



CEOs Organizational Commitment and Firm Performance: Malaysian Evidence

Shanthy Rachagan^[a]; Jane Lai Yee Tong^[a]; Robert Terpstra^[a]; Sakthi Mahenthiran^{[b],*}

^[a] Monash University-Sunway Campus, Malaysia.

^[b] Butler University, Indianapolis, U.S.

*Corresponding author.

Received 3 March 2014; accepted 15 May 2014

Abstract

In developing countries it is important to examine if CEO characteristics directly affects firm performance. Hambrick (2007) suggests that a senior executive's strong personal desire to deliver performance is an important moderator of the relation between executive characteristics and firm outcome. The sample frame consists of survey responses from 136 Malaysian CEOs, of which 94 belong to publicly listed companies and 42 belong to private companies. Our results find that in Malaysia, CEOs' education attainment and tenure on their job, as well as their concern for issues affecting the wellbeing of their company and their country positively affects the CEOs' organizational commitment levels. We also find that CEO's organizational commitment mediates the relationship between his or her concerns for issues affecting the company and the firm's performance. Moreover, whether or not a Malaysian company is publicly listed interacts with the CEOs organizational commitment to affect their firms' performance. The study uses the unique institutional and cultural context in Malaysia to explain these findings.

Key words: Malaysia; CEO survey; Organizational commitment; Upper echelon theory

Shanthy Rachagan, Jane Lai Yee Tong, Robert Terpstra, Sakthi Mahenthiran (2014). CEOs Organizational Commitment and Firm Performance: Malaysian Evidence. *International Business and Management*, 8(2), 1-13. Available from: <http://www.cscanada.net/index.php/ibm/article/view/4793>
DOI: <http://dx.doi.org/10.3968/4793>

INTRODUCTION

The upper echelon theory put forth by Hambrick and Mason (1984) focuses on senior executives' cognition, values, and perceptions, and proposes that these personal variables are reliable predictors of firms' strategic choice and other organizational outcomes. In developing countries, companies are closely held by families and the CEOs mostly believe in the classical leadership of command and control delivered by an "elite" group of senior managers (Classens et al., 2002; Denis & McConnell, 2003; Avery, 2004). In this form of leadership culture, CEOs, in their upper echelon position, have direct and powerful impact on firm's and subordinates' behaviour, for the good or the bad of the firm. Thus, in developing countries it is important to examine if CEO characteristics directly affects firm performance. Further, one effect that trickles downward is CEO's emotional disposition towards the organization, such as affective commitment. While affective commitment has been widely examined on the employee level, there have yet been any studies that investigate affective commitment at the senior executive level. Hambrick (2007) suggests that a senior executive's strong personal desire to deliver maximum performance is an important moderator of the relation between executive characteristics and firm outcome. Hence, drawing on social influence theory and upper echelon perspective, this study posits that CEO's affective commitment moderate or mediate the relationship between upper echelon theory variables and firm performance¹.

The direct research question this study aims to address is the extent to which observable CEO characteristics, controlling for firm and industry factors, are related to firm performance. Manner (2010) identifies that corporate social

¹ Following Hambrick (2007), in the discussion section, we also test for organizational commitment being a moderator of the relationship between CEO characteristics and firm performance.

performance is positively related to those firms with the CEO having a bachelor's degree in humanities, having a breadth of career experience and being female. Using a sample of CEOs in Malaysia, we first explore the correlation between observable CEO characteristics and firm performance, and second explore if CEO's organizational commitment mediates or moderates the relationship between CEO characteristics and firm performance.

Malaysia is an interesting setting for this exploration because stereotypes are widely held in the society and also in the corporate world (see Gomez and Jomo, 1997). Among the three ethnic groups in Malaysia, Chinese are known as the group which excels in business and Indians have dominant presence in medical and legal fields while the majority Malays lead the public sector and holding senior positions in government linked (or controlled) firms. This ethnic divide in sectors and professions is a legacy left by the British. During the time of the British colonial rule, the ethnic Chinese and Indians were given commercial privileges by the British without the consent of the Bumiputras². After independence in 1959 this became a source of grievance, and the Malay-led government responded with the "New Economic Policy" in 1971, aiming at acquiring a certain proportion of shares of public listed companies on behalf of the Bumiputras. The Policy also consists of various affirmative action programs, giving preference to bumiputra-owned firms for government contracts, low-cost loan and university admissions³. Though these preferences were billed as temporary in 1971, they have persisted and the scale did not change until 2010 when the Government decided to implement more inclusive social policies. Hence, these four decades of State sponsored ethnic discrimination and economic development should have had far reaching consequences on the psyche of Malaysian CEOs which we expect is more pronounced among ethnic Chinese and Indian senior executives. Hence, to exploit the unique institutional environment in Malaysia, we examine if the firm's listing status and/or ownership type affects its performance. Additionally, we include the ethnicity of the CEO as an important upper echelon variable in addition to tenure, education level, and gender in studying their influence on CEOs affective organizational commitment, which in turn could affect the CEO's and the firm's performance. Figure 1 shows our research framework.

Organizational commitment is a widely examined construct in organizational behaviour as "it is assumed to influence almost any behaviour that is beneficial to the organization" (Riketta 2002, p. 257). Studies in organizational behaviour have found that employee

organizational commitment positively influences a number of organizational outcomes such as work effort, job performance, employee turnover, and citizenship behaviour (Allen & Meyer, 1996; Ketchand & Strawser, 2001; Riketta, 2002). Given the evidence that commitment has many favourable consequences, researchers in developed countries have sought to identify the antecedents of organizational commitment. For example, accounting researchers have found that management's organizational commitment moderates the effect of budget participation in affecting firm performance (Nouri & Parker, 1998; Parker & Kyj, 2006). The review of the literature of the budget participation studies in other developing countries generally indicate that increased commitment and decrease role ambiguity are important for managers' participation, which is critical for improving their job satisfaction and firm performance (see Jermias and Yigit, 2013). Hence, this knowledge could be used to enable firms in developing countries to foster senior executives' organizational commitment and therefore gain the advantages such as growth through international expansion and greater participation in decision making.

Our research framework includes relevant demographic variables from the upper echelon theory as the antecedents to Malaysian CEOs' organizational commitment, and also examines whether they have any effect on firm performance. Additionally, we believe it is important to examine if the firms listing status, size, and financial uncertainty also affects the CEOs' organizational commitment. We believe it is important to include these firm-level variables in our study because they constrain executives' discretion in decisions. Our results find that in Malaysia, CEOs' education attainment and tenure on their job, as well as their concern for issues affecting the wellbeing of their company and their country positively affects the CEOs' organizational commitment. We also find that CEO's organizational commitment mediates the relationship between his or her concerns for issues affecting the company and the firm's performance. Moreover, whether or not a Malaysian company is publicly listed interacts with the CEOs organizational commitment to affect their firms' performance. The main contribution of our study and its results is that it's among the few empirical studies that have explored the relationship between CEO characteristics, their concern for the wellbeing of their company and country, and CEOs organizational commitment hypothesizing how they may in-turn affect firm performance given the socio-economic policies of a developing country.

1. LITERATURE REVIEW AND HYPOTHESES DEVELOPMENT

Figure 1 shows the proposed framework. The exogenous upper echelon theory variables are theorized to directly

² The term "bumiputras", literally "sons of the soil", refers to Malays and the original people of Malaysia.

³ For recent article on this subject please click on the link below: <http://www.economist.com/news/briefing/21576654-elections-may-could-mark-turning-point-never-ending-policy>

influence firm performance and CEOs' organizational commitment. Moreover, we expect organizational commitment to mediate the relationship between the upper echelon theory variables and firm performance. In addition, we hypothesize that whether a Malaysian firm is publicly listed or not and its ownership structure can also directly affect firm performance and the CEO's organizational commitment, which in-turn can affect performance too. The rationale for each proposed relation in the framework is discussed next.

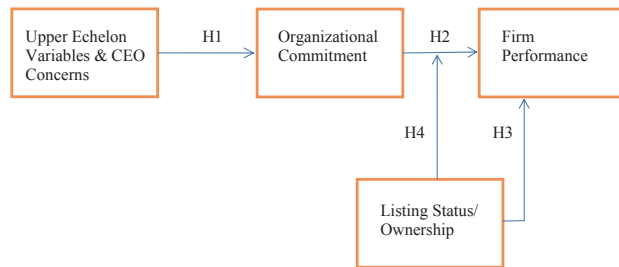


Figure 1
Research Framework of Relations between Upper Echelon Variables, Organizational Commitment, and Listing Status/Ownerships Relations to Firm Performance

1.1 Upper Echelon Variables

The upper echelon theory is based on the Carnegie school's research on bounded rationality and behavioural decision-making as put forth by Hambrick and Mason, (1984). This theory implies that decision-making outcomes are influenced by the CEO's values and cognitive decision making styles. Hambrick and Mason (1984) and Hambrick (2007) argue that executives act on the basis of their personalized interpretations of the situations they face and these personalized construals are a function of the executives' experiences, values, and personalities. According to Hambrick, (2007), if one wants to understand "why organizations do the things they do, or why they perform the way they do, we must consider the biases and dispositions of their most powerful actors--their top executives (p. 334)". Most empirical research uses observable demographic characteristics such as age, education, gender, and race as proxy for the senior management's cognitive and value-based decision making styles in organizations. Upper echelon theory researchers agree that the use of demographic variables leaves them at a loss as to the real psychological and social processes that drive executive behaviour, which is referred to as the "black-box problem" (Brett, Cron & Slocum, 1995; Hambrick, 2007). By exploiting the institutional context in Malaysia, we investigate the relationship between observable CEO characteristics and their commitment to the organization, as well as whether CEO characteristics directly influence firm performance, which might help solving the black box problem. Given that Malaysia's national culture and socio-economic policies have been

entrenched for decades it would be interesting to examine if these public policy issues along with ethnicity, tenure, and other demographic variables can help explain the variables in the perennial "black-box" that is related to senior management's bounded rationality affecting their level of organizational commitment, which in turn affects their decision-making and firm performance.

Manner (2010) provides evidence that individual's educational background influences the development of personal and cognitive value systems of CEOs in the U.S. Lin and Cheng (2013) found that CEO compensation and the gap between the CEO compensation and top management team's compensation are predictors of Taiwanese firm's engagement in internationalization. Ramasamy (2007) found that in Malaysia, the ethnicity of the CEOs influenced their level of awareness of corporate social performance, with Malay CEOs being more aware than Chinese CEOs of the social consequences of profit maximization. Mahenthiran, Tong, Terpstra and Rachagan (2014) found that CEO's organizational commitment is significantly related to the level of corporate citizenship exhibited by Malaysian companies. Furthermore, Malaysia being a Muslim country, this study also found that the CEO tenure affects the level of Malaysian companies' philanthropic citizenship. Based on this evidence we feel it is important to study the extent to which the observable CEO characteristics are related to their organizational commitment, and state the following two hypotheses:

H1a: The upper echelon variables (tenure, education, gender and ethnicity) are associated with CEO's level of organizational commitment.

H1b: In Malaysia, greater the CEOs concern for the issues affecting their firms' wellbeing and the country's wellbeing the higher the CEOs organizational commitment.

1.2 Social Influence Theory and Organizational Commitment

Organizational commitment has been widely studied in applied psychology, management, and accounting (see Ketchand & Strawser, 2001). While several conceptualizations of organizational commitment exist, affective commitment is the most widely used in the management literature, and most relevant to current study of Malaysian CEOs. Affective commitment is defined as the "emotional attachment to the organization such that the strongly committed individual identifies with, is involved in, and enjoys membership in the organization" (Allen & Meyer, 1990, p.2). Further, Brett et al. (1995) defined attitudinal organizational commitment as "the strength of an employee's emotional attachment to an organization and acceptance of the organization's goals and values". Prior research suggests that employees with high organizational commitment would want their firm to succeed and exhibit positive organizational behaviours even if the individual does not directly benefit

from their success. For example, Parker and Kyj (2006) found that high commitment is associated with greater information sharing while Nouri and Parker (1998) found that high organizational commitment together with budget participation is important to bringing about high firm performance. The organizational justice literature argues that fairness in the budgeting processes affects organizational commitment (Staley et al., 2003)⁴.

Recently social influence theory has been used to show a trickle-down effect that the supervisor's affective commitment to the organization influences his or her subordinates' organizational commitment, which in turn affects their task behaviours (Loi et al., 2012). Despite the fact that many empirical studies have proposed that supervisor plays a major role in influencing subordinate's affective commitment, only a few studies have empirically examined the supervisor's own level of affective commitment (Coyle-Shapiro & Shore, 2007). Gong, Law, Chang, and Xin (2009) note that supervisor's organizational commitment should be crucial for the overall performance of the organization, and there is increasing evidence that subordinate's perception of the level of fairness, trust, and importance of participation in decision making are shaped by their supervisor's own perceptions (Lau & Linden, 2008; Loi et al., 2012). Furthermore, Loi et al. (2012) found that the interaction of supervisors' affective commitment and subordinates' power distance orientation is a significant predictor of subordinates' affective commitment. More specifically, the positive relationship between supervisor's and subordinates affective commitment is stronger when the supervisor-subordinate power distance is perceived lower by the subordinates. Hence, we believe that Malaysia's socio-economic policies, the differential treatments of ethnic groups⁵, and the high-power distance national culture as noted by Hofstede (2001) can significantly affect superior-subordinate relations that in turn affects organizational fairness, level of participation in decision making, and other organizational practices that affect firm performance and we hypothesize that:

H2a: The CEOs level of organizational commitment is directly and positively associated with firm performance.

H2b: The CEOs organizational commitment mediates the relationship between the upper echelon theory variables and firm performance.

⁴ Given Malaysia's economic policies and cultural traits, we believed that without some minimum threshold of organizational commitment in senior executives it is unlikely that organizational practices such as budget participation, procedural justice in organizations, and honest information sharing could beneficially affect decision making and firm performance. Hence, indirectly we are exploring whether Malaysian senior executives have the potential to put their distinctive mark on their firm-for the better or worse.

1.3 Listing Status and Organizational Commitment

When concentrated shareholding is prevalent, the different types of owners have varying preferences for corporate governance practices that tend to promote the interest of the majority shareholders at the expenses of others, which can consequently affects firm performance (see Denis & McConnell, 2003). As noted earlier, because of the New Economic Policy (NEP) enacted in 1971 that was aimed to achieve 30 per cent corporate ownership and management for Bumiputras by 1990 it has resulted in the government intervention in the Malaysian corporate sector. In the post-NEP period, division in economic activities among the different ethnic groups still exists. For example, the Malays and Bumiputra, and the Government/State retain dominance in the agricultural, telecommunication, as well as the utility sectors; the Chinese remain strong in the commercial retail, wholesale trade, and business sectors; Indians remain a minority in all sectors (Gomez & Jomo, 1997; Tam & Tan, 2007). Hence, In Malaysia, Tam and Tan (2007) argue that it is important to examine the socio-economic policies, governmental intervention, and laws and regulations when examining relationship between ownership structure and firm value. They find that individual/family or the State is the predominant shareholder in Malaysian firms, and such firms compared to foreign owned firms have poorer performance. Mahenthiran and Kasipillai (2012) argue that in Malaysia, not only does the government influence companies' investment strategies, but Malaysian listed companies and their owner-managers also in-turn influence the government's tax policies. They found that that government ownership, management power, and the agency issues are important determinants of companies' effective tax rates that in turn help to improve the listed company's market value. Bliss and Gul (2012) found that politically connected firms are inefficient and have a higher cost of debt. Though not all listed companies are politically connected, most politically connected firms are listed companies. Therefore, it is likely that listed companies have weaker performance than non-listed private companies. Thus, we hypothesize that the ownership structure of the Malaysian firms and whether or not a company is listed on the Kuala Lumpur stock exchange (referred to as Bursa Malaysia) matters, hence we hypothesize that:

H3: In Malaysia, whether a company is listed or not affects the firm's performance.

Further, given the unique Malaysian setting we believe that a company's listing status, and ownership type might moderate the relationship between organizational commitment and firm performance too. For example, publicly listed companies are more likely to have CEOs' with greater organizational commitment because better qualified Malay managers may feel more closely affiliated with the organization and have a longer tenure in senior

management, because the public listing enhances their reputation and business networks. Hence, we test the following hypotheses:

- H4:** In Malaysia, the company listing status will moderate the relationship between organizational commitment and performance.

2. METHODOLOGY

2.1 Sample

This study is a part of a larger CEO survey conducted in Malaysia. In a report in 2004, Sustain-Ability, an organization involved in codifying corporate social responsibility standards, stated “*the challenge is not to get companies to take on the responsibilities of governments but to help ensure governments fulfill their own responsibilities.*” Hence, given this call for companies to be a watchdog for government’s effectiveness, three CEO Surveys were conducted in November-January time frame during the years 2010-2012 to examine the Malaysian Business Climate. Each year, 1,000 CEOs and Malaysian executives of businesses based in greater Kuala Lumpur area were identified and formed the sampling frame for our study for the years 2010-2012⁵. Potential respondents were identified from primarily two sources including a database maintained by the Minority Shareholder Watch Dog (MSWG) and the publicly available membership list of the Federation of Malaysian Manufacturers (FMM). MSWG’s database consisted of all listed companies in the benchmark Bursa Malaysia (formerly known as Kuala Lumpur Stock Exchange). MSWG mailed in the questionnaires to the executives in its database and requested the senior executives’ participation in the project. The authors mailed directly to the members of FMM. One month after the mailing, research assistants called up those that had not yet responded as a follow up. A total of 403 questionnaires were returned, representing a response rate of 13%. Out of the 403 responses, we had a total of 136 respondents who were CEOs of 94 Malaysian public listed and 42 private firms, which forms the sample for our analyses.

The respondents represented five major economic sectors that include manufacturing (25 percent), finance and insurance (12 percent), construction and real estate (9 percent), palm oil, utilities and energy (7 percent) and wholesale and retail (6 percent), and other service sub-sectors (41 percent). Most respondents worked for large companies as measured by company revenue. About 63 percent worked for firms that had revenue over Ringgit 50 million in the previous year. Our sample only included respondents that carried a job title of CEO or president.

⁵ Using company names and coding procedures we made every effort to make sure that a respondent was only included once in our study.

The average tenure in the current position was six years with a standard deviation of seven. Majority (70 percent) worked for a publicly listed firm or a firm whose parent firm was listed in Bursa Malaysia. Ninety-seven percent of the respondents were male and most of them were highly education with 83 percent having a bachelor’s or higher degree. Thus, we believe the survey reached the target sample of CEOs who were the business elites in Malaysia.

2.2 Measurement of Variables

First, we describe the measurement of the dependent variables organizational commitment and firm performance, followed by the measurement of observable CEO characteristics and the variables measuring the issues and public policy concerns of the CEO. Descriptions of the labels and measurement of all the variables are shown in the Appendix.

2.2.1 Organizational Commitment

The study used the six items scale from Meyer, Allen, and Smith (1993) to measure the CEO’s affective organizational commitment. Prior studies have reported strong reliability and construct validity for this measure (Allen and Meyer, 1990, 1996; Hackett et al., 1994). The respondents were asked to express the extent to which they agreed with the six statements, using a five-point scale ranging from 1 to 5. In our analysis, one item (#3) was cross-loading to form two factors hence it was deleted to form one factor. The lowest factor loading score for the remaining 5 items in the affective organizational commitment variable is 0.58 and the construct labeled Org_Commit has a Cronbach’s alpha coefficient of 0.78.

2.2.2 Firm Performance

We measure the firm’s financial performance using a single item, which is labeled as Perf. The survey asked the respondents to rate their firm’s financial performance relative to FBM-Kuala Lumpur (benchmark stock) Index for 30 companies, which has an average return-on-equity (ROE) of about 11 percent. If a firm’s ROE in the previous year was below the average, it was coded as ‘1’; if it was the same as the average, it was coded as ‘2’; and if it was above the average, it was coded as ‘3’.

2.2.3 Upper Echelon Variables

The demographic section of the survey asked the respondents their tenure in the current job, the level of education, gender, age and ethnicity. In the Appendix, these were labeled as Tenure, Qua, Gender, Age, and Eth and their measurements are described. For example, ethnicity is categorized as Malay, Chinese or Indian as well as other. The researchers and their assistant carefully reviewed the responses that were provided under “Other” category and reclassified them as Malay, Chinese, or Indian if appropriate⁶. The single question “How long

⁶ For example, if they stated that they belong to a particular tribe we inferred whether that tribe is predominantly Muslim or not and classified them as Malay. As stipulated in Malaysian Constitution,

have you been in your current position?” is used to measure tenure in the current role as CEO of the company.

2.2.4 CEO’s Concern for the Firm’s and Country’s Well Being

In Malaysia, empirical studies have shown that executive organizational commitment is related to the firm’s corporate social responsibility (see Mahenthiran et al., 2014). Furthermore, given that the intended purpose of the CEO survey is to examine the issues perceived by the CEOs to influence the business climate in Malaysia, we asked them to rate the importance of public policy and company issues that are of concern to a CEO of a typical for-profit company. For public policy, we asked them about their concerns for typical public policy concerns in emerging economies that range from streamlining government bureaucracy, improving public transportation, to reducing crime rates. The CEOs rating of the criticality of seven public policy issues are labeled as ‘Public_Policy’. The use of principal component analyses to determine the items loading on the construct Public_Policy finds that the lowest factor loading score for an item is 0.62 and the Cronbach’s alpha for this single construct is 0.88.

For company issues, as shown in the Appendix, we ask the CEOs to rate the importance of eleven issues ranging “being able to adapt quickly to change” to “managing risks” and the six items shown in the Appendix load together and they form the construct ‘Issues’ of importance to the firm. For the ‘Issues’ construct, the lowest factor loading is 0.59 and this single construct has a Cronbach’s alpha coefficient of 0.76. According to Nunnally (1978), if the alpha coefficient is greater than the minimum required coefficient value of 0.70 it has acceptable reliability, which in this instance capture issues of importance to the firm.

2.2.5 Control Variables

In our analyses, we control for whether a firm is publicly listed or not, the firm size, and uncertainties as perceived by the CEO. These variables are labeled Pub, Rev, and Uncert and are measured as follows: A single question “is your company publicly listed” with response ‘Yes’ coded as 1 and ‘No’ coded as 0 measures the construct ‘Pub’. Firm size (or Rev) is measured using a single question “What was your company’s revenue in Malaysian Ringgit? As described in the appendix, the financial uncertainty construct labeled ‘Uncert’ is measured using the two questions both of which loaded on a single factor. In our analysis, the lowest factor loading score for an item is 0.56 and the construct ‘Uncert’ has a Cronbach’s alpha coefficient of 0.76.

Malays are those who speak the Malay language, and follow the faith of Islam and other Muslim practices regardless of one’s biological background.

2.3 Analyses

Since we argue that organizational commitment mediates the relationship between upper echelon theory variables which includes the variables labelled ‘Uncert’ and ‘Issues’ and firm performance we use Baron and Kenny’s (1986) approach to testing for the direct and indirect mediation effects of organizational commitment. We use ordinary least square regression analyses to test the remaining hypotheses. Additionally, since we have two simultaneously determined dependent variables we conduct are analyses in two phases that is described below:

Phase 1:

$$\text{Org_Commit}_i = \alpha_0 + \alpha_1 \text{Tenure}_i + \alpha_2 \text{Edu}_i + \alpha_3 \text{Gender}_i + \alpha_4 \text{Ethn}_i + \alpha_5 \text{Uncert}_i + \alpha_6 \text{Public_Policy}_i + \alpha_7 \text{Issues}_i + \varepsilon_i \quad (1)$$

Based on the above OLS regression analysis we first find out which of the upper echelon variables, public policy concerns, and issues are significant predictors of CEOs organizational commitment. Second, we use each of the significant predictors of organizational commitment from Model (1) above, the CEO commitment (Org_Commit), and firm performance (Perf) as the three key variables for our Baron and Kenny’s (1986) approach for testing for the mediation effect of organizational commitment. Figure 2 shows the model used to test whether the CEOs organizational commitment mediates the relationship between the significant upper echelon theory variable (labeled as UEV) and firm performance (see <http://davidakenny.net/cm/mediate.htm>). The mediation effects are assessed based on the comparison of the direct effect (a) and indirect effects (b and c), which are shown in Figure 2. According to Baron and Kenny (1986) a mediation effect exists if either of the following two conditions are fulfilled: (i) Full mediation exists if “a” is not significant but “b” and “c” are significant, and (ii) Partial mediation exists if “a”, “b”, and “c” are significant. Additionally, Hair et al. (2010) have noted that the strongest form of mediation effect is when “a” is (close to) zero and insignificant and when “b” and “c” are non-zero and significant. Furthermore, according to Hair et al. (2010), a sizeable mediating effect is deemed to exist if the indirect effect is greater than 0.06, where the indirect effect is calculated by multiplying “b” times “c”.

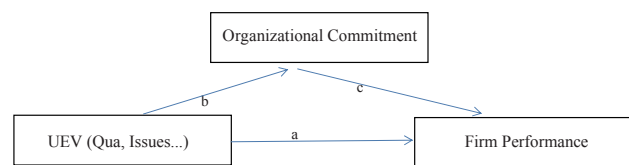


Figure 2
Baron and Kenny’s (1986) Test of the Mediation Effect of Organizational Commitment

Phase 2:

Model 2 below is used in phase 2 to test hypotheses H4 and H5, which suggests the that company’s status as being publicly listed or not, and the significant upper

echelon theory variables (identified in phase 1) would moderate the effect that organizational commitment has on firm performance⁷. Model (2) below is used to perform separate regression analysis for each significant upper echelon theory variable (labelled as UEV_{ij}) from our phase 1 analysis to test whether they moderate the effect CEO's organizational commitment has on firm performance.

$$\text{Perf}_i = \beta_0 + \beta_1 \text{Rev}_i + \beta_2 \text{Uncert}_i + \beta_3 \text{CEO_Commit}_i + \beta_4 \text{CEO_Commit}_i * \text{Pub}_i + \beta_5 \text{CEO_Commit}_i * \text{UEV}_{ij} + \epsilon_i \quad (2)$$

3. RESULTS

Table 1 provides the means, standard deviations, and F-test comparing the variables of public listed companies

versus private companies. In terms of size, the revenues of public listed firms are significantly higher than that of private firms. However, the private firms faced higher level of financial uncertainty, and their performance was significantly higher than public firms' were. Most of our respondents are male Chinese CEOs and their tenure in the private firms is significantly higher than in public listed firms (9 years versus 4 years). Nevertheless, CEOs qualifications and the level of organizational commitment in both groups are not significantly different. Univariate mean comparisons also indicate that the CEOs concerns for country and company related issues are also not significantly different between public and private firms.

Table 1
Descriptive Statistics (Comparing Publicly Listed Firms to Non-Publicly Listed Firms)

	Public listed firms		Private non-listed firms		F-test
	Mean	Std. Dev	Mean	Std. Dev.	
Perf	2.02	0.84	2.30	0.70	3.09*
Org_Commit	4.31	0.66	4.27	0.76	0.26
Tenure	4.41	4.41	9.45	10.10	16.69***
Qua	3.72	1.37	3.30	1.42	1.94
Age	51.20	9.02	48.20	9.59	0.36
Gender	1.11	0.32	1.07	0.26	0.75
Ethn	1.81	0.83	1.86	0.57	0.47
- Malay	28%		11.4%		
Chinese	61%		81.2%		
-Indian	6%		6.7%		
Uncert	2.41	0.94	2.85	0.95	6.10**
Public_Policy	4.48	0.53	4.43	0.71	0.14
Issues	4.38	0.46	4.35	0.48	0.16
Rev	4.86	1.21	3.10	1.35	64.65***

Table 2, Panels A and B Pearson correlation results suggest that for both publicly listed and private firms the CEOs organizational commitment is significantly and positively associated with their firms' performance, their concern for the effectiveness of public policy and issues of importance to their companies. Furthermore, depending on whether it's a public listed firm or not, the upper echelon theory variables tenure and education constructs seem to capture different dimensions of CEO characteristics. In public listed firms CEO tenure is significantly and negatively related to gender probably because most of them are male CEOs, whereas in private firms tenure is significantly and positively correlated with ethnicity

probably because most CEOs private firms are Chinese. The significant negative correlation in public listed firms between education and ethnicity and significant positive correlation between education and revenue is consistent with the educational preferences given to Malays and their appointment to management positions in larger government linked companies. The private firm results confirm that Chinese firms tend to be smaller and have less educated CEOs. However, it is interesting to note that in public listed firms the CEOs education level has a significant negative correlation with their concern for the country's public policy issues where as in private firms the correlation is significant and positive. The most cynical of the interpretation for this results would be that most large public listed firms are likely to be politically connected and (inefficiently) managed by Malays (Gul, 2006; Bliss and Gul, 2012); while those private firms are likely to be managed by Chinese whom are more likely to be critical of the government policies that promote

⁷ We performed further analyses by categorizing the ownership type as private Malaysian institutions vs. others, Malaysian government agencies vs. others, and foreign investors vs. others but did not find a moderation effect for them. Hence, the reason ownership type is not included as an explanatory variable in H4 and H5.

crony capitalism (Gomez, 2002). Additionally, the smaller private firms face a stronger negative correlation between uncertainty and performance than the public listed firms ($r = -0.37$ versus $r = -0.26$). These results seem to suggest that the Malaysian government policies to promote Bumiputara Malay involvement in the commercial sector

have to a great extent achieved its goal by increasing their involvement in public listed companies. Hence, it will be interesting to examine how a country's race based policies translate into CEOs organizational commitment, which in turn may have implication for firm performance.

Table 2
Correlation Results

Panel A - Public Listed Firms								
	Org_Commit	Perf	Tenure	Qua	Ethn	Uncert	Public_policy	Issues
Perf	0.17**							
Tenure	0.15*	-0.10						
Qua	0.26***	0.29***	-0.10					
Ethn	-0.01	-0.24**	0.13	-0.31***				
Uncert	-0.23**	-0.26***	-0.08	-0.16*	0.08			
Public_Policy	0.27***	-0.10	0.11	-0.13*	0.03	0.05		
Issues	0.26***	0.16	-0.09	-0.06	0.01	-0.02	0.37***	
Rev	0.10	0.28***	-0.07	0.27***	-0.31***	-0.12	-0.14*	0.05

Panel B - Non-Public Listed Firms								
	Org_Commit	Perf	Tenure	Qua	Ethn	Uncert	Public_policy	Issues
Perf	0.31**							
Tenure	0.16	0.12						
Qua	0.08	0.01	-0.04					
Ethn	0.07	0.15	0.30**	-0.24*				
Uncert	-0.02	-0.37**	0.07	0.05	-0.13			
Public_Policy	0.36**	0.10	0.03	0.22*	0.08	-0.04		
Issues	0.56***	0.27	-0.01	0.12	-0.07	0.06	0.39***	
Rev	-0.01	0.17	-0.23*	0.09	-0.28**	-0.28**	-0.01	0.01

All variables are defined in the Appendix.
*, **, *** denotes significance at the 10%, 5%, and 1% level respectively.

Hypothesis H1a states that the upper echelon variables (tenure, education, gender and ethnicity) are associated with CEOs' levels of organizational commitment. Table 3 finds that both CEO's qualification is significantly and positively associated with the level of organizational commitment at $p < 0.05$ level. However, the other upper echelon theory variables (namely, tenure, gender, and ethnicity) are not significantly associated with the CEOs' levels of organizational commitment. Hence, we conclude that there is only partial support for H1a. Hypothesis H1b states that, greater the CEOs concern for the issues affecting their firms' wellbeing and the country's wellbeing the higher the CEOs' organizational commitment. The regression results in Table 3 show that CEOs concerns for issues affecting their company

and the effectiveness of the country's public policy are significantly and positively (at $p < 0.05$ and $p < 0.10$ levels respectively) influences the organizational commitment as well as the psyche of the Malaysian CEOs. These results hold despite controlling for any financial uncertainties that may be associated with issues facing a company or caused by the country's public policies. Hence, we conclude that our results find strong support for H1b. Further, in phase 1, we choose both CEO's qualification (Qua) and issues facing the company (Issues) as the most significant upper echelon theory variables that influence a CEO's organizational commitment. Hence, for phase 2 analyses, we choose these two variables labelled 'Qua' and 'Issues' as the upper echelon theory variables (or UEV) for our mediation testing.

Table 3
OLS Regression of Organizational Commitment on Upper Echelon Theory Variables

Variable	β Coefficient (t-Stat)
Intercept	1.52** (2.65)
Tenure	0.13 (1.58)
Qua	0.25*** (2.90)
Gender	-0.12 (-1.39)
Ethn	0.10 (1.21)
Issues	0.26*** (2.94)
Public_policy	0.15* (1.73)

All variables and their measurement are described in the Appendix.

Adjusted $R^2 = 0.17$, which is significant at 1% level, and $n = 128$
*, **, *** denotes significance at the 10%, 5%, and 1% level respectively, and T statistics are in parenthesis.

Hypothesis H2a states that the CEOs level of organizational commitment is directly and positively associated with firm performance. Table 4-Panel C, shows that after controlling for firm size and uncertainty the CEO's level of affective organizational commitment has a significant positive effect of firm performance at $p < 0.05$ level. As expected the financial uncertainty faced by company negatively and significantly influences firm performance, which gives us comfort in our findings that CEOs organizational commitment has an incremental effect beyond the firm's size and uncertainty in influencing firm performance directly. Hence, we conclude that CEOs organizational commitment does directly influence firm performance, and that there is strong support for H2a.

Table 4
Panel A – The Effects of the Significant Upper Echelon Variables (a_{ij}) on Firm Performance

Variable	β Coefficient (t-Stat)
Intercept	0.70 (0.91)
Rev	0.03 (0.36)
Uncert	-0.22*** (-2.99)
Qua	0.16* (1.87)
Issues	0.35** (2.25)

Adjusted $R^2 = 0.12$, which is significant at 1% level, and $n = 125$

Panel B – The Effects of the Significant Upper Echelon Variables (b_{ij}) on Organizational Commitment

Variable	β Coefficient (t-Stat)
Intercept	2.12*** (3.80)
Rev	-0.33 (-0.86)
Uncert	-0.16** (-1.93)
Qua	0.22*** (2.64)
Issues	0.35*** (4.36)

Adjusted $R^2 = 0.16$, which is significant at 1% level, and $n = 133$

Panel C – The Effects of Organizational Commitment on Firm Performance (C_i) on

Variable	β Coefficient (t-Stat)
Intercept	1.50*** (2.52)
Rev	0.08 (0.95)
Uncert	-0.24*** (-2.67)
Org_Commit	0.17** (1.98)

Adjusted $R^2 = 0.11$, which is significant at 1% level, and $n = 126$

Hypothesis H2b states that the CEOs organizational commitment mediates the relationship between the upper echelon theory variables and firm performance. As noted, we test the mediation effect of CEO's organizational commitment using Baron and Kenny's (1986) approach that was discussed in the Methodology section. Table 4-Panel A, shows that both our UEVs 'Qua' and 'Issues' are significantly and positively associated with firm performance, which is step 1 of Baron and Kenny's testing and the path coefficients or ' a_{ij} ' are 0.16 and 0.35 for them respectively. For step 2, Table 4-Panel B, shows the path coefficients or ' b_{ij} ' for 'Qua' and 'Issues' influencing CEOs organizational commitment which are 0.22 and 0.35 respectively. For step 3, Table 4-Panel C, shows the path coefficient for ' c_i ' for the influence organizational commitment (Org_Commit) has on firm performance, which is 0.17 and it is positive and significant. Finally, step 4 of Baron and Kenny (1986) is to perform a regression of the independent variable(s) and the mediator on the dependent variable. Table 5 shows the result of step 4, which shows that both 'Issues' and 'Org_Commit' remains marginally significant. Since both the path coefficients ' a_i ' for CEO's concern for company issues and the ' c_i ' for organizational commitment affecting firm performance are not zero we conclude that CEOs organizational commitment does mediate the relationship

between the upper echelon theory variable (issues of concern to the company) and firm performance. Finally, the indirect effect measured as $(b_{ij} \times c_i)$ is also 0.06 for 'Issues' which is the minimum threshold for partial mediation according to Hair et al. (2010). Hence, we conclude that there is support for H2b too.

Table 5
Testing the Mediation Effect of the Relation Between Upper Echelon Theory Variables and Firm Performance by Organizational Commitment

Variable	β Coefficient (t-Stat)
Intercept	0.43 (0.52)
Rev	0.04 (0.48)
Uncert	-0.24*** (-2.76)
Qua	0.14 (1.58)
Issues	0.16* (1.73)
Org_Commit	0.13* (1.65)

Adjusted $R^2 = 0.12$, which is significant at 1% level, and $n = 125$

Hypothesis H3 states that, in Malaysia, whether a company is listed or not affects the firm's performance. Table 1 univariate results showed that private firms have a higher performance than public firms. Similarly, Table 6-Panel A, the multivariate results show that the listing status of the firm has significant and negative effect on firm performance and provides significant incremental explanatory power beyond firm size, uncertainty, and the CEO's organizational commitment. Hence, we conclude that in Malaysia whether a company is listed or not affects its performance. Further, we conduct our analyses by replacing the listing status with ownership type and re-did our analysis which is not reported. The ownership type dummy variable is measured by categorizing the ownership into three different contrasts of private Malaysian institutions vs. others, Malaysian government agencies vs. others, and foreign investors vs. others but none of the categorization had any direct effect on firm performance beyond the effects of firm size, uncertainty, the CEO's organizational commitment, and listing status. Hence, we conclude that in Malaysia, the most important predictor of (lower) performance is whether the company is listed or not and not the ownership interest in it⁸.

⁸ It is a coincidence that CEOs of listed companies tend to be Malays, which gives them the needed political connections to secure contracts or other sources of revenue for the firm. Hence, it may be this cozy relationship between Malay owned firms and the government that results in less competition (uncertainty) and firm performance as pointed out in many economic studies.

Table 6
Panel A – Testing the Direct Effect of Public Company Status on Firm Performance

Variable	β Coefficient (t-Stat)
Intercept	1.53*** (2.32)
Rev	0.26*** (2.62)
Uncert	-0.26*** (-3.01)
Pub	-0.33*** (-3.34)
Org_Commit	0.16** (1.98)

Adjusted $R^2 = 0.16$, which is significant at 1% level, and $n = 125$
, * denotes significance at the 10%, 5%, and 1% level respectively.

Panel B – Testing the Moderation Effect of Public Company Status and Upper Echelon Variable Impacting the effect CEOs' Organizational Commitment has on Firm Performance

Variable	β Coefficient (t-Stat)
Intercept	1.37** (2.32)
Rev	0.25*** (2.50)
Uncert	-0.27*** (-3.22)
Org_Commit	0.01 (0.06)
Org_Commit x Pub	-0.33*** (-3.32)
Org_Commit x Issue	0.28 (1.57)

All variables and their measurement are described in the Appendix.
Adjusted $R^2 = 0.17$, which is significant at 1% level, and $n = 125$
, * denotes significance at the 10%, 5%, and 1% level respectively.

Hypothesis H4 states that, in Malaysia, the company listing status will moderate the relationship between organizational commitment and performance. Table 6-Panel B, shows the results for testing for the moderation effects of listing status (Pub) and UEV variable 'Issue'. It finds that the relationship CEOs organizational commitment (Org_Commit) interacted with listing status (Pub) which is negatively and significantly (at $p < 0.01$ level) associated with firm performance. Since we coded the public company status as '1' and private companies as '0' the negative coefficient suggest that organizational commitment has a positive effect on firm performance only in private Malaysian companies. Hence, we conclude that the listing status of the firm does moderate the relationship between CEO's organizational commitment and firm performance that provides support for hypothesis H4. Furthermore, the fact that interaction term between organizational commitment and issues (Org_Commit x Issue) is not significant suggest that organizational

commitment does not moderate (but mediates) the relationship between upper echelon theory variables and firm performance.

DISCUSSION AND CONCLUSION

We believe our study; by conducting a survey of CEOs in a developing country like Malaysia makes important contributions to the behavioural research in management and accounting. This was a study based on the data collected from senior Malaysian executives as part of a CEO survey of the Malaysian business climate. Our study finds that in developing countries socio-economic policies have managerial behavioural implications that affect CEOs organizational commitment and firm performance. Specifically, our results find that CEOs' organizational commitment is influenced by their level of education and tenure on their job, as well as their concern for issues affecting the wellbeing of their company and their country. Moreover, whether or not a Malaysian company is listed interacts with the CEOs level of organizational commitment to affect their firms' performance. When a Malaysian company is not listed it's more likely to be managed by Chinese, be smaller in terms of size measured by sales, and face more financial uncertainty. Further, in these private companies, education, tenure, and organizational commitment have lesser effect on firm performance. Consequently, the CEOs of private firms are more likely to be disenchanted with the country's social economic policies that are claiming to transform the country into a developed country status by 2020.

From a management accounting standpoint it is likely that private firms do not successfully implement participative budgeting or build a high level of organizational commitment and trust among its subordinates because superiors' lack commitment to their firms and employees probably because they feel the "deck is stacked against them" due to the government's socio economic policies. From a review of the literature of the budget participation studies in other developing countries we generally conclude that they indicate increased commitment and decrease role ambiguity are important for managers' participation, which is critical for improving their job satisfaction and firm performance (see Jermias & Yigit, 2013). And our study emphasizes the fact that the organizational commitment of top managers is affected by issues important to both the firms and the country where they are located, as well the leaders' level of education and tenure with the company. Although our results may be inevitable given heavy governments' intervention in businesses in Malaysia, it emphasizes the fact that without the active involvement of the private sector in debating the issues that ail the companies in developing countries it is not likely that the private sector will become the major engine of economic growth and

employment. Nonetheless, making such interpretations could be farfetched because it is single country study, and the sample selection was somewhat biased because of the way we obtained access to the respondents. We encourage similar studies of CEO attitudes and behaviours in developing countries with a focus not only on firm performance but also on their entrepreneurial orientation and its implication for management accounting practices such as participative decision making and 360 degree performance evaluations. Additionally, we emphasize the importance of incorporating better controls for the ownership types and the institutional environments as well as how companies are governed (e.g. state owned versus family owned) in future global management and accounting studies.

REFERENCES

- Allen, N., & Meyer, J. (1990). The measurement and antecedents of affective, continuance, and normative commitment to the organization. *Journal of Occupational Psychology*, 63(1), 1-18.
- Allen, N., & Meyer, J. (1996). Affective, continuance, and normative commitment to the organization: an examination of construct validity. *Journal of Vocational Behavior*, 49(3), 252-276.
- Avery, G. C. (2004). *Understanding leadership: Paradigms and cases*. London, U.K: Sage Publication.
- Baron, R., & Kenny, D. (1986). The moderator-mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations. *Journal of Personality and Social Psychology*, 51(6), 1173-1182.
- Bass, B. (2008). *The bass handbook of leadership* (4th edition). New York, NY: Free Press.
- Bliss, M., & Gul, F. (2012). Political connection and the cost of debt: Some Malaysian evidence. *Journal of Banking & Finance*, 36(5), 1520-1527.
- Brett, J., Cron, W. L., & Slocum, J. W. (1995). Economic dependency on work: A moderator of the relationship between organizational commitment and performance. *Academy of Management Journal*, 38(1), 261-271.
- Claessens, S., Djankov, S., Fan, J., & Lang, L. (2002). Disentangling the incentive and entrenchment effect of large shareholdings. *The Journal of Finance*, 57(6), 2741-2771.
- Coyle-Shapiro, J. A., & Shore, L. M. (2007). The employee-organization relationship: Where do we go from here?. *Human Resource Management Review*, 17(2), 166-179.
- Denis, D. K., & McConnell, J. (2003). International Corporate Governance. *Journal of Financial and Quantitative Analysis*, 38(1), 1-36.
- Gomez, E. T. (2002). Political business in Malaysia: partly factionalism, corporate development, and economic crisis. In E. T. Gomez (Ed.), *Political business in east Asia*. London, U.K: Routledge Publication.
- Gomez, E. T., & Jomo, K. S. (1997). Malaysia's political

- economy: Politics, patronage, and profits. Cambridge, MA: Cambridge University Press.
- Gong, Y., Law, K. S., Chang, S., & Xin, K. R. (2009). Human resource management and firm performance: The differential role of managerial affective and continuance commitment. *Journal of Applied Psychology, 94*(1), 263-275.
- Gul, F. (2006). Auditors response to political connections and cronyism in Malaysia. *Journal of Accounting Research, 44*(5), 931-963.
- Hackett, R., Bycio, P., & Hausdorf, P. (1994). Further assessment of Meyer and Allen's (1991) three-component model of organizational commitment. *Journal of Applied Psychology, 79*(1), 15-23.
- Hair, J. F., Black, W. C., Babin, B. J., Anderson, R. E. & Tatham, R. (2010). *Multivariate data analysis*. New Jersey: Pearson Prentice Hall.
- Hambrick, D. C. (2007). Upper echelons theory: An update. *Academy of Management Journal, 32*(2), 334-343.
- Hambrick, D. C., & Mason, P. A. (1984). Upper echelons: The organization as a reflection of its top managers. *Academy of Management Review, 9*(2), 193-206.
- Hofstede, G. (2001). *Culture's consequences: Comparing values, behaviours, institutions, and organizations across nations*. Thousand Oaks, CA: Sage Publications.
- Jermias, J., & Yigit, F. (2013). Budgetary participation in Turkey: The effects of information asymmetry, goal commitment, and role ambiguity on job satisfaction and performance. *Journal of International Accounting Research, 12*(1), 29-54.
- Ketchand, A., & Strawser, J. (2001). Multiple dimensions of organizational commitment: implications for future accounting research. *Behavioral Research in Accounting, 13*(1), 221-251.
- Kyj, L., & Parker, R. (2008). Antecedents of budget participation: leadership style, information asymmetry, and evaluative use of budget. *ABACUS, 44*(4), 423-442.
- Lin, W., & Cheng, K. (2013). The effect of upper echelons' compensation on firm internationalization. *Asia Pacific Journal of Management, 30*(1), 73-90.
- Lau, D. C., & Linden, R. C. (2008). Antecedents of co-worker trust: Leaders' blessings. *Journal of Applied Psychology, 93*(5), 1130-1138.
- Loi, R., Lai, J., & Lam, L. (2012). Working under a committed boss: A test of the relationship between supervisors' and subordinates' affective commitment. *The Leadership Quarterly, 23*(3), 466-475.
- Mahenthiran, S., Tong, J., Terpstra, R., & Rachagan, S. (2014). Impact of executive citizenship and organizational commitment on corporate social responsibility. *Social Responsibility Journal, 10*(3-4), Forthcoming.
- Mahenthiran, S., & Kasipillai, J. (2012). Influence of ownership structure and corporate governance on effective tax rates and tax planning: Malaysian Evidence. *Australian Tax Forum, 27*(4), 949-977.
- Manner, M. H. (2010). The impact of CEO characteristics on corporate social performance. *Journal of Business Ethics, 93*(1), 53-72.
- Meyer, J., Allen, N., & Smith, C. (1993). Commitment to organizations and occupations: extension and test of a three-component conceptualization. *Journal of Applied Psychology, 78*(4), 538-551.
- Nouri, H., & Parker, R. (1998). The relationship between budget participation and job performance: The roles of budget adequacy and organizational commitment. *Accounting, Organization and Society, 23*(5-6), 457-483.
- Nunnally, J. C. (1978). *Psychometric theory* (2nd edition). New York, NY: McGraw-Hill Publication.
- Parker, R., & Kyj, L. (2006). Vertical information sharing in the budgeting process. *Accounting, Organization and Society, 31*(1), 27-45.
- Ramasamy, B. (2007). Corporate social performance and ethnicity: A comparison between Malay and Chinese chief executives in Malaysia. *International Journal of Cross Cultural Management, 7*(1), 29-45.
- Riketta, M. (2002). Attitudinal organizational commitment and job performance: A meta-analysis. *Journal of Organizational Behavior, 23*(3), 257-266.
- Staley, A., Dastoor, B., Magner, N., & Stolp, C. (2003). The contribution of organizational justice in budget decision-making to federal managers' organizational commitment. *Journal of Public Budgeting, Accounting & Financial Management, 15*(4), 505-524.
- Tam, O., & Tan, M. (2007). Ownership, governance, and firm performance in Malaysia. *Corporate Governance an International Review, 15*(2), 208-222.

APPENDIX

Survey Questions

Organizational Commitment (labeled 'Org_Commit')

Please choose the number that most accurately describes your attitudes towards your company.

- a. I feel a sense of belonging to my organization.
- b. I feel "emotionally attached" to this organization.
- c. This organization has a great deal of personal meaning for me.
- d. I do not feel like "part of the family" at this organization (Reverse scored).
- e. I would be very happy to spend the rest of my career with this organization.
- f. I really feel as if this organization's problems are my own.

Firm Performance (labelled 'Perf')

Please compare your company's performance in the previous year with the FBM-KLCI Composite Index for 30 companies, which was an average of return on equity of 10%-11% over the last five years. (Please circle one correct answer)

- I. Less than the FBM-KLCI Index for the 30 firms.
- II. About the same as the FBM-KLCI Index for the 30 firms.
- III. Greater than the FBM-KLCI Index for the 30 firms.

Upper Echelon Theory Variables

- I. How long have you been in your current position? (labelled 'Tenure')
- II. What is your highest level of education? (Labelled 'Qual' and scored 1-5)
 - High School, equivalent or less
 - Some College/university
 - University degree
 - Some post-graduate work
 - Post-graduate degree (including master and doctoral degrees or professional qualification)
1. In which year were you born? (labelled age and calculated by subtracting the year of the survey from the year of birth)
2. What is your gender? (Male coded as '1' and female coded as '2' and labelled 'Gender')
3. What is your ethnicity? (labelled 'Ethn' and scored 1-3)

- Malay
- Chinese
- Indian
- Other (subsequently recoded as 1, 2, or 3)

Company Issues and Public Policy Concerns of the CEO

1. Importance of six issues labelled 'Issues' is measured using the question "Please rate the following items in terms of their importance" using the following five item scale (on a scale 1-5 where '1' is Not at all Important and '5' is Very Important):
 - Being able to adapt quickly to change
 - Retaining and recruiting quality employees
 - Growing the business internationally
 - Making forward looking investments to enable growth
 - Managing product and service innovations
 - Managing risks
2. Seven public policy issues labelled 'Public_Policy' is measured using the question "Please rate how critical several public policy issues are for Malaysia's economic development". Rate the following six items (on a scale from 1-5 where '1' is Not Critical and '5' is Very Critical):
 - Increasing foreign trade
 - Streamlining government bureaucracy
 - Improving the public transportation
 - Having affordable cost of living
 - Improving public education
 - Improving health care systems and facilities
 - Reducing the crime rate

Control Variables Affecting Firm Performance and Organizational Commitment

3. If a company is a public listed company it is labelled 'Pub' and coded as '1' otherwise 'Pub' is coded as '0'.
4. Uncertainty labelled 'Uncert' is measured using the following two questions (on a scale from 1-5 where '1' is Strongly Disagree and '5' is Strongly Agree):
 - Instability in the credit markets has impeded the ability of my company to obtain working capital.My company is dipping into its cash reserves to help deal with the current economic situation.