going discussion as to whether it does really exists or it is just a commercial entrepreneur evolving to a higher level of social consideration beyond the concept of CSR.

Problem Statement

Social entrepreneurship has been proven as a way to help the government to overcome social problems, such as poverty, disease and death, and the poor quality of life caused by human incapabilities (Seelos, et al., 2006). This concept fits the condition of Indonesian society where numerous social problems are faced. However, the government and private sectors seemed to be miles apart from each other in overcoming the problems. In other words, the coordination between government and the private sector for social problem mitigation is not well-established. Therefore, there is a need to map the presence of social enterprises in Indonesia, along with their missions, characteristics, types and operational aspects to better comprehend the circumstances of social enterpreneurship. In addition, it is important to address the challenges faced by social entrepreneurs in order to find the solutions and to formulate mitigating steps for better implementation of social entrepreneurship in Indonesia.

LITERATURE REVIEW

The Concept of Social Entrepreneurship

The concept of entrepreneurship has been recognized as value creation through innovation (Drucker, 1985). When applied to the social dimension, the concept has now evolved rapidly with definitions of social entrepreneurship ranging from the broad to the narrow (Austin, et al., 2006). Further, it was proposed that a continuum for commercial and social entrepreneurship exists and serves as an anchor where an organization can pursue commercial entrepreneurship, social entrepreneurship, or a combination of both. The fundamental difference lies mainly in how they set their mission, how they mobilize resources, why they were established (responding to market-failure), and performance measurement.

Some researchers are focusing on enterprises that create social value regardless of the profit motive, while some have focused on social entrepreneurship as combining commercial enterprises with social impacts. For the latter, entrepreneurs must use their skills and knowledge to serve the society as well as providing profit and being commercial (Emerson & Twersky, 1996 in (Alvord, et al., 2004). This kind of enterprise is known as a *hybrid* – an enterprise that pursues 2 bottom lines (missions); one concentrating on profit and the other on social values (Davis, 1997). Others have emphasized social entrepreneurship as an innovation by the players to have a social impact on society (Alvord, et al., 2004). Still others see social entrepreneurship as the tools for societal transformation. Social entrepreneurs understand not only the immediate problems but also the interdependencies of the problems and their sustainability.

Social vs. Commercial Entrepreneurship

Sahlman's (1996) conceptual framework extensively captures the differences between commercial and social entrepreneurship that is well-known as PCDO. PCDO stresses the creation of a dynamic fit among 4 interrelated components: *the people, the context, the deal,* and *the opportunity* that make up either commercial or social entrepreneurship in different ways.

According to Sahlman (1996), *opportunity* is defined as any activity requiring the investment of scarce resources in the hope of a future return. Austin et al., (2006) defined it as the desired future state that is different from the present and the belief that the achievement of that state is possible. This difference can be analyzed through the company's mission and its responses to market failures. The commercial entrepreneur tends to focus primarily on economic return and the fulfillment of breakthrough and new needs while the social entrepreneur mainly focus on

the social return and serving basic and long-standing needs. Both are doing so in innovative ways. Commercial entrepreneurs define opportunity as a large and growing total market size which is structurally attractive, while social-entrepreneurs define an opportunity as when the necessary resources can be marshaled to serve the unfulfilled needs of society since it always has a guaranteed market size (Austin, et al., 2006). Social entrepreneurs, consider opportunity and competitors as partners to collaborately fulfill the shared-mission rather than as an opponent competing to acquiring a bigger slice of the market.

Context in social entrepreneurship consists of factors affecting the nature and outcome of the opportunity, but are outside the control of management, such as the macroeconomy, tax policy and regulations, and the socio-political environment. Although the critical contextual factors are analogous in many ways, the impact of the context on a social entrepreneur differs from that on a commercial entrepreneur because of the way the interaction of a social venture's mission and performance measurement systems influences entrepreneurial behavior (Austin, et al., 2006). For example, in harsh economic times there will be an increase in social needs that stimulate the formation of social entreprises while at the same time, the establishment of new commercial entreprise will be hindered due to the perceived difficulties in generating targeted profits. Besides, contextual factors affect social entreprises less that they do commercial entreprises. However, social entrepreneurs should monitor the contextual condition in order to identify opportunities that might be overlooked.

People and Resources represent the human and financial resources inputs in any entreprise that are essential to its success. However, as social entreprises differ from commercial ones in the proprietorships of financial resources or incentives to recruit and retain talent as well as acquiring other resources, they often rely on volunteers to serve in key functions such as fundraising activities or provide professional services on the ground (Austin, et al., 2006). Most start-up social entreprises rely heavily on the 3Fs (Friends, Family and Fools) for most of their funding.

Deals generally are defined as mutually beneficial contractual relationships between the entrepreneurial ventures and the resource providers. As social and commercial entreprises differ in the way they mobilize resources and how they measure performance, the deals between the two are fundamentally different (Austin, et al., 2006). For commercial entreprises, consumers have many consumption alternatives and a powerful economic ability, while consumers of social entreprises do not have these. Instead, funders or investors provide subsidies for their enterprises. Commercial enterpreneurs are generally given discretion to use the capital toward those activities that they decide will add the most value to the enterprise, while the social enterpreneur is often limited to use the funds for the purposes the investors requested.

RESEARCH METHOD

A qualitative design utilizing in-depth interviews was conducted to gather all the necessary data from participants. Purposive sampling was employed to select the most representative participants based on their organizations' mission. The 8 social enterprises selected as the main participants are presented in Table 1.

As stated in the theoretical framework, the mission is the fundamental parameter that differentiates commercial and social enterprises. Thus, this study selected participants based on their mission statement (written or unwritten), whether they aim for social value or a combination between social and profit value. Data collected from the in-depth interviews were transcribed and analyzed to grasp the big picture of the social entrepreneur – and entrepreneurship – as found in Indonesia.

RESULTS AND DISCUSSIONS

Based on our in-depth structured interviews administered to 8 social entrepreneurs in Central Java Province and Yogyakarta Province, researchers found a common pattern among the different social entrepreneurs in terms of 8

variables such as: mission, characteristics of social entrepreneurs, fundraising for the start-up and actions that generate funds, resource mobilization, social networking, performance measurement, challenges, and activities. The pattern is summarized in Table 2.

Table 1. List of Participants

No	Enterprise	Social Purpose	Scope of Reach
P1	DDF	Donation for the poor, socialize the alms habit	National
P2	EHY	Environment-friendly lifestyle	National
P3	YGN	Street children care	Regional
P4	HZF	Education funding for underprivileged, highly potential children	Worldwide
P5	MSR	Vegetarian, healthy lifestyle	Regional
P6	YKUT	Disabled children care	Regional
P7	SHN	Organic agriculture and fair trade, organic lifestyle	National
P8	SNG	Organic agriculture	Regional

Source: (Primary Data 2013)

Table 2. Common Pattern of Social Entrepreneurs

No	Variables	Results
1.	Mission	The mission is purely to create social value; however the drivers to get involved in the socio-entrepreneur activities are diverse: personal values, religiosity, social norms.
2.	Characteristics of Social Entrepreneurs	• Social Entrepreneurs tend to strive for sustainability in achieving their social mission. It is not always associated with growth if growth means trading off their main social mission. To support organizational sustainability, they rely heavily on social networks (friends and acquaintance circle) to secure sustainable funding and to disseminate information about the organization in each activity. To achieve their missions, social entrepreneurs perform creative and innovative actions embedded in their social activities to generate funds. • Social Entrepreneurs in general are charismatic leaders who lead based on the leader's ability to communicate and behave in ways that reach followers on a basic, emotional way, to inspire and motivate rather than any form of external power or authority.
4.	Resource mobilization	• In staffing, the founder recruits members based on values similarity rather than talent. • In formally-structured organizations, resource mobilization tends to be well organized, where delegation and job descriptions are well defined. Meanwhile, in the informally-structured organization the resource mobilization is somewhat ambiguous and relies heavily on the leaders authority.
5.	Social networking	Social networking plays an essential part in supporting their social activities. Examples are: generate funds, attract volunteers, disseminate information, invite customers, etc. Social entrepreneurs synergized with similar organizations to widen organizational impacts to society.
6.	Performance measurement	In formally-structured organizations, performance is measured in two ways: qualitatively and quantitatively *vis a vis* to target. In informally-structured organizations, performance is merely measured qualitatively based on their impact to society. Evaluation meetings are routinely conducted to ensure that their operation is in accordance with their mission. In formally-structured organization, leader performance is evaluated by a commissioner board/ government while in informally-structured organization, social control prevails.

No	Variables	Results
7.	Challenges	The more developed the organization, the greater the need to recruit talented people who have similar values with the organization. Such individuals are challenging to find. Creating social values also means changing society paradigms which requires a long-term organizational commitment to educate the society.
8.	Activities	Informally-structured organizations have more flexibility in deciding which social values to pursue as well as in responding to which social problems. In a formally-structured organization however, they become less flexible so they tend to focus on certain mission and barely change the mission despite the change in social environment.

Source: Primary Data (2013)

In general, although social entrepreneurs in Indonesia pursue purely social missions, they have different motives ranging from personal values, social norms, and religion. Personal values refer to the founders' beliefs that solving social problems is everyone's responsibility. It could be based on their bitter past experience that elicits empathy and social concern. Social norms are the behaviours and cues within a society or group. They are defined as the rules that a group uses for appropriate and inappropriate values, beliefs, attitudes and behaviours. These rules may be explicit or implicit. Failure to follow the rules can result in severe punishment, including exclusion from the group. Deference to the social norms maintains one's acceptance and popularity within a particular group; ignoring the social norms risks one becoming unacceptable, unpopular or even an outcast of the group. Some of the social entrepreneurs inherited their family organizations, so that they feel the need to carry on the organization as an attempt to fulfil social norms. Besides, religious values were also found to motivate them to run social-organization as they believe that well-managed social funds will impact society effectively and efficiently.

> *"...It's like love at first sight. I do it for myself and I really enjoy what I do. It's just that feeling when you do something, no matter how small it is, even with an unclear impact, but you can give back what you got (from nature)."* [P2]

> *"I am the third generation in my family. I have the responsibility to continue this (school)"* [P6]

> *"We don't run a commercial unit since it is too risky to mix up the mundane and religious services according to the Holy Qur'an"* [P1]

Social enterprises rely on charismatic leaders who lead based on their ability to communicate and behave in ways that reach followers in a basic, emotional way, to inspire and motivate rather than any form of external power or authority. Those charismatic leaders strongly influence organizations' missions and many aspects in the decision making process. However, in formally-structured organizations, work and responsibility are well-delegated rather than in an informally-structured organization where leaders manage and perform almost all the work needed to accomplish the organizational goals and objectives.

> *"Embedding an environment-friendly lifestyle start with yourself, so I start with myself and being consistent with that. Other members then follow without me telling them to do so."* [P2]

Social entrepreneurs in Indonesia conduct various creative and innovative activities to generate funds to achieve their mission. These two characteristics are in-line with the characteristics of conventional entrepreneurs. Social enterprises try to be unique and different so they can attract more stakeholders to support the

organization and in order to widen their impact on society.

> *"We offer something different. We are not just helping poor children to continue studying but we focus on those children who have dreams, potential, and the spirit to reach their dreams."* [P4]

Although social entrepreneurs tend to compete with other organizations to secure public funding (donation, sales, etc.), they do actually cooperate with each other to achieve their missions and to widen their impacts on society. Social enterprises extensively use their networks, social networking sites, and publicity (such as word-of-mouth) to disseminate information about their organization. Commercial promotion is sometimes used only to complement their 'guerilla promotion'.

> *"We don't utilize any commercial-and-heavy promotion. We want to protect our street-children from negative publicity. But we use word-of-mouth. A lot."* [P5]

Generally, social enterprises do not have significant problems in mobilizing their resources in the organization. Organizations with an established structure complying with the standard operating procedures use delegation as an important aspect of mobilization. In the less formally-structured enterprises, mobilization of resources tends to be ambiguous and relies heavily on the leaders' instructions, which is not considered as a problem by the organization. Another finding in terms of mobilization is on the staffing process, where all organizations recruits or employs people that align their individual values with the organization's values. Talent, skills, and ability are not considered as important criteria for staff.

> *"We hire employees professionally based on their ability and they get the standard salary."* [P1]

> *"It was difficult to find suitable talent at first so we relied on the help of other communities in our social connections. Now, when we're more formalized, I start to spend more effort on finding the right talent. We have them now."* [P4]

The success of social entrepreneurs is measured in 2 common ways: qualitatively and quantitatively. In formally-structured organizations, qualitative and quantitative measurements are employed while in an informally-structured organization, qualitative measurements are commonly used. For qualitative measurement, social-entrepreneurs defined their own mission, target, and objective which often are not quantified. However, both formal and informal structured organizations conduct routine evaluations to ensure that their programs and performance meet the objectives and are in-line with their mission. They also generally do not have any quantitative measure to ascertain the impact of their activities on society.

> *"We have weekly and monthly meetings to evaluate and review what we have done to reach the target…beneficiaries also can continuously check what we are doing… however we don't have an established measure."* [P4]

> *"We don't have a fixed performance indicator. We want farmers to stand on their own and not be too dependent on middlemen."* [P7]

Lastly, in terms of the challenges faced by social enterprises, this study found several points. Better management processes conducted by talented people that fit the organization's values is an important issue. But when the organization gets bigger, it is not enough to only employ people with aligned values. There is a growing need to employ people that understand the process of management so the organization's sustainability is ensured. Another important issue relates to paradigm and mindset changing. This is a challenging task faced by most leaders in social enterprises since changes are not likely to happen instantly. It needs to be nurtured and consistently pushed. Therefore, social enterprises generally have no rapid growth but instead focus on gradual and steady changes.

CONCLUSIONS AND FUTURE RESEARCH

Social enterprises do indeed have a pure social mission aim upon their establishment. In their development, the enterprises evolve their activities not only in the social aspect but also into new business units. What differentiates social enterprises with commercial and the so-called hybrid enterprises is that all profit from the business is used to fund the main social activities and focus. Therefore, the business conducted by social enterprise is merely to ensure sustainable funding. Further, their networks are an essential part of the social enterprises. Not relying much on commercial promotion activities, social enterprises rely on their circles, their synergy with other communities and similar organizations, and publicity such as word-of-mouth to support their organization's sustainability. The main challenges confronted by most social entrepreneurs are changing the mindset of people for the social targets set and finding qualified talent who have the same social vision and mission to join the organization.

From this study, it also clear that the continuum of entrepreneurship proposed by Austin, et al. (2006) exists. With commercial entreprenurs at one end and social entreprenurs at the other end of the continuum, there is an important implication to enhance both sides to bring them into the middle of the continuum, evolving their organizations into the hybrid-type of enterprises. Commercial entrepreneurs with huge funds, being the mainstream organization type currently in exsistance, already have new trends for helping society solve their problems by having more extensive social responsibility programs and donations. Social entrepreneurs, on the other side, are still struggling for funding to overcome social problems. When the two meet, they have a wider impact which results in a better environment for society.

The limited number of participants in this study may mean we do not capture the whole aspect of small and medium social enterprise patterns for the purpose of generalization. There is a need to explore more social enterprises from a different focus so the comprehensive map of different social enterprises may be understood. Further, exploring challenges and solutions as well as conducting surveys with stakeholders to measure the impact of the organization is also an important contribution by the research. Government intervention and their policy for solving contextual social problems is also becoming an important factor to investigate ways to answer social entrepreneurs' challenges.

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APPENDIX

Aims of Information	No.	Questions
The mission of engaging in social activities.	1.	When did you start engaging social activities in your business?
	2.	What made you decide to get involved in social activities?
	3.	Who are the parties that are your main supporter to engage in social activities?
	4.	Why do want to get involved in social activities?
	5.	What is your mission in engaging social activities?
Characteristics of social entrepreneurship	6.	Industry type(secondary data)
	7.	Organizational context
	8.	What is the biggest social impact that your social activities brings?
	9.	What makes your social activities different compared to other socio-entrepreneurs that conduct similar types of social activities?
Types of social entrepreneurs	10.	Do you receive a portion of the financial benefits (profits) from the social activities you conduct?
	11.	How are the financial benefit (profits) distributed in your social activities?
	12.	If you don't receive financial benefits from your social activities, what personal benefits do you receive from your social activities?
	13.	Do you do commercial actions for your social activities?
	14.	(If yes) Can you describe the commercial actions you conduct for your social activities?
	15.	(If no) How do you communicate your social activities?
Social entrepreneurship impact	16.	What group of society do you target for your social activities?
	17.	What impacts do your social activities bring to the group in society that you targeted?
	18.	Why do you choose to target that particular group in society?
	19.	Is there any continuous communication to the groups in society you target? If yes, how is it conducted?
Social networking of SMEs in conducting social activities	20.	Is there any (that you join) groups, organization, or alliances that unites entrepreneurs to conduct social activities?
	21.	(If yes) how is it managed?
	22.	(If no) why you did not join any types of groups, organization, or alliances?
	23.	How do you communicate between each other?
	24.	How do you manage the social activities among the members of the groups?
Actions of generating funds	25.	How do you finance your social activities?
	26.	How is the financing being managed in your social activities?
	27.	Do you have fund raising activities?
	28.	(If yes) how do you persuade the fund giver to invest in your social activities? Who are the fund givers?
Challenges of social entrepreneurship	29.	What are the challenges you face by being a social entrepreneur?
	30.	How do you overcome the challenges?
	31.	Having several challenges, do you plan to still be a social entrepreneur in the future?
	32.	What motivates you to still be a social entrepreneur in the future?

Journal of Indonesian Economy and Business
Volume 29, Number 2, 2014, 192 – 194

Book Review:
BUSINESS SUSTAINABILITY: ESSENTIALS FOR BUSINESS

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Keywords: *business sustainability, management-environmental aspects, business ethics, sustainable development*

INTRODUCTION

Business today cannot be separated from issues that relate to sustainable development. For example, business is often accused of being the thing most responsible for environmental damage, natural resources scarcity, and climate change. For this reason, companies are required to not only pursue their economic goals, but also must pay attention to the environmental and social aspects of their business. Businesses are expected to be able to balance all 3 tasks. They can earn profits from their operational activities, but at the same time they also must be fastidious in their care of the planet as well as the society (people).

In responding to this issue, business schools in Indonesia are expected to instil such positive values while educating their students. One way to do so is by integrating ethical values into each course in their program. Furthermore, according to Conroy & Emerson (2004: 384), the business leaders acknowledge that they feel business students should be exposed to business ethics and for this reason, the Association to Advance Colleges and Schools of Business (AACSB) in 1974 promptly included "ethical considerations" in its body of required knowledge. Some leading Indonesian business schools (MB IPB, FEB UGM, SBM ITB, FE UI) directly support this value by presenting the subject of Business Ethics, Business Sustainability or Corporate Social Responsibility both in their undergraduate and graduate programs.

References to business ethics and corporate social responsibility might already be widely available. However, text books discussing these basic concepts, applied theories, and citing cases of businesses in every aspect of sustainability are extremely rare. One of them or perhaps the only one is *Business Sustainability: Essentials for Business*, which was written by Scott T. Young and Kanwalroop Kathy Dhanda (SAGE Publication, Inc., 2012).

Scott T. Young is a professor in Operations Management and currently is chairman of the Department of Management, Kellstadt Graduate School of Business at DePaul University. Formerly, he was Associate Dean for Academic Programs at the University of Utah (1997 to 1999). Professor Young has written articles in many reputable international journals such as the International Journal of Operations and Production Management, Review of Business, International Journal of Production Research, Journal of Operations Management, Journal of World Business, Information and Management, International Business Review, Production and Inventory Management Journal, Production and Operations Management, International Journal of Purchasing and Materials Management, and the Journal of Education for Business. Together with Winter Nie, he wrote the book *Managing Global Operations* (Westport, CT: Quorum Books, 1996). He is also the author of *Essentials of Operations Management*, (SAGE Publications, Inc., 2009).

The second author, Kanwalroop Kathy Dhanda is Associate Professor in the Department of Management, Dreihaus College of Business at DePaul University. Her academic scholarship focuses on sustainability issues with a primary emphasis in the areas of environmental model-

ling, carbon markets, emissions trading, corporate social responsibility and reverse logistics. She is also the co-author of Together with Edward Elgar, she wrote a book title *Environmental Networks: A Framework for Economic Decision-Making and Policy Analysis* and her research focused on the modelling and design of environmental topics. She developed and taught courses in the area of sustainability. She has been published in Operations Research, Journal of Business Ethics, Academy of Management Perspectives, Energy Economics, Journal of Public Policy and Marketing Policy Watch, Organization and Environment, Journal of Environmental Economics and Management, and many other journals (SAGE Publication Inc., 2000).

The book presents the key business interactions with sustainable development while at the same time also providing a basic background on environmental sciences.

EVALUATION OF THE BOOK

The book *Business Sustainability: Essentials for Business* is broken up into 3 categories, which are natural capital (planet), human capital (people), and the financial capital (profits). In the first part, the book provides some basic concepts and the history of sustainability. It describes various definitions of sustainability, sustainability-related definitions, sustainability and its relationship with the green movement, urbanization, profit and competitiveness, path to sustainability, triple bottom line (TBL) and why it is important to implement sustainable strategies. Part 2 describes renewable resources that are related to air and climate issues, water issues, sustainable agriculture and food, forests, wildlife, and biodiversity, as well as alternative clean energy and fuels.

Part 3 puts the topics of stakeholder interests and choices as the main focus in explaining why and how to build sustainable strategies and frameworks. It uncovers the roles of customers, corporations and the governments and non-governmental organizations (NGOs) on determining what and how goods and services are planned, produced, used, and disposed of with no or little negative impacts on the environment. Regulations, acts, and its implications to business practitioners are also discussed.

The Part 4 of this book embraces the strategies for a sustainable future, in which transparent reporting, measurement, and standards of sustainability performance are clearly explained. This part also points out what and how the current situations of carbon markets are, including offsets and standards, green marketing and the strategies to design sustainable cities and communities. Additionally, the book provides material across all business functions – production and operation, marketing, and particularly, strategy. Some topics for debate, a selection of websites for further information and suggested case studies are also provided.

The most revealing part of this book is where the author includes examples of cases and the fact that the role of the consumer contributes the largest portion to supporting sustainable development on Earth. The authors argue that the increasingly large world population combined with economic growth are the drivers for global consumption increases. The 4 greatest global consumptions are in the categories of food and beverage, transportation, and clothing. From this point, it is important to emphasize that the emerging markets and high population countries such as China, India, and Indonesia have a significant role in supporting the movement toward a more sustainable Earth. As we come from one of these emerging market countries, individually, the choices we make in our consumption of food, drink, housing, clothing, and transportation have a considerable impact.

Moreover, the book of *Business Sustainability: Essential for Business* is the first business text to offer an in-depth exploration of the relationship between environmental science and business. Compared to other business sustainability text books such as Caroll & Buchholtz (2014), Esty & Simmons (2011), Hitcock & Willard (2012), and Landrum & Edwards (2009), this book does not look at sustainability from the perspective of the ecological standpoint only, but also includes business practices that come into contact with economic, social, cul-

tural, and technological aspects. As most people think that sustainability is all about being green, the authors subsequently help the readers to better understand that the concept of sustainability is actually described in several facets. In this point, the authors provide a clear understanding that we might find such a concept in various situations ranging from universities, education, cities, community development, food, agriculture, design, society, value, processes, ethics, commerce, economy, environmental and government sustainability.

This book furthermore explores and directs the reader to have the experience of calculating and comparing the amount of carbon footprint generated by emitters such as their household, and transportation by utilizing a carbon footprint calculator. For this reason, the readers are expected to understand that the role of technological advancements today is to help in the continuity of the businesses as well as the Earth's sustainability.

As well as many books on the topic of business sustainability, this book also compares and contrasts what and how the role of consumers, corporations, governments and organizations, non-governmental organizations help in promoting sustainable development. Exposure of these parties is also provided together with many examples of implementation, objectives, and historical development of their involvement. Strategies for a sustainable future and the importance of transparent implementation of voluntary reporting, measurements, and existing standards within the marketplace, the carbon markets and its standards are also presented. Although this book is oriented to the context of the USA, many cases of the implementation of sustainable businesses are taken from the events and conditions in the various countries across the world.

CONCLUSION

In conclusion, the book of *Business Sustainability: Essential for Business* is the first business text to offer an in-depth exploration of the relationship of environmental science to business. This book offers a better understanding about sustainability concepts within the business context, in which profit, people, and the planet are simultaneously important. If one thinks to use a Business Sustainability textbook as course material, this book could be offered to students in a variety of settings ranging from an interdisciplinary course in the liberal arts to an advanced undergraduate or graduate course in business.

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and Variations of Stock Price: Methodological Refinement with Recursive Simultaneous Model (2013), (ii) *Accounting Fundamentals and Variations of Stock Prices: Forward Looking Inducement* (2011), (iii) *Is There Insider Trading? An Examination of Merger and Acquisition Announcements in the Indonesian Stock Market* (2010) (co-author with Bambang Riyanto), and (iv) *Assymetric Price Reaction: Evidence from Emerging Capital Market* (2009) (co-author with Slamet Sugiri). Additionally, he conducts social work – related to Gadjah Mada's *tri dharma* motto – as an adviser for rural urban development. He also serves as a member of boards of directors in two state-owned companies in Yogjakarta. During his spare time, he also runs his own cow husbandry business as a hobby. Author's contact email: sumiyana@ugm.ac.id

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PREVIOUS ABSTRACT
JOURNAL OF INDONESIAN ECONOMY & BUSINESS
VOLUME 29, NUMBER 1, 2014

GREASE OR SAND THE WHEEL? THE EFFECT OF INDIVIDUAL BRIBES ON THE DRIVERS OF AGGREGATE PRODUCTIVITY GROWTH

Julien Hanoteau & Virginie Vial

ABSTRACT

The Asian paradox suggests a net grease-the-wheel effect of corruption. Under the assumption of diminishing returns to bribes, going beyond the single-representative-firm assumption, we argue that the grease and sand-the-wheel effects are likely to co-exist among a large number of firms, and that the industrial effect of corruption depends on the productivity drivers that fuel firm's dynamics. We decompose Indonesian manufacturing labor productivity growth while contrasting and comparing the contributions of no-, low- and high-bribing firms over the period 1975-94. We confirm the coexistence of grease and sand-the-wheel effects. Industrial productivity gains stem first from the net entry of non-corrupted firms, evidencing a sand-the-wheel effect. Market share reallocation from low to high productivity growth incumbents paying low bribes is the second source of productivity growth, pointing at a grease-the-wheel effect. Intra-plant productivity growth is overall negative and largely attributable to high-corruption plants, suggesting a sand-the-wheel effect.

Keywords*: corruption, bribery, productivity*

INFLUENCE OF WORK-FAMILY CONFLICT AND FAMILY-WORK CONFLICT ON EMPLOYEES' TURNOVER INTENTIONS WITH GENDER, SOCIAL SUPPORT AND INDIVIDUAL VALUE AS MODERATING EFFECTS

Putu Irma Yunita & Gugup Kismono

ABSTRACT

The purpose of this research is to examine the conflict between the work and family domains (work interfering with family-WIF and family interfering with work-FIW) and its influences on turnover intention. This research also examined the moderating effect of gender, social support and individual values on the relationship between the work-family conflict and turnover intentions. The participants of this study were 210 low and middle managers of four and five star hotels in Bali. This sample consisted of 126 males and 84 females. Multiple regression and hierarchical methods were used to test the proposed hypotheses. The result showed that WIF positively and significantly influences the turnover intention but FIW did not. It was also found that social support significantly moderates the relationships between variables studied, but gender and individual value had no impact on it.

Keywords*: turnover intention, work interfering with family, family interfering with work, gender, social support, individual value*

PREDICTING INTENDED UNETHICAL BEHAVIOUR AMONG COLLEGE OF ECONOMICS AND BUSINESS STUDENTS: AN EMPIRICAL STUDY AT UNIVERSITAS GADJAH MADA

Sari Winahjoe & Sudiyanti

ABSTRACT

This study attempted to examine the intention to act in an unethical manner among the economics and business students in Universitas Gadjah Mada by applying the Theory of Planned Behaviour. Attitude, subjective norms, perceived personal outcome, perceived social acceptance, and perceived behavioural control were included in predicting this intention. A total of 208 students participated in the main investigation. Using ordinal regression, 3 hypothetical unethical situations were proposed to measure the students' intended behaviour: (1) having the class attendance list signed by a classmate; (2) cheating in an examination or quiz; and (3) knowingly plagiarising someone else's work. The results confirmed that attitude was the strongest predictor of a student's intention to act in an unethical manner. The study findings also supported subjective norms as the second strongest predictor, which was followed by perceived personal outcome and perceived social acceptance as determinants of such behavioural intention. Meanwhile, the findings demonstrated that perceived behavioural control was the weakest predictor of intention. Analysis for each situation, implications for practitioners, specifically university teachers and education policy makers, and further research recommendations are also discussed.

Keywords: *theory of planned behaviour, course of ethics, education policy, behavioural intention*

EARNINGS ANNOUNCEMENTS AND COMPETING INFORMATION: THE INDONESIAN EVIDENCE

Dedhy Sulistiawan, Jogiyanto Hartono, Eduardus Tandelilin, & Supriyadi

ABSTRACT

The main purpose of this study is to provide empirical evidence of the relationship between investors' responses to two events, which are, (1) earnings anouncements, and (2) technical analysis signals, as competing information. This study is motivated by Francis, et al. (2002), whose study used stock analyst's recommendations as competing information in the U.S stock market. To extend that idea, this study uses technical analysis signals as competing information in the Indonesian stock market. Using Indonesian data from 2007-2012, this study shows that there are price reactions on the day of a technical analysis signal's release, which is prior to earnings announcements. It means that investors react to the emergence of competing information. Reactions on earnings announcements also produce a negative relationship with the reaction to a technical analysis signal before an earnings announcement. This study gives evidence about the importance of technical analysis as competing information to earnings announcements.

Keywords: *competing information, earnings announcements, technical analysis, price reaction*

ACCOUNTABILITY AND PERFORMANCE: EVIDENCE FROM LOCAL GOVERNMENT

Mesri Welhelmina Nisriani Manafe & Rusdi Akbar

ABSTRACT

Local government accountability attracts attention since the issuance of the Presidential Instruction Number 7 of 1999 on Accountability Reporting of the Performance of Government Institutions (Instruksi Presiden No. 7 Tahun 1999 tentang Laporan Kinerja Instansi Pemerintah). In practice, this accountability is not as was expected. One indication of the causal factor of the failure of the accountability implementation program is that it is considered as an obligation to describe and to justify the behavior of the accountability actors. The objective

of this study is to empirically examine the correlation between the requirements of various types of accountability with negative perception of the work context and the work performance of the accountability actors. It contributes to the empirical evidence for the correlation among the various types of accountability obligation and the work performance based on the institutional theory with mixed method, which is a quantitative approach with PLS and a qualitative approach with thematic analysis. Its samples are 201 SKPD officers in the local government of Nusa Tenggara TimurProvince. The results of the study show that the conflict in the accountability requirement has significant impact on the work context with negative perception at different levels, but does not have any significant impact on the work performance of the accountability actors.

Keywords*: accountability, accountability requirements, work performance, and mixed method.*

CAN PRODUCT LEADERSHIP BE A PREDICTOR OF A CUSTOMER'S LOYALTY?

MS. Eric Santosa

ABSTRACT

Leading companies commonly employ a particular strategy to cover a market. They might choose product leadership, service support excellence, customer intimacy strategy, as well as a combination of them.

The use of these strategies is obviously to gain more customers, since the product becomes a choice as an effect of the brand equity strengthening. While firms are very concerned with customer loyalty to maintain a stable sales volume, a question arises whether the brand equity has an effect on the customer's loyalty. Logically, if a strategy can develop the product's brand equity which in turn propels cutomers to buy it, it will hopefully improve customers' loyalty as well.

Therefore, this study is designed to answer the questions, (1) which strategy (among the three) adds power to the brand equity, (2) the brand equity is influential to the customer's loyalty, and (3) the product leadership can predict the customer's loyalty. Three antecedents of brand equity are employed, i.e. product leadership, service support excellence, and customer intimacy. These three variables, along with brand equity can also indicate as predictors of customer's loyalty. A sample consisting of 100 respondents withdrawn through a judgment method. Data were analyzed by Amos 5.0 and SPSS 16.0. The results denote that the relationships between product leadership and customer intimacy to brand equity, also brand equity to customer's loyalty are significant. On the contrary, the relationship of service support excellence to brand equity and the relationship of product leadership to customer's loyalty are trivial.

Keywords: *product leadership, service support excellence, customer intimacy, brand equity, customer's loyalty*

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