The Impact of Organizational Culture on Firm Performance: An Empirical Research on Indonesian Manufacturing Firms

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ABSTRACT

Many papers have documented the impact of organizational culture on firm performance. Some authors conducted research on internally developed organizational culture, while other authors reported the impact of organizational culture that is influenced by its national culture. Indonesia has received much inflow of foreign direct investment in the past three years. Unfortunately, the impact of organizational culture stemmed from Indonesian national culture on firm performance received little attention. This study tries to confirm the impact of organizational culture on firm performance among Indonesia manufacturing firms. Data from 151 organizations are analyzed using structural equation modeling (SEM). The results confirm that organizational culture has significant effect in firm performance. Among the five culture dimensions, individualism has a stronger impact on firm performance, while uncertainty avoidance has only weak impact on firm performance.

Keywords: organizational culture, national culture, firm performance, structural equation modeling

1. Introduction

Foreign investment in Indonesia has increased significantly in the past five years. Foreign direct investment (FDI) inflow has grown from USD6.9 billion in 2007 to USD19.9 billion in 2012 [1]. Even [2] predicts Indonesia will have the tenth-largest economy in the world in 2020. The continuation of this growth will escalate Indonesia's economy to become the fourth-largest in the world in 2040 [2]. At the end of 2011 Indonesia's credit rating has been raised to investment grade by Fitch Ratings and Moody's Investors Service [3, 4]. This attractiveness has been supported by domestic consumption of 240 million people, fast growing of middle class, wealth of natural resources, and its strategic location [2]. Indonesian economy is mainly contributed by its industrial sectors, which is accounted for 46.5% [4]. [5] reports some major automakers will build new plants in Indonesia.

The incoming foreign direct investment can be in the form of acquisition, startup, or joint venture, which is influenced by national culture distance between the originating country and the destination country [6]. In addition to affecting the form of foreign direct investment, national culture distance determines the business performance [7, 8]. [7] and [8] that conduct research on the impact of national culture and organizational culture on performance among joint venture companies have reported different results. [7] reports that the greater the national culture distance between the foreign country and the local partner the better the performance of the joint venture company, while [8] supports the presumed negative effects of culture distance. Furthermore, [8] finds that the performance of joint venture companies are caused more significantly by organizational culture distance than by national culture distance.

Low wage workers, fast growing domestic market, and regional integration initiatives have been the main appealing factor for foreign investors to have their manufacturing operations in Indonesia [9]. Even though Indonesian labor cost is still cheaper than one of China, [9] predicts it will be difficult to maintain such a big wage gap because of the recent wage pressure. This means foreign investment manufacturing companies need to improve their performance to gain competitiveness. The good manufacturing practices that have been very effective in other countries need to be adjusted to fit Indonesian culture because [10] reports the moderating effect of national culture at organizational level on the relationship between manufacturing practices and performance. According to [11]

Indonesia has a unique cultural characteristic, i.e. very high power distance, very low individualism, and high uncertainty avoidance [11]. However, no publications have been published on the impact of Indonesian organizational culture on performance.

This study aims to examine the relationship between national culture at organizational level and firm performance among Indonesian manufacturing firms. We use a sample of 151 respondents from manufacturing firms in Indonesia. The five culture dimensions of Hofstede's framework [11] are utilized to measure the organizational culture, while firm performance is measured thru financial performance and market performance.

2. Research Framework

2.1. Organizational Culture

Organizational culture is defined as a set of shared value system held by members of an organization, which distinguishes the organization from other organizations [12, 13]. [12] differentiates internally developed organizational culture from organizational culture that is derived from its national culture. Further [12] claims that the influence of national culture on the employees of an organization is more powerful than its own organization culture. Actually, research on organizational culture has been done primarily in two main streams. The first stream of researchers such as [14-16] use a cultural framework specifically developed for organizational research. [14] and [15] utilize competing values framework (CVF). [17] adopt a framework that consists of six culture dimensions, i.e. outcome orientation, attention to detail, teamwork/respect for people, innovation, stability, and aggressiveness recommended by [18]. Another organizational culture framework is proposed by [16], which is based on the following work practices, i.e. empowerment, external orientation, interdepartmental cooperation, human-resource orientation, and improvement orientation [16]. Other stream of researchers utilizes a framework that is initially designed to measure dimension of national culture. The two national cultural frameworks that are widely utilized are GLOBE [19] and Hofstede's framework [11].

This study utilizes organizational culture framework stemmed from national culture because we want to confirm the relationship between national culture at organizational level and firm performance. Hofstede's framework is utilized in this study because of two reasons. First, it has a better convergent validity compared to GLOBE [10, 20]. Second, the popularity of Hofstede's framework among national culture research [21, 22] increases the usefulness of the result of this research since it can be compared to results from other studies. [11] propose five national culture dimensions, i.e. power distance, individualism, masculinity, uncertainty avoidance, and long-term orientation.

2.2. Firm Performance

Use of perceptual data has been reported as research limitation by many researchers such as [23, 24]. In spite if that limitation, perceptual data are still widely used in this area of research because limited access to objective data. Effort to improve the usefulness of perceptual data has been proposed by [25] who argue the use of comparative data to competitors' performance from the same industry sector will reduce the bias. In this study we follow this recommendation to improve the limitations of our research. We use financial performance and market performance since these two performances are the only available performances to the public.

2.3. Research Hypothesis

[26] identifies the positive impact of masculinity dimension on firm performance, whereas other culture dimensions have no significant effect on firm performance. In the study conducted by [7] they find that individualism dimension has significant effect on firm performance. Furthermore, [27] report differences on four culture dimensions, i.e. power distance, individualism, masculinity, and uncertainty avoidance among foreign-owned and operated (FOO), joint venture (JV), and Chinese-owned and operated (COO) companies. They also find differences on four performance perspectives, i.e. innovation and learning, internal business, customer, and financial perspectives among FOO, JV, and COO companies [27]. Based on these arguments, we develop two hypotheses. The two hypotheses are as follow:

H_1: There is a relationship between each culture dimensions and corporate performance.

H_2: There is a relationship between organizational culture as a whole and corporate performance.

The theoretical framework for this research is given in Figure 1. Figure 1a presents the theoretical framework for the first hypothesis, while Figure 1b illustrates the theoretical framework for the second hypothesis.
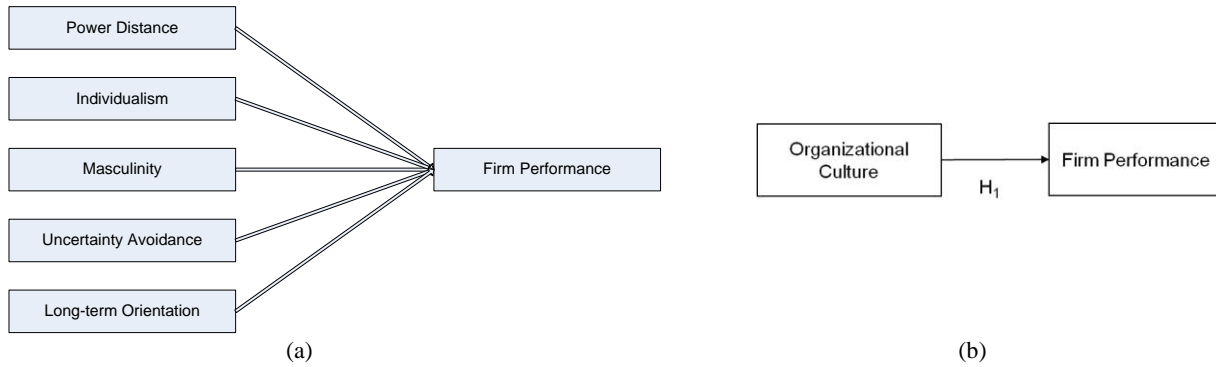
Figure 1. The Theoretical framework

3. Research Methodology

3.1. Sample and Procedures

This study utilizes a survey method that is administered to managers or directors of manufacturing firms located in Indonesia. This selection of respondents is needed to make sure that respondents have access to information about their firm performance. Survey is mainly conducted online using Google Docs application. Some respondents fill printed questionnaires or the MS Word version that are sent by email for their convenience. Prospective respondents are invited to participate in the survey by emails. Each email is kept track to make sure that only one respondent participates in the survey from one company. 505 prospective respondents have been invited and 151 completed responses are received, resulting in a response rate of 29.9%.

3.2. The Questionnaire

The survey instrument consists of two parts, the organizational culture and the firm performance. As discussed earlier, the organizational culture is measured using Hofstede's framework that comprises of five culture dimensions, i.e. power distance (PDI), individualism (IDV), masculinity (MAS), uncertainty avoidance (UAI), and long-term orientation (LTO). Power distance, masculinity, uncertainty avoidance, and long-term orientation are operationalized using indicators proposed by [28], while individualism is measured using indicators developed by [29]. There firm performance is measured using financial performance and market performance. Financial performance is represented by return on assets (ROA) and earnings before interest and taxes (EBIT), while market performance is assessed by using sales growth and market share. For firm performance the respondents are asked about performance of his/her company compared to the performance of other company in the same business sector. Five-point Likert scale is used for all 22 items of the five dimensions of culture and 4 items of the firm performance.

4. Results

4.1. Measurement Model

Two steps of analysis are used in this study. First, we conduct confirmatory factor analysis (CFA) on the measurement model for organizational culture and firm performance constructs. There are two measurement models that we analyze. In the first measurement model we explore five culture dimensions and firm performance, while in the second measurement model we utilize a second order variable of organizational culture to represent the composite of five culture dimensions. The difference between the measurement models is that in the second measurement model we only correlate the second order organizational culture variable with firm performance.

The unidimensionality check on the first measurement model shows satisfying result since all items only estimate one construct. Of the six constructs some items have path loadings less than the ideal loading cutoff suggested by [30]. We follow the procedure recommended by [31] to retain items with loading greater than 0.40 especially if the reliability measure drops significantly when those items are removed. From the initial model two items are removed from the individualism construct, and one item each is deleted from masculinity and long-term orientation constructs. Remaining items with the lowest loadings are pd_1 and pd_4 of the power distance construct, that have loadings of 0.51 and 0.52, respectively. This is really not surprising as these items are adopted from [28], in which they have loadings of 0.43 and

0.44, respectively. During the model validity process we also find some pairs of residuals are correlated. idv_1 vs. idv_2, lto_1 vs. lto_2, and fp_3 vs. fp_4 are highly correlated with $p < 0.01$ while fp_1 vs. fp_3 are correlated with $p < 0.05$. All constructs show good reliability since all Cronbach's alphas are greater than 0.7 except for power distance that has Cronbach's alpha of 0.671. Deleting items for power distance construct will further drop the reliability of the construct. We decide to retain the four items for this construct since the Cronbach's alpha is slightly below the threshold value. The resulted model shows good fit with $p = 0.000$, CMIN/DF = 1.491, RMSEA = 0.057, CFI = 0.945, SRMR = 0.0646. [30] considers CMIN/DF < 2.0 to be very good. For 22 observed items with 151 observations [30] expects values of RMSEA and SRMR less than 0.08 and CFI equals 0.95 or greater. Thus, our model satisfies the requirement for good model in terms of RMSEA and SRMR, but misses the CFI requirement a little bit. We accept the measurement model and will use it to develop the structural model in step 2. The scale validity for all retained items and reliability for each construct are shown in Table 1.

In the second measurement model we find that the masculinity's loading on organizational culture is not significant. Thus, we remove the masculinity dimension from the model. The second measurement model shows good fit, with $p = 0.000$, CMIN/DF = 1.535, RMSEA = 0.060, CFI = 0.948, and SRMR = 0.0671.

Table 1. Scale validity and reliability for Organizational Culture and Firm Performance

Scales		Items	Loading paths	Cronbach's α
Power Distance	pd_1	People in higher positions should make most decisions without consulting people in lower positions	0.51	0.671
	pd_2	People in higher positions should avoid social interaction with people in lower positions	0.65	
	pd_3	People in lower positions should not disagree with decisions by people in higher positions	0.64	
	pd_4	People in higher positions should not delegate important tasks to people in lower positions	0.52	
Individualism[1]	idv_1	Each employee is encouraged to realize his or her own unique potential	0.81	0.811
	idv_2	Employees with good ideas makes sure management knows the idea was theirs	0.60	
	idv_3	Our company encourages employees to solve their own problems	0.64	
	idv_4	Individuals who stand out in a high performing group are recognized	0.81	
Masculinity[2]	mas_1	In our company important positions are more designated for men	0.76	0.839
	mas_2	Men usually solve problems with logical analysis; women usually solve problems with intuition	0.78	
	mas_3	It is more important for men to have a professional career than it is for women	0.85	
Uncertainty Avoidance	uai_1	Our company writes with detailed instructions and procedures for everyone	0.89	0.876
	uai_2	Our company writes all the rules and regulations clearly so that everyone knows what is expected	0.87	
	uai_3	In our company standard operating procedure is considered a very important	0.76	
Long-term Orientation[2]	lto_1	Our company manages its finance carefully	0.55	0.827
	lto_2	Our company continues fight despite facing tough competition	0.58	
	lto_3	Our company upholds its vision, mission, goals, and corporate values	0.88	
	lto_4	Our company conducts long-term planning	0.90	
Firm Peformance	fp_1	Our company earns earnings before interest and taxes much higher than competitors in average	0.70	0.914
	fp_2	Our company earns return on assets much higher than competitors in average	0.78	
	fp_3	Our company earns sales growth much higher than competitors in average	1.00	
	fp_4	Our company earns market share much higher than competitors in average	0.82	

[1] Two items are deleted from Individualism construct. [2] One item each is deleted from Masculinity and Long-term Orientation constructs.

4.2. Structural Model

The second step in this data analysis is developing structural model. The hypothesized model developed from existing theory is shown in Figure 2. There are five independent variables of organizational culture and one dependent variable from firm performance. The initial structural model shows that power distance, masculinity, and long-term orientation does not have relationship with firm performance. Individualism has significant effect on firm performance at $p < 0.05$, while uncertainty avoidance has a weak relationship with firm performance at $p < 0.10$. Complete standardized regression weights for each culture dimensions are given in Table 2.

Table 2. Standardized regression weights of the structural model

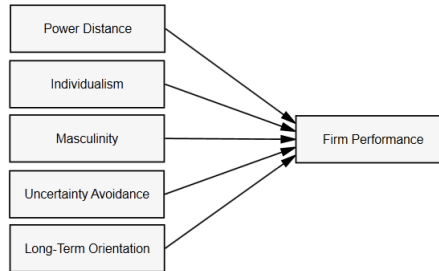|	Power Distance	Individualism	Masculinity	Uncertainty Avoidance	Long-term Orientation
Firm Performance	0.097	0.311**	0.052	0.165*	0.010

Note: Significance at: **$p < 0.05$, *$p < 0.10$

Figure 2. Initial first order structural model of organizational culture and firm performance

We revise the initial model by removing power distance → firm performance, masculinity → firm performance, and long-term orientation → firm performance paths. The final structural model gives satisfying fit with CMIN/DF = 1.356, RMSEA = 0.049, CFI = 0.986, SRMR = 0.0606. CMIN/DF < 2.0 is considered very good by [30], while RMSEA and SRMR that are under value of 0.08 is also considered very satisfying. CFI is also higher than the threshold value of 0.95 suggested by [1]. The final structural model is given by Figure 3. The regression weight of path between individualism → firm performance is 0.34 with $p < 0.01$, while regression weight between uncertainty avoidance → firm performance is 0.17 with $p < 0.10$. Thus, the first hypothesis is rejected because only individualism and uncertainty avoidance have relationship with the firm performance.
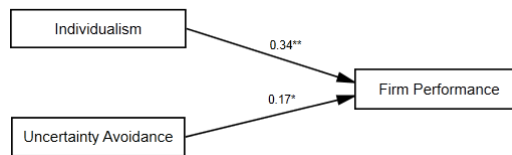

Figure 3. Final first order structural model of organizational culture and firm performance

The second structural model that is used to verify the relationship between organizational culture as a whole and the firm performance shows a good fit with $p = 0.000$, CMIN/DF = 1.535, RMSEA = 0.060, CFI = 0.948, and SRMR = 0.0671. This model shows that the organizational culture as a whole has a significant impact on firm performance with $p < 0.01$. Three culture dimensions, i.e. individualism, uncertainty avoidance, and long-term orientation are significant indicators for organizational culture with $p < 0.01$, while power distance is a significant indicator with $p < 0.05$. The structural model for relationship between the second order organizational culture and firm performance is given by Figure 4. From the final structural model we can conclude that organizational culture as a whole has relationship with the firm performance. However, the structural model fails to include masculinity as one dimension of the organizational culture.
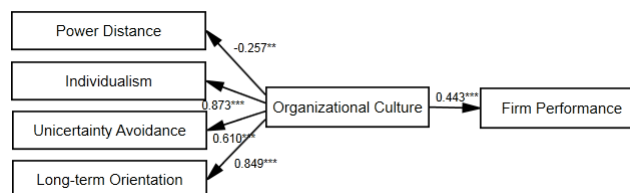

Figure 4. Second order structural model of organizational culture and firm performance

5. Discussion, Conclusion, and Limitations

The first structural model shows that only individualism has a strong relationship with firm performance, while uncertainty avoidance has weak relationship with the firm performance. This finding confirms result of previous study conducted by [7] on foreign firms in Greece. Whereas [8] find that individualism has positive impact on economic outcome, but it has negative impact in socio-psychological outcome such as satisfaction. Since we utilize market and financial performances, our result confirms the findings of [8]. The second structural model confirms that organizational cultures as a whole has significant impact on firm performance. In our model masculinity is not good indicator of organizational culture. The managerial implication of this finding is that managers need to develop individualism culture within their organization as Indonesia is ranked number 70-71 among 76 countries in terms of individualism [11]. In general foreign companies that are planning to have their operations in Indonesia need to be aware of this situation because the organizational culture has significant on firm performance.

There are two limitations that we acknowledge about our findings. First, we use perceptual model that is widely reported to be less objective [23, 24]. Nevertheless we have tried to improve this limitation using the recommendation from [25]. In addition we have selected respondents from at least from managerial levels to make sure that our respondents have access to information about financial and market performances. The second limitation is that our study is cross-sectional in nature. Thru this study we are not able to confirm the existence of causal relationship [16] between organizational culture and firm performance.

Only four of the five culture dimensions of Hofstede's framework are identified as culture indicators in our model. Masculinity is not a significant indicator for culture in our model. Indonesia is categorized as low masculine. It has masculinity index very similar to Malaysia and Singapore [32]. Future research should consider cross-cultural study to compare the findings with ones of similar culture.

6. References

[1] OECD. (2013, 24 June). *FDI in Figures*. Available: http://www.oecd.org/investment/statistics.htm

[2] P. Drysdale. (2012, 09 November 2012). Indonesia's foreign economic policy strategy. *East Asia Forum 2012*. Available: http://www.eastasiaforum.org/2012/05/14/indonesias-foreign-economic-policy-strategy/

[3] D. Bisara. (2012, June 24). Fitch: Indonesia's Credit Profile Still Sound. *Jakarta Globe*. Available: http://www.thejakartaglobe.com/business/fitch-indonesias-credit-profile-still-sound/548514

[4] CIA. (2013, June 24). *The World Factbook: Indonesia*. Available: https://www.cia.gov/library/publications/the-world-factbook/geos/id.html

[5] A. Tran. (2012, 20 November 2012). Indonesia's Automotive Investment News and INAPA 2013 Information: Domestic demand and global investment drive automotive industry in Indonesia as one of the fastest-growing markets in the world. *Automotive Industries (July 2012)*. Available: http://www.ai-online.com/Adv/Previous/show_issue.php?id=4894&search=true

[6] B. Kogut and H. Singh, "The Effect of National Culture on the Choice of Entry Mode," *Journal of International Business Studies,* Vol. 19, No. 3, 1988, pp. 411-432.

[7] S. Kessapidou and N. C. Varsakelis, "The impact of national culture on international business performance: the case of foreign firms in Greece," *European Business Review,* Vol. 14, No. 4, 2002, pp. 268-275.

[8] V. Pothukuchi, F. Damanpour, J. Choi, C. C. Chen, and S. H. Park, "National and Organizational Culture Differences and International Joint Venture Performance," *Journal of International Business Studies,* Vol. 33, No. 2, 2002, pp. 243-265.

[9] The World Bank Office Jakarta, "Title," unpublished|.

[10] F. Wiengarten, B. Fynes, M. Pagell, and S. de Burca, "Exploring the impact of national culture on investments in manufacturing practices and performance-An empirical multi-country study," *International Journal of Operations & Production Management,* Vol. 31, No. 5, 2011, pp. 554-578.

[11] G. Hofstede, G. J. Hofstede, and M. Minkov, *Cultures and Organizations: Software of the Mind*. New York, NY: McGraw-Hill, 2010.

[12] S. P. Robbins and T. A. Judge, *Organizational Behavior*, 12th edition ed. Upper Saddle River, NJ: Pearson Education, Inc., 2007.

[13] E. H. Schein, *Organizational Culture and Leadership*, 3rd edition ed. San Francisco, CA: Jossey-Bass, 2004.

[14] D. I. Prajogo and C. M. McDermott, "The relationship between multidimensional organizational culture and performance," *International Journal of Operations & Production Management,* Vol. 31, No. 7, 2011, pp. 712-735.

[15] L. Yarbrough, N. A. Morgan, and D. W. Vorhies, "The impact of product market strategy-organizational culture

fit on business performance," *Journal of the Academy of Marketing Science,* Vol. 39, No. 4, 2011, pp. 555–573.

[16] C. P. M. Wilderom, P. T. van den Berg, and U. J. Wiersma, "A longitudinal study of the effects of charismatic leadership and organizational culture on objective and perceived corporate performance," *The Leadership Quarterly,* Vol. 23, No. 5, 2012, pp. 835-848.

[17] K. Baird, K. J. Hu, and R. Reeve, "The relationships between organizational culture, total quality management practices and operational performance," *International Journal of Operations & Production Management,* Vol. 31, No. 7, 2011, pp. 789 - 814.

[18] C. A. O'Reilly, III, J. Chatman, and D. F. Caldwell, "People and Organizational Culture: A Profile Comparison Approach to Assessing Person-Organization Fit," *Academy of Management Journal,* Vol. 34, No. 4, 1991, pp. 487-516.

[19] R. J. House, P. J. Hanges, P. W. Dorfman, M. Javidan, and V. Gupta, *Culture, Leadership and Organizations: The GLOBE Study of 62 Societies*. Thousand Oaks, CA: Sage, 2004.

[20] P. Magnusson, R. T. Wilson, S. Zdravkovic, J. X. Zhou, and S. A. Westjohn, "Breaking through the cultural clutter-A comparative assessment of multiple cultural and institutional frameworks," *International Marketing Review,* Vol. 25, No. 2, 2008, pp. 183-201.

[21] C. Rarick and I. Nickerson, "Combining classification models for a comprehensive understanding of national culture: metaphorical analysis and value judgements applied to Burmese cultural assessment," *Journal of Organizational Culture, Communications and Conflict,* Vol. 12, No. 2, 2008, pp. 9-19.

[22] P. B. Smith and S. Dugan, "National culture and the values of organizational employees," *Journal of Cross-Cultural Psychology,* Vol. 27, No. 2, 1996, pp. 231-259.

[23] J. Jayaram, S. L. Ahire, and P. Dreyfus, "Contingency relationships of firm size, TQM duration, unionization, and industry context on TQM implementation—A focus on total effects," *Journal of Operations Management,* Vol. 28, 2010, pp. 345-356.

[24] A. C. Phan, A. B. Abdallah, and Y. Matsui, "Quality management practices and competitive performance: Empirical evidence from Japanese manufacturing companies," *International Journal of Production Economics,* 2011.

[25] A. Agus, S. K. Krishnan, and S. L. S. A. Kadir, "The structural impact of total quality management on financial performance relative to competitors through customer satisfaction: A study of Malaysian manufacturing companies," *Total Quality Management,* Vol. 11, No. 4-6, 2000, pp. S808-S819.

[26] J. Jung, X. Su, M. Baeza, and S. Hong, "The effect of organizational culture stemming from national culture towards quality management deployment," *The TQM Magazine,* Vol. 20, No. 6, 2008, pp. 622-635.

[27] R. K. Garg and J. Ma, "Benchmarking culture and performance in Chinese organizations," *Benchmarking: An International Journal,* Vol. 12, No. 3, 2005, pp. 260-274.

[28] B. Yoo, N. Donthu, and T. Lenartowicz, "Measuring Hofstede's Five Dimensions of Cultural Values at the Individual Level: Development and Validation of CVSCALE," *Journal of International Consumer Marketing,* Vol. 23, No. 3-4, 2011, pp. 193–210.

[29] C. Robert and S. A. Wasti, "Organizational Individualism and Collectivism: Theoretical Development and an Empirical Test of a Measure," *Journal of Management,* Vol. 28, No. 4, 2002, pp. 544–566.

[30] J. F. Hair, Jr., W. C. Black, B. J. Babin, and R. E. Anderson, *Multivariate Data Analysis*: Prentice Hall, 2010.

[31] S. Li, B. Ragu-Nathan, T. S. Ragu-Nathan, and S. S. Rao, "The impact of supply chain management practices on competitive advantage and organizational performance," *Omega - The International Journal of Management Science,* Vol. 34, No. 2, 2006, pp. 107-124.

[32] The Hofstede Centre. (2013, 31 July). *What about Indonesia?* Available: http://geert-hofstede.com/indonesia.html