



## THE CHALLENGES OF SUSTAINABILITY IN BUSINESS: HOW GOVERNMENTS MAY ENSURE SUSTAINABILITY FOR OFFSHORE FIRMS

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**Abstract.** This study illustrates some of the challenges of sustainability for businesses and the probable causes of these challenges in relation to Malaysian offshore firms. This study highlights the possible links between business sustainability in the existing types of offshore outsourcing business environments and their failure to transform themselves to adopt best practices. The results of the statistical techniques used to quantify long-term business sustainability indicate that the age of firms has a weak relationship with sustainability and environmental practices ( $-0.075$ ) and offshore outsourcing issues ( $0.074$ ). Our study simulations suggest that government support amounting to 5% of export earnings would ensure offshore investment sustainability in the long term, compared to existing situations. The findings also highlight that this percentage could gradually be increased by 10%, 15% or even 20%, subject to different levels of offshore operations, outsourcing prospects, export earnings, performance and economic development.

**Keywords:** sustainability, offshore outsourcing firms, business environment, corporate social responsibility, environmental practice, Monte Carlo simulations, government, action, policy.

**JEL Classification:** Q56, M21, C01, O33, O44.

## Introduction

The flow of business in offshore outsourcing firms<sup>1</sup> from the North (i.e. developed countries) to the South (i.e. Asian developing and transitional economies) has brought new business prospects, concerns, opportunities and fourfold economic progress (Krugman *et al.* 2012; Kakumanu, Portanova 2006; Blinder 2006). Together with the business prospects and opportunities, this flow of business has also brought with it certain demands in relation to fostering sustainable business environments, namely environmental accountability, the diffusion of friendly and cleaner technology, institutional responsibility, ecological compliance and the broader features of corporate social responsibility (CSR) (Berrone *et al.* 2013; Walls *et al.* 2012; Babiak, Trendafilova 2011; Azmat, Samaratunge 2009; Baughn *et al.* 2007; Jones 2005). In particular, there are requirements and new directives that relate primarily to obligatory compliance by foreign-owned and foreign-invested offshore firms in ensuring a sustainable business climate, CSR and environmental responsibility (Babiak, Trendafilova 2011; Dobers, Halme 2009; Jones 2005; Halkos, Evangelinos 2002). Such demands are among the fastest growing concerns of outsourcing businesses in the Asian developing and transitional economies (Antonis *et al.* 2011; Dobers, Halme 2009; Lindgreen *et al.* 2009; Rashid, Lodh 2008; Jones 2005; Birch, Moon 2004; Henry *et al.* 2003; Jaggi, Zhao 1996). Innovations in the field of information technology (IT) over the past three decades and more have been a resource employed by outsourcing business organizations<sup>2</sup> in developing offshore business prospects and the provision of opportunities in Asian developing and transitional economies, and hereafter will be used to meet the new challenges posed by offshore requirements for sustainability. We therefore turn our attention to the issue of long-term sustainability challenges confronting businesses.

Although certain countries have relevant offshore practices in place to meet the outsourcing requirements and policies on sustainability issues, these are subject to different levels of economic process, institutional views, business execution, business performance, perceptions, implementation and technological diffusion (Aguilera-Caracuel *et al.* 2013; Aguilera-Caracuel, Ortiz-de-Mandojana 2013; Antonis *et al.* 2011; Jackson, Apostolakou 2010; Hubbard 2007; Albareda *et al.* 2007; Bichta 2003; Andrews *et al.* 1989; Tsang 1998). In particular, these factors vary considerably based on differences in economic values, political and legal systems, capital market responses to environmental policy, proactive environmental strategies, offshore firms' performance and finally levels of economic development (Aragón-Correa *et al.* 2013; Dahlsrud 2008; Gjolberg 2009; Halkos, Sepetis 2007). According to the literature, issues of sustainability, such as broader CSR, fostering best practice, creating a green business climate, improving environmental performance and the

<sup>1</sup> Offshore outsourcing is the practice whereby an external organization performs business in a country other than the one in which the products and services were actually developed or originated. Mainstream theory of why a company operates abroad is usually rooted in financial savings or some derivative thereof.

<sup>2</sup> In this study, we recognize the heterogeneity in the group of outsourcing firms and their relationship with multinational organizations, namely: (a) domestic firms that both import and export related services and are not part of multinational organizations, and (b) offshore outsourcing firms whereby an external organization undertakes business linked with multinational organizations. However, this study focuses on offshore outsourcing firms rather than locally originated multinational organizations.

diffusion of green technology, have traditionally tended to focus on developed countries, where sustainability practices already exist in business operations, business research and business education. In contrast, those sustainability practices (i.e. obligatory offshore firm requirements) are matters of concern in the South and there is currently a paucity of research focusing on developing countries.

The business sustainability concept has been widely applied in organizations in developed countries since the 1970s; unfortunately, though, there has been relatively little focus on developing regions and in Asia (Globerman *et al.* 2011; Matten, Moon 2008; Birch, Moon 2004; Ramasamy, Woan 2004; Welford 2004). The notions of the sustainable business concept, the sustainable business environment, greener ideas in production, the diffusion of technology, environmental issues and performances, fostering best practice and institutional accountability on the part of foreign-invested offshore firms have spread through foreign direct investment (FDI) inflows in the South (Walls *et al.* 2012; Belal, Momin 2009; Moon 2008; Jones 2005; Matten, Moon 2004; Welford 2004). Therefore, the demands of offshore business and issues of sustainability represent extra challenges for Asian business in competing with global competitors. This results in the failure of businesses in the South to transform rapidly to ensure compliance and also in many cases failure to overcome the additional challenges by putting the relevant systematic foundations in place.

Bearing these challenges in mind, we have taken the initiative and made one of the goals of our study to investigate the gap between institutional arrangements and business sustainability in Malaysia as it stands, considering the broader sustainable business climate. In addition, we have taken the initiative to explore institutional support as a part of the overall “*mandatory*” compliance with offshoring requirements through direct government involvement rather than merely relying on legislative guidelines. Equally, institutional theory and stakeholder theory suggest that government intervention is one of the fundamental components in managing offshore compliance by multinational companies and offshore firms, but this is something that is lacking in Malaysia. Therefore, the Malaysian government should take a positive stance towards fostering a broader sustainable business climate and play an important role in shaping business sustainability to attract further offshore outsourcing investment by means of FDI. In addition, to ensure a sustainable offshore business climate, there is a greater need for government involvement in satisfying new offshore roles, responsibilities, shaping offshore vision and strategy, ensuring environmental practice and performance, certifying what qualifies as a workable business environment, setting up applicable targets and allocating resources to be used in achieving them. A further advantage of this involvement is that, by means of peer pressure, other companies will be interested in becoming involved so as not to risk lagging behind others. This is so for three main reasons:

- It encourages companies to ensure that their activities are environmentally sound.
- It promotes a more sustainable business environment.
- It fosters good practice within broader CSR activities.

Thus, our purpose in this study is to further understanding of the challenges to sustainability confronting businesses by going beyond the scope of previous studies, such as those by Rasid, Abdullah (1991) and Chong, Wad (2009), which were limited to describing the

environmental concerns and CSR of outsourcing firms in Malaysia. In addition, our inquiry addresses the following questions:

- (a) What part might government play in assisting businesses to fulfil new offshoring roles and responsibilities in adopting and transforming offshoring requirements?
- (b) What might be the government involvement and applicable actions in setting offshore objectives and allocating funds to businesses to work with?

As yet, there is no direct indication of Malaysian offshore outsourcing firms fulfilling offshoring requirements and no concrete outline towards long-term sustainability. It is crucial to analyse what kind of assistance should be provided and to what extent the government should be involved in fulfilling sustainable environmental compliance in the case of Malaysia. Therefore, this study analyses the degree of government involvement subject to different levels of offshore operation, business execution, outsourcing prospects, export earnings and economic development,<sup>3</sup> as well as the dimensions of performance in IT and electronics firms using numerical simulation scenarios. The simulation scenarios map the institution-driven measures for company-level environmental improvements and address their long-term situations.

## **1. Theoretical background/review**

In considering the challenges to sustainability faced by businesses, there are two corresponding theories, namely, institutional theory and stakeholder theory. To overcome such challenges, these two theories are the most applicable for managing corporate sustainability as they relate to the diffusion and adoption of organizational practices among organizations (Baumgartner 2013; Miles 2012; Delmas, Montes-Sancho 2011; Bansal 2005; Kostova, Roth 2002; Lind 2001; Hoffman 1999; Scott 1995; DiMaggio, Powell 1983). Institutional theory highlights the unique institutional complexity faced by multinational corporations (MNCs) and its application highlights prospects as a means of development. It provides opportunities for further development in the dissemination and implementation of organizational measures among organizations, whether these are offshore-based or multinational FDI-allied firms (Miles 2012; Westney 1993). The fundamental actions of institutional theory maintain legitimacy and facilitate the adoption of local practices in all business environments to overcome issues in the broader institutional context by considering the intensification of capabilities in relation to internal and external stakeholders (Miles 2012).

In comparison, stakeholder theory argues that organizations should equally involve both internal stakeholders, such as management and employees, and external stakeholders, such as customers, financiers, suppliers, trade associations, political groups, trade unions and governmental bodies, to provide mechanisms that drive best practice in multinational companies (i.e. offshore-based or international FDI-allied firms) and to increase opportunities for the expansion of institutional capacity (Miles 2012). Thus, the fundamental aspects of stakeholder theory may lessen the tension between the demands of offshore requirements for global integration on the one hand and local adaptation in relation to reg-

<sup>3</sup> Set by the economic outlook of Malaysia by recent action plans and future national targets (NIP 2004).

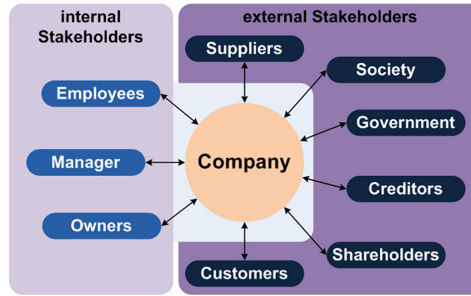


Fig. 1. Internal plus external components of organization by stakeholders' theory

Source: Miles (2012).

ulatory compliance on the other (Fig. 1). Rashid, Abdullah (1991) and Chong, Wad (2009) introduced the idea of external stakeholders' intervention in the Malaysian case and also that government should play an important role in shaping environmental practices from a broader CSR perspective, but did not say to what degree or on what basis this should happen. Thus, these studies did not provide mechanisms for driving environmental practices in offshore companies or the expansion of their capabilities.

According to our study, 97% of offshore outsourcing contracting firms currently receive no direct government assistance for offshore business sustainability. However, government intervention and involvement are fundamental components in both institutional and stakeholder theories to address offshore compliance in offshore and multinational companies. Therefore, we find some gaps in the application of both institutional and stakeholder theories in practice for the diffusion and adoption of organizational measures related to business sustainability and environmental responsibility in Malaysia. There is no doubt that fine-grained support is essential in relation to the mechanisms driving environmental practices in offshore companies. Unfortunately, however, there is as yet no clear indication of offshore firms fulfilling outsourcing requirements as a way forward in ensuring long-term sustainability even it is a key concern; that is, there is no framework. Hence, we propose the adoption of government involvement to lessen the gap in Malaysia in fulfilling new offshoring roles and obligations, ensuring compliance and meeting the challenges presented. In addition, we suggest what role government might play in setting offshore targets and how financial assistance might be allocated. The following two sections concern (i) challenges to sustainability in business – a relative perspective (i.e. problem identification), and (ii) challenges to sustainability in business – a way forward (i.e. gap elimination), thus providing a rationale for the study and supporting the importance of the research questions posed.

### 1.1. Challenges to sustainability in business – a relative perspective

Developing countries with transitional economies are particularly concerned about obligatory requirements for offshore firms because of their lack of ability to adopt and adapt policies quickly and appropriately to provide the relevant technical foundations for a sus-

tainable business climate (Ortiz-de-Mandojana *et al.* 2014; Walls *et al.* 2012; Slawinski 2010; Dobers, Halme 2009; Lindgreen *et al.* 2009; Birch, Moon 2004). These countries face the need to address issues such as (i) provisions for CSR and promotion of best practice, (ii) provisions for institutional accountability on the topic of sustainable business environments, (iii) provisions for new political and legal systems, (iv) provisions for compliance with environmental requirements based on the economic agenda, (v) commitments to the improvement of the diffusion of green technology (vi) commitments to the improvement of environmental practice and performance, (vii) commitments to the prevention of effluence with an emphasis on source reduction, (viii) commitments to the continuous reduction of environmental risks, (ix) commitments to sharing information on environmental performance with external stakeholders, (x) the ability to further fulfil the environmental agenda beyond the policy guided by the national government, and (xi) the capacity to ensure overall environmental sustainability in business.

We understand that foreign-owned offshore firms are primarily involved in sustainable environmental business practice by complying with the offshoring requirements they are expected to meet (Goitom, Nancy 2008). Hence, complying with these demands is a further challenge for businesses in their bid to compete with other regional opponents. There is no option for offshore outsourcing firms but to comply with the demands for continuous improvement in the relevant sustainability practices and their overall environmental performance. Therefore, some studies view FDI-related outsourcing critically when referring to corporate responsibility, core competences and other related issues in the corporate sector (Guoyou *et al.* 2013; Tricker 2009; Kakumanu, Portanova 2006; Hayes, Walker 2005; Weidenbaum 2005). The relative impact of offshore firms' inflows is currently a new challenging focus in the business climate (Kazmer 2014; Taylor 2005). Furthermore, subcontracting linkages have also added to concerns with regard to compliance with CSR in a sustainable business climate and the promotion of best practice in business enterprises (Filatotchev *et al.* 2013; Tricker 2009; Hossain, Reaz 2007; Birch, Moon 2004; Ramasamy, Woan 2004).

In relation to these issues, some studies draw particular attention to Asian regions as the flow of business is shifting from the North to the South driven by turnover and export competitiveness (Badrul 2010). Research examining opportunities and challenges has not been far behind. In particular, the World Bank (2004) addresses the concerns and opportunities in developing countries embedded within the broader aspect of social change in business firms and organizations. Fort (2014) and Hossain, Reaz (2007) examine corporate social reporting, and the determinants, sincerity nexus and characteristics of opportunities and concerns of business organizations in India. Gunawan (2007) addresses corporate social disclosures by companies in Indonesia. Kuasirikun (2005) focuses on attitudes towards business development and the implementation of corporate social reporting related to accountability in Thailand. Zhu *et al.* (2014) and Gao *et al.* (2005) study factors concerning corporate social reporting and environmental issues in relation to business organizations in Chinese firms.

Islam *et al.* (2012), Belal (2007), and Akhtaruddin (2005) address corporate performance, mandatory disclosure practices, opportunities and limitations, corporate perfor-

mance and the absence of corporate social reporting and corporate disclosures by local and foreign business organizations, respectively, in Bangladesh. Furthermore, Zhu *et al.* (2014) present a reasonable study of overall corporate social disclosure responsibility and related satisfaction in business organizations in greater detail in the case of Chinese Asian firms. Islam *et al.* (2012) and Amran, Devi (2007) address the level of corporate social disclosures, sustainable development and corporate social reporting by companies in Malaysia. However, there is a dearth of studies on the possible reasons for the failure by offshore business firms and organizations to meet “*mandatory*” outsourcing business requirements. There is a fundamental need to establish what, in the long term, is the way forward, as outsourcing business is a matter of concern for the North. These are real issues for developing and transitional countries, Malaysia in particular.

## 1.2. Challenges to sustainability in business – a way forward

According to the literature, a considerable number of studies have recently been conducted focusing on the concept of a sustainable business climate and the promotion of best practice as a broader concern of CSR. These studies have tended to focus on how sustainability practice can be transmitted by means of CSR, focusing “*only*” on activities and requirements (Aguilera-Caracuel *et al.* 2013; Walls *et al.* 2012; Babiak, Trendafilova 2011; Tricker 2009; Goitom, Nancy 2008; Lehman 2007; Lewin, Peeters 2006; Quinteros 2005; Weidenbaum 2005; Wieland 2005; Rossouw 2005; Ryan 2005; Matten, Moon 2004). What then should be the role of developing countries in environmental management aspects? There is a lack of studies on “*mandatory*” outsourcing business compliance and requirements. Some studies have addressed corporate sustainability through a redefinition of business strategy, eco-design, ecosystem stewardship and eco-efficiency. However, they have not examined outsourcing business requirements and compliance issues imposed by an external organization.

In particular, Kazmer (2014) addresses CSR related manufacturing outsourcing, onshoring, and global equilibrium and environmental integration capacity. Babiak, Trendafilova (2011) addresses management-related environmental best practices and environmental responsibility. Kuo *et al.* (2012) investigate disclosure of corporate social responsibility and environmental management, environmental policies, sustainable development perception, performance targets, and environmental management systems. Hassan, Ibrahim (2012) addresses corporate environmental information disclosure, efficiency and factors influencing companies’ success. Gardien de Vries *et al.* (2013) considers how communicated motives for environmental policy affect public perceptions on environmental integrity. Levina, Vaast (2008) address the challenges of environmental performance in promoting best practice. Unfortunately, studies on the challenges confronting businesses in terms of sustainability as an obligatory requirement and linked with government interventions to ensure long-term sustainability, are still lacking for Asia. As far as we are aware, regrettably, no research has been undertaken focusing on offshore business environments and the possible causes of failure to meet offshore compliance.



Offshore firms are forcing the concept of a sustainable business climate in many developing countries and hence firms are facing intense price competition and market challenges, drawing them further away from existing sustainability practices; Malaysia is no exception in this respect (Weiss 2006). The challenges presented by globalization, such as offshore outsourcing inflows from developed nations, relate to the fact that businesses must always behave according to the standards required by the host countries (Chapple, Moon 2005). Therefore, determining which factors are responsible for attracting offshore inflows is probably the most important aspect of formulating and pursuing a sustainable business strategy. In this context, government action plans for a sustainable business climate, which include ensuring compliance, determining the level of execution, developing implementation procedures and engaging in the diffusion of technology, are crucial as these are the most important factors that should be weighed in determining the expected behaviour of future offshore business.

Malaysia realizes the importance of offshoring for its economic development and efforts in this domain are being harmonized with national interests. While there are exceptions, local firms usually do not have the capability to fulfil a business sustainability agenda beyond the conventional policy guided by the national government. Multinational organizations adopting environmental practices themselves seem to be playing a crucial role in adjusting and transforming their own behaviours, rather than the government. Selected organizations have recently begun trying to incorporate the requirements of offshore legislation as a broader part of CSR whilst fostering a sustainable business climate, but largely do not seem to have established any systematic approach towards integrating business sustainability and performance in line with the standards of the North (Chong, Wad 2009). Hence, the demands of offshore outsourcing on business sustainability and performance are worth analysing in order to identify the gap between institutional arrangements and business sustainability (Aguilera-Caracuel *et al.* 2013; Tricker 2009; Rossouw 2005; Ryan 2005; Wieland 2005)<sup>4</sup>.

## 2. Hypotheses

In order to develop a clear picture and sound understanding of offshore activities and business prospects in relation to sustainability challenges and the probable causes of these challenges as faced by Malaysian offshore firms, we test several hypotheses. In particular, we aim to find a relationship between challenges to sustainability for offshore businesses and how governments may ensure sustainability in offshore firms. Thus, we propose the following:

H<sub>0</sub>: Government involvement does not have a significant effect on sustainability and environmental performance.

H<sub>1</sub>: Government involvement has a significant effect on sustainability and environmental performance.

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<sup>4</sup> However, in developing countries the environmental agenda is different from that in the North. In the North, the challenge is to move beyond existing legislation, whereas in the South it is to make firms comply with legislation (Prieto-Carrón *et al.* 2006).



H<sub>2</sub>: Environmental management and offshore activities are not associated with offshore activities and business prospects.

H<sub>3</sub>: Environmental management and offshore activities are associated with offshore activities and business prospects.

### 3. Methodology

#### 3.1. Survey

The study used face-to-face interviews to collect data using a structured questionnaire following Chong, Wad (2009).

#### 3.2. Sampling methods

Information was collected from over 60 IT and electronics firms out of a total of 70 firms in Malaysia. The data were collected from 2005–2008<sup>5</sup> and eventually encompassed 85.7% of the total firms, based on ownership, turnover, export competitiveness and size, making the study very representative of the Malaysian context and enabling us to make strong inferences. Concerning offshore sales and figures, the study divided offshore outsourcing into the following categories: most substantial, minor and not considered at all, with respective sales of 67–100%, 33–66%, 1–32% and none (0%) based on the companies' annual figures.

#### 3.3. Design of the questionnaire

In order to identify the challenges concerning sustainability and environmental practice in offshore businesses, the study used “sustainable business climate” and “promotion of best practice” questionnaires. Compliance issues and connections between long-term contracts and environmental practices are related directly to conditions governing offshore compliance and legislation. In the South, the goal is to make firms comply with legislation in maintaining obligatory offshore requirements (Prieto-Carrón *et al.* 2006). Overall, it is important to promote positive attitudes towards a “sustainable business climate” and compliance with the promotion of best practice in the offshore outsourcing market. Consequently, attitudes towards environmental practices, best practice and their importance for a firm's ability to sustain competitiveness in the offshore outsourcing market were charted on a scale of 0–5 (weakest to strongest).

The importance of the company's customers demanding that the company comply with broader CSR, environmental practice and best practice standards as a pre-qualification in bidding for business was also deemed a vital issue in the questionnaire design. We exam-

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<sup>5</sup> The data were collected from firms throughout Malaysia and it therefore took a period of three years. The data validity and reliability check and pre-test of the questionnaires was performed in accordance with Chong, Wad (2009). We used year 2008–2010 for our study baseline. Hence year as a control variable has already been utilised and thus, the different economic condition to the attribution of data issue from the year 2005–2008 has been avoided.

ined a company's capability to upgrade its overall CSR, environmental practice and best practice standards if required to do so by an important customer and whether the company initiated any best practice upgrading without external pressure. We also considered improvement in business performance upon implementing progressive policies and practices using a five-point Likert scale (1 = no improvement at all, 2 = not much improvement, 3 = neutral, neither improvement nor deterioration, 4 = moderate improvement, 5 = substantial improvement). In relation to environmental sustainability practices in Malaysian firms, ISO 14000 (ISO 2005) was adopted as an international business standard. Other codes of conduct, such as OHSAS 18001 (BSI 2007), were taken into consideration in contracting firms' offshore compliance with CSR matters. However, companies' adherence to ISO norms is self-reported.

### **3.4. Variables used in the model**

A range of variables were used in the different study models as follows: offshore outsourcing, sustainability and environmental practice, foreign ownership, age of the firms, number of employees, health and occupational safety of employees, product technology focusing on environmental quality, process technology focusing on quality, efficiency, product quality, productivity, local and export market shares, corporate image, education/training, and government involvement and assistance. To establish whether stakeholders are affected by the achievement of an offshore firm's objectives, we considered several sub-variables: shareholders, the lead firm (the foreign company from which the outsourcing contract is obtained), employees, customers, suppliers, federal or state government authorities, trade associations, the media, the local community, activist groups and other stakeholders. The models developed concern three types of query: (a) the relationship between environmental practices and offshore outsourcing, (b) the relationship between environmental practices, export markets and subcontracting linkages, and (c) government involvement and assistance towards long-term business sustainability. Hence to attain our research goal, we interrogated different variables (dependent and independent) in relation to these three aspects in our models.

Specifically, to identify the relationship between environmental practices and offshore outsourcing in IT and electronic firms, we used offshore outsourcing as the dependent variable and sustainability and environmental practices as independent variables. In addition, to identify the relationship between environmental practices, export markets and subcontracting linkages with buyers, we used sustainability and environmental practices as dependent variables and offshore outsourcing, foreign ownership, age of firms and number of employees as independent variables. Finally, to examine how governments may ensure sustainability in offshore firms and the comparative outlook of long-term business sustainability and sustainability challenges in offshore firms, we used sustainability and environmental practices as dependent variables and government involvement and assistance as independent variables<sup>6</sup>. The Monte Carlo simulations employed vectors of regression

<sup>6</sup> The detailed data collection procedure, questionnaire and sampling design can be found in Chong, Wad (2009).

coefficients and a first order autoregressive process to cover white noise, autoregressive, random walk and explosive processes<sup>7</sup>.

Moreover, we employed a correlation matrix to examine the relationships between variables. The categorical variables and abbreviations are as follows: (a) AGE = number of years the firm has been established, (b) FOWNSH = foreign ownership, (c) NOEMP = number of employees, (d) STMGMT = stakeholder management (combination of shareholders/owners, the lead firm, employees, customers, suppliers, authorities, trade associations, the media, and other stakeholders), (e) SENVP = sustainability and environmental practices (combination of profit margin, sales, cost savings, product price, efficiency, product quality, productivity, market shares, new market, opportunities, corporate image, environmental performance, environmental compliance, reduction of emissions, reduction of solid/liquid waste, recycling, environmental preservation, social performance, health and safety of employees, education/training, staff benefits and non-discrimination, and (f) OO = offshore outsourcing (labour standards, health and occupational standards, best business practices, ISO 14000 (ISO 2005), OHSAS 18001 (BSI 2007), environmental standards for both practices and relationships with the lead firm(s).

### 3.5. Regression technique and Monte Carlo simulations

In order to fulfil the study goals, two approaches were adopted to identify outcomes. First, the assessment involved using multiple regressions as a statistical approach to observe sustainability challenges; second, Monte Carlo simulations were employed to examine government involvement in fulfilling environmental compliance and long-term sustainability. The data set contained a mixture of categorical and continuous variables. Therefore, advanced techniques were used, rather relying on a simple regression. The Monte Carlo simulation is a computerized mathematical technique that allows users to account for risk in quantitative analysis and decision making. It furnishes the decision-maker with a range of possible outcomes and the probabilities they will occur for any choice of action. It shows the extreme possibilities – the outcomes of going for broke and of the most conservative decision – along with all possible consequences of middle-of-the-road decisions (Kalos, Whitlock 2008). Government involvement in environmental practices is a complex issue which is difficult to measure using traditional methods such as simple regression. Instead, the simulation technique employed here allows the optimum value among the possible solutions to be determined.

## 4. Results

### 4.1. Malaysian electronics & IT firms and their environmental practices

Of the 60 firms, 52% adhere to Malaysian environmental regulations and ensure safety, as well as improving their environmental sustainability and CSR and best practice activities (Table 1). According to the study, 90% of Malaysian IT and electronics firms abide by in-

<sup>7</sup> More details concerning the computational algorithms can be found in Kalos, Whitlock (2008).

ternational standards such as ISO 9000 (Hoyle 2001). Apart from using ISO 9000 (Hoyle 2001) standards, 67% of firms practise environmental sustainability in accordance with ISO 14001 (ISO 2005). Other environmental standards, such as OHSAS 18001 (BSI 2007), are followed by 28% of electronics firms. In our study, we have also identified certain attitudes towards broader CSR and environmental practice. We observed the capability of firms to upgrade CSR, environmental practices and best practice when required by offshore outsourcing companies. We therefore studied whether Malaysian electronics firms initiated any upgrading of CSR, environmental practices and best practice without any external pressure to improve business performance. Our figures show that 67% of Malaysian firms abide directly by offshore legislation. However, 23% of these have initiated a CSR and environmental practice out of their own interest. We found that nearly 90% of Malaysian firms would be able to fulfil environmental sustainability, CSR and best practice requirements if the government were to provide modest additional support within the existing guidelines. According to our findings, 97% of contracting firms do not receive any support for upgrading CSR, environmental practice and best practice from government or local or non-governmental institutions<sup>8</sup>.

Table 1. Malaysian electronics and IT firms and their environmental practice

Issues	Variables	No. of Practising Firms	Percentage of Practising firms
Environmental aspects	Environmental regulation	31	52
	ISO 14001	40	67
Environmental sustainability	OHSAS 18001	17	28
	ISO 9000	54	90
Corporate Social Responsibility (CSR)	Upgrading on own initiative	14	23
	Upgrading due to demands by firm's suppliers	40	67
	Ability to fully upgrade CSR upgrading	54	90
	No financial assistance from government/non-government institutions	58	97

Source: Authors.

Approximately 85% of electronics firms agreed fully that high-value contracts are obtained due to compliance with environmental practices. Nearly 73% of the firms' respondents agreed that long-term contracts are awarded due to compliance with environmental quality assurance. Some firms also agreed that improved performance depends on high-value contracts (82%) and some also agreed that improved performance depends on long-term contacts (68%). There was substantial disagreement concerning the awarding of long-term contracts, with 27% stating that this depends on compliance with environmental practices. Approximately 18% of respondents disagreed with the statement that firms perform better due to high-value contracts (Table 2).

<sup>8</sup> These firms engage in CSR activities in relation to offshore environmental compliance issues only.

Table 2. Increases in number of high-value contracts due to compliance with environmental practices

Issues	Agree	Percentage	Disagree	Percentage
High-value contract due to compliance with environmental practices	51	85	9	15
Long-term contract due to compliance with environmental practices	44	73	16	27
Firm performs better due to high-value contract	49	82	11	18
Firm performs better due to long-term contract	41	68	19	32

Source: Authors.

We also find that Malaysian electronics firms are experiencing additional expenditure due to compliance with and upgrading of CSR, environmental exercise and best practice, with minor expenses in up to 91% of cases and substantial expenses in up to 7%. Our study indicates that the benefits to firms may outweigh their expenditure, but in the case of minor expenses this is only true for 4% of firms, whereas for substantial expenses it is true of up to 57% of firms. The above results should be an encouragement to improve CSR environmental exercise and best practice activities in Malaysian electronics firms, as well as being encouraging for Malaysian firms which have improved their environmental sustainability, CSR and best practice as a result of offshore requirements (Table 3).

Table 3. Annual expenditure on compliance and upgrading

Issues	No expense %	Minor expense %	Substantial expense %	Extreme expenses %
Annual expenditure on compliance and upgrading	1	91	7	0
Benefit outweighs expense	-	4	57	31

Source: Authors.

Our correlation analyses indicate that age of firms has a weak relationship with sustainability and environmental practices (-0.075) and offshore outsourcing issues (0.074). Hence, we find support for similar research findings and arguments in the related literature in the case of Malaysia. Foreign ownership has a moderate relation with number of employees (0.311). Stakeholder management has a moderately strong relationship with offshore outsourcing (0.371). "Mandatory" compliance with offshore requirements and broader CSR practices show a moderately strong relationship with offshore outsourcing (0.387) which are subject to maintaining long-term contacts (Tables 4 and 5). Therefore, the correlation matrix justifies the need for sustainability challenges in outsourcing business and suggests the probable causes of these challenges in Malaysian offshore firms. In addition, the results of Tables 4 and 5 outline roles for governmental involvement in creating a workable business environment for offshore outsourcing of IT and electronic firms.

Table 4. Variables used in the study and their correlations with statistical tests

Variables	AGE	FOWNSH	NOEMP	STMGT	SENV	OO	
AGE	Pearson Correlation	1	-0.028	0.034	0.093	-0.075	0.074
	Sig. (2-tailed)		0.827	0.796	0.471	0.564	0.566
	N	62	62	62	62	62	62
FOWNSH	Pearson Correlation	-0.028	1	0.311*	-0.189	0.203	0.009
	Sig. (2-tailed)	0.827		0.014	0.142	0.114	0.944
	N	62	62	62	62	62	62
Noemp	Pearson Correlation	0.034	0.311*	1	-0.210	0.236	0.007
	Sig. (2-tailed)	0.796	0.014		0.101	0.064	0.958
	N	62	62	62	62	62	62
STMGT	Pearson Correlation	0.093	-0.189	-0.210	1	0.141	0.371**
	Sig. (2-tailed)	0.471	0.142	0.101		0.275	0.002
	N	62	62	62	70	62	70
SENV	Pearson Correlation	-0.075	0.203	0.236	0.141	1	0.387**
	Sig. (2-tailed)	0.564	0.114	0.064	0.275		0.002
	N	62	62	62	62	62	62
OO	Pearson Correlation	0.074	0.009	0.007	0.371**	0.387**	1
	Sig. (2-tailed)	0.566	0.944	0.958	0.002	0.002	
	N	62	62	62	70	62	70

Notes: \*. Correlation is significant at the 0.05 level (2-tailed); \*\*. Correlation is significant at the 0.01 level (2-tailed).

Table 5. Variables used in the study and their correlations matrix

Variables	AGE	FOWNSH	NOEMP	STMGT	SENV	OO
AGE	1.00					
FOWNSH	-0.028	1.00				
Noemp	0.034	0.311*	1.00			
STMGT	0.093	-0.189	-0.210	1.00		
SENV	-0.075	0.203	0.236	0.141	1.00	
OO	0.074	0.009	0.007	0.371**	0.387**	1.00

Notes: \*. Correlation is significant at the 0.05 level (2-tailed); \*\*. Correlation is significant at the 0.01 level (2-tailed).

#### 4.2. Environmental practices and offshore outsourcing of IT and electronic firms

To examine the impact of environmental practices and offshore outsourcing of Malaysian firms, we applied a simple model estimated as follows:

$$Y = 13.5964 + 8.533 X_1 \quad (1)$$

(0.0251) (0.0000)

where  $Y$  = offshore outsourcing;  $X_1$  = sustainability and environmental practices (figures in parentheses indicate the p-value); the constant term (13.60) represents average outsourcing; the coefficient is the offshore outsourcing response in relation to the sustainability and environmental practices questionnaire. The  $R^2$  value shows that a significant contribution is made to the level of sustainability and environmental practice by 22.25% of Malaysian offshore outsourcing firms. The model coefficient (8.53), which is positive and statistically significant (p-value = .000), indicates the environmental impact on offshore outsourcing. It is also evident that an increase in sustainability and environmental practice goes hand in hand with offshore outsourcing. For instance, an increase of one percentage point in sustainability and environmental practice corresponds to an increase of 8.53 percentage points in the offshore outsourcing of Malaysian IT and electronics firms.

#### 4.3. Environmental practices, export markets and subcontracting linkages with buyers

To assess the many factors which have an effect on sustainability and environmental practices, we used a relatively complex model estimated as follows:

$$Y = 1.0712 + 0.0223 X_1 + 0.5279 X_2 + 0.0105 X_3 + 0.0003 X_4 \quad (2)$$

(0.0214) (0.0001) (0.0406) (0.4813) (0.0011)

where  $Y$  = sustainability and environmental practices;  $X_1$  = offshore outsourcing;  $X_2$  = foreign ownership;  $X_3$  = age of firms;  $X_4$  = number of employees; the constant term (1.07) is average environmental practice; the model coefficients are the environmental responses for the predictors; the figures in parentheses indicate the p-value.

A substantial relationship is found between sustainability and environmental practices and the noted set of predictors, which is certified by the  $R^2$  coefficient ( $R^2 = 0.4123$ ) and model coefficients (all are positive in nature). The offshore outsourcing of contracting firms is the important determinant of their sustainability and environmental practice (the coefficient is highly significant at  $p = 0.0001$ )<sup>9</sup>. However, foreign ownership, size of firms, etc., are also significant determinants of environmental practices and in the promotion of a sustainable business climate. The age of the firm in our proposed model is not a significant predictor, but its coefficient is still positive.

<sup>9</sup> Environmental performance is the greatest determinant of CSR improvements in Malaysian IT firms.



**4.4. Environmental practices and government involvement**

It is difficult to explore government involvement in environmental practices analytically. We thus applied Monte Carlo simulations to identify possible solutions. In doing so, the finite sample performance of the simulation model is used. Based on zero and alternative hypotheses, the model is employed without and with government involvement as follows:<sup>10</sup>

$$Y = \beta_0 + \beta_1 X_1 + \varepsilon . \tag{3}$$

**4.5. Monte Carlo simulations**

To examine government involvement, the simulation model is as follows:

$$Y_i = \beta_0 + \beta_1 X_1 + \beta_2 X_{2i} + \varepsilon \tag{4}$$

$i = 5\%, 10\%, 15\% \text{ and } 20\%$

where,  $X_1$  = sustainability and environmental practices;  $X_2$  = government involvement and assistance;  $\varepsilon$  is the residual error and distributed  $IN(0, \sigma^2)$ ,  $\beta_i; i = 0, 1$  are  $k \times 1$  vectors of regression coefficients. The  $k \times 1$  independent variables are generated from the first order autoregressive process  $x_{1j} = \phi x_{1j-1} + v_{1j}$  with  $v_{1j} \approx IN(0, 1)$  for  $j = 0, 1, \dots, n$  where  $\phi$  takes the values 0, 0.7, 1.0 and 1.02, covering white noise, autoregressive, random walk and explosive processes respectively. The  $x_{2j}$  was generated from uniform distribution with ranges of 0.000–0.050, 0.051–0.100, 0.110–0.150 and 0.151–0.200 to represent up to 5%, 10%, 15% and 20% of government involvement and assistance from export earnings, respectively. We generated 10,000 statistics in a linear regression model for the explanatory variable with a sample size of 60 for four scenarios: (a) government involvement and assistance of less than 5%; (b) government involvement and assistance of between 5% and 10%; (c) government involvement and assistance between 10% and 15%; and (d) government involvement and assistance between 15% and 20%.

Table 6. Summary of results using Monte Carlo simulations

Selection Criteria	$X_1$	$X_2$ (5%)	$X_2$ (10%)	$X_2$ (15%)	$X_2$ (20%)
R-squared	0.24108	0.271085	0.241086	0.173299	0.145398
Adjusted R-squared	0.22799	0.245509	0.214457	0.156749	0.128921
S.E. of regression	20.8365	20.59886	21.01846	29.98778	30.95866
Sum squared resid	25181.3	24185.83	25181.22	32107.76	35038.14
Akaike info criterion	8.9444	8.937055	8.977386	9.924465	9.971688
Schwarz criterion	9.01387	9.041772	9.082103	9.979182	10.076405
F-statistic	10.4248	10.59919	9.053650	9.863513	10.268250
Prob (F-statistic)	0.00007	0.000122	0.000385	0.000454	0.000527

Source: Authors.

<sup>10</sup> Government assistance is weighted as 5%, 10%, 15%, and 20% of export earnings from offshore and inland investments.

In the model, error terms were simulated using pseudo random numbers from the GAUSS functions RNDNS, which generate standard normal variations for regression errors. The figure for the random number generator for each experiment was 1,613. As there are so many ways to develop a performance model, we used the average value of the test statistics. We calculated the average value of model choice statistics by means of a simulation using 10,000 replications with or without governmental involvement and assistance. We found that the statistics depend on the level of direct governmental involvement in the explanatory variables and results (Table 6). The results involve patterns or trends with respect to variations in government involvement.

## 5. Discussion

The literature posits that there is a connection between long-term contracts and compliance with environmental practices. The pressure to comply is derived from the “*mandatory*” offshore requirements to be maintained for a long-term offshore outsourcing contract (Dobers, Halme 2009; Birch, Moon 2004; Davies 2003). Thus some studies debated on the issues on outsourcing whether onshore or offshore (McCormick 2011). Good governance of environmental practices and broad aspects of CSR is fundamentally accountable for attracting offshore inflows to the South; indeed, it is the most significant factor in terms of being a source of long-term Asian offshore business prospects for outsourcing business organizations from the North (Babiak, Trendafilova 2011; Albino *et al.* 2009; Ruth *et al.* 2007). Therefore, it is essential (regarding the environmental aspect) to determine the factors that are responsible for attracting offshore inflows by applying the concepts and notions of both institutional and stakeholder theories. To that end, research is clearly necessary to reduce the challenges of sustainability for businesses and to promote overall best practice in the long-term outsourcing businesses.

Overall, the broad aspects of CSR, environmental practices and sustainability challenges are linked with the integrative framework of business environments, which raises the question of how to adopt best practices at the individual, institutional and organizational levels. The values of the broad aspects of CSR, environmental practices and sustainability challenges and responsibility have commonly framed the processes of stakeholder management, environmental assessment and the outcomes of organizational programmes and policies (Belal, Momin 2009). However, the rethinking of these issues in relation to offshore compliance points to vital research questions that have not yet been addressed in any great depth, particularly in Asian regions. Thus, our concern is to determine the essential challenges faced by the corporate sector and how to ensure sustainability in offshore firms in the 21<sup>st</sup> century by taking a long-term perspective.

We understand the importance and function of business organizations, shareholders, employees, and competitors and other related challenges in corporate sectors. However, the way in which the respective debates and arguments concerning these different elements are made in the literature is not at all straightforward. There is an increasing body of literature that might support a model towards understanding why developed economies are engaging in broad aspects of CSR, environmental practices and best practice, which are linked with

the integrative framework of business environments (Aguilera-Caracuel *et al.* 2013; Ruth *et al.* 2007). On the other hand, there is an equal output of literature referring to concerns regarding the challenges of sustainability for businesses, such as the pressure to comply with obligatory offshore requirements on the part of transitional economies that depend heavily on offshore-related FDI (Krugman *et al.* 2012; Dobers, Halme 2009; Birch, Moon 2004).

There is an ongoing debate as to whether business firms are able to cope with the increasing internal and external pressures of broad CSR, environmental practices and best practice issues and the extent to which these may be beyond their ability (Walls *et al.* 2012; Henderson 2001). Hence, it is essential to know how businesses should be embedded within international offshore compliance parameters and national coordination approaches in relation to different levels of obligatory offshore requirements and local initiatives (Filatotchev *et al.* 2013; Delmas, Toffel 2012; Dangelico, Pujari 2010; Matten, Crane 2005; Windsor 2004; Davies 2003; Logsdon, Wood 2002; Freeman *et al.* 2001). Our study bears in mind the scope of the provision for CSR and promotion of best practice, the provision for compliance with environmental requirements based on the national economic agenda, the commitment to improvement of the diffusion of technology, and the commitment to the improvement of environmental performance in the case of Malaysia, as well as concerns regarding these factors. In addition, our study explores the capability of businesses in fulfilling the environmental agenda set by offshore outsourcing beyond policies guided by the national government to ensure overall environmental sustainability in business.

Our study aims to further understanding of the long-term challenges to sustainability in businesses, focusing on (a) environmental practices and offshore outsourcing of IT and electronic firms, (b) environmental compliance, export markets and subcontracting linkages with buyers, and (c) environmental practices and government involvement. In doing so, we consider the hitherto unexplored multilevel theoretical framework of broad CSR, environmental practices and best practice (Guoyou *et al.* 2013; Slawinski 2010; Waddock *et al.* 2002). To attain an effective solution, we investigate government involvement and provision of support as key variables in fulfilling new offshore roles and taking responsibility in adapting to offshoring requirements.

We have seen in the introduction that there is a considerable body of literature available on subjects such as (a) organizational performance, (b) firm productivity, (c) individual and organizational responsibility, (d) corporate social performance, (e) stakeholder management, (f) corporate responsibility and outcomes in relation to policies, programmes and social impacts, (g) social changes in firms and organizations, (h) corporate responsibility and organizational embedded in different national systems, (i) corporate responsibility and the narrowing of technical, economic, and legal requirements, (j) traditional economic gains and attachments, (k) CSR, environmental practices and best practice and links with consumers, management, employees, governments and NGOs, (l) corporate governance issues on how to contribute to or collaborate or internalize in good governance, (m) corporate governance and inclusive markets, fair trade, context dependence, (n) illicit money transfers, (o) corporate responsibility and governance choice, and so forth (Delmas, Toffel 2012; Husted *et al.* 2010; Badrul 2010; Azmat, Samaraturunge 2009; Dobers, Halme 2009;

Lindgreen *et al.* 2009; Montiel 2008; Baughn *et al.* 2007; Conley, Williams 2005; Husted 2003).

Yet, there is no direct indication by firms that they fulfil offshore requirements and there is no tangible country-specific speculative structure towards long-term sustainability in Malaysia. In sum, researchers and policy makers are still trying to form the outline of knowledge of CSR, best practice, and links with consumers, management, and employees to fulfil offshore compliance, including that related to environmental issues. Consequently, it is essential to analyse what kind of support should be delivered and to what extent the government should be involved in compliance, as we have done in our study. In particular, we have explored the degree of government involvement and its dimensions for offshore outsourcing compliance in IT and electronics firms, using Monte Carlo simulations with Malaysian firms. We argue that government assistance would ease the challenges for offshore businesses, particularly in terms of environmental performance at the company level, so as to promote overall best practice in the future.

## 6. Practical implications

As already pointed out, in Malaysia there is no indication of the provision of widespread support from the government to offshore firms in fulfilling mandatory requirements towards long-term sustainability. Henceforth, drawing on both institutional and stakeholder theories, we argue the need for government involvement to lessen the gap between requirements and fulfilment and hereafter propose a solution to meet offshoring targets and provide financial assistance subject to different levels of economic development, operation, execution and dimensions using several simulation scenarios. According to our statistical analyses, a notable feature is found in different scenarios: principally, government involvement and assistance amounting to 5% of export earnings represents the optimal scenario, based on all our selection criteria<sup>11</sup>, under the existing conditions of economic growth, where  $R^2$  takes the value 0.2711 (SE = 20.5989). However, when government involvement and assistance is at the 20% level,  $R^2$  takes the value 0.1454 (SE = 30.9587). Based on the different comparisons, our modelling results show that the 5% simulated values are preferable in relation to recent figures for Malaysian GDP, export earnings and growth rate.

Researchers and policy makers are trying to establish what kind of assistance should be provided to business in relation to sustainability issues and to what extent the government should be involved. On the basis of our analyses, we recommend that governmental involvement and assistance should be at least 5% to resolve the challenges to sustainability for offshore outsourcing businesses in Malaysia. At this stage, of the four scenarios developed in this context, a 5% level of involvement and assistance in offshore outsourcing businesses would work best compared to a 10% or higher involvement at present; 10%, 15% or even 20% levels of involvement and assistance are not currently appropriate given

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<sup>11</sup> The value of the  $R^2$ , adjusted  $R^2$  and F statistics will be higher for better estimates, and the SE values of the regressions, the sum squared residuals, the Akaike information criteria, the Schwarz criterion and the probability of the F statistic will be lower for the selection criteria.

the existing socio-economic conditions<sup>12</sup>. However, this percentage should be increased gradually in the future, depending on the levels of offshore operations, the development of new outsourcing businesses, increases in offshoring requirements and national economic developments, such as those relating to the GDP situation, export earnings from offshore exports, national per-capita earnings, and eventually higher and sustained national growth rates in Malaysia.

However, it should be considered that this study put into practice and suggestion for the outcomes by adopting a theoretical background. Particularly, this study has been focused on the role of government on offshore firm's sustainability (e.g. hypotheses: H0 and H1), orientation of institutional theory (letting aside stakeholders) to argue by the hypotheses how government influences institutions. However, this study did not consider how the management of the institution itself improved further alone by institutional or stakeholders' theory. Thus future study is required to find the additional hypothesis to uphold the comprehensible arguments for the managers and managements (i.e. institutional) into the institution apart from direct help from the government.

## **Conclusions**

This study has investigated challenges to sustainability in businesses, such as pressure to comply with CSR, environmental practices, implement improved environmental performance, create a sustainable business climate and promote best practice in foreign-owned and foreign-invested offshore firms. We observe that more than half of Malaysian offshore (IT and electronics) firms are involved in broader corporate social practice in compliance with offshoring requirements. According to our study, more than 70% of firms are directly obliged by offshoring compliance requirements to continue offshore outsourcing of business and 97% of firms comply with offshoring requirements without any assistance from authorities, such as government agencies. Although we understand that the flow of business from the North to Asia has brought with it new business demands and opportunities in relation to sustained economic development, particularly in Malaysia, recent sustainable business compliance issues, such as CSR, the green agenda in business, environmental accountability, the diffusion of environmentally cleaner technology, institutional responsibility and ecological compliance, have generated considerable concern in firms. We understand that foreign-owned offshore firms in Malaysia mostly adhere to the environmentally sustainable business practices to which they are subject. However, compliance with these requirements poses additional challenges for Malaysian businesses in their efforts to compete with other global competitors, particularly those from China.

This seems to indicate the need for some sort of government assistance in order to ensure the long-term sustainability of businesses. Here, we analysed the significance of government assistance and the extent of Malaysian environmental performance in foreign-owned offshore (IT and electronics) firms. The results derived from this study show

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<sup>12</sup> The socio-economic conditions stated relate to the economic outlook of Malaysia as set out in recent action plans and future targets (NIP 2004).

that government involvement in CSR, environmental practices and best practice is somewhat appealing for further environmental sustainability in relation to various long-term aspects. From the perspective of statistical simulation, it is apparent that government aid and assistance is important for sustainable business practices. This is important for two main reasons: first, it provides companies with financial support which may alleviate pressures on their budget. Second, this sort of support shows government commitment and provides a more favourable environment which may encourage an increasing number of companies to take part. The findings also suggest that good environmental practice has a positive effect on the reputation and income of companies. The results of this study are justified by scientific techniques and deliver an original approach to resolving the dilemma of how to deliver broader CSR, environmental practices and best practice, and contribute towards ensuring environmental sustainability by compliance with offshore outsourcing legislation in the long term. We believe that this study offers a more precise guideline to ensure further environmental sustainability in Malaysia in offshore outsourcing and, inter alia, to foster business sustainability in the long term.

### Limitations

Self-report data can suffer from recall bias and deliberate misreporting. Even though anonymity and confidentiality were assured during the survey, the respondents might have under-reported or over-reported on particular questions. This misreporting could influence the findings. Although many variables were analysed to meet the objective of the study, the exclusion of some other variables might limit the findings and some of the usual suspects may arise in the analyses. Future studies that are qualitative in nature would also be useful in developing a better understanding of the issues explored here.

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## APPENDIX

### Questions of the survey

#### A. Firm Demographics

1. Name of firm: \_\_\_\_\_
2. Number of employees: \_\_\_\_\_
3. What are the THREE (3) main products of your firm?
  - i. \_\_\_\_\_ .
  - ii. \_\_\_\_\_ .
  - iii. \_\_\_\_\_ .
4. Is your firm a public listed company?
  - (a) Yes.
  - (b) No.
5. Is your firm is an offshore outsourcing company?
  - (a) Yes.
  - (b) No.
6. Is your firm is a multinational outsourcing company?
  - (a) Yes.
  - (b) No.
7. Is your firm linked with local company?
  - (a) Yes.
  - (b) No.
8. What is the ownership structure of your firm?
  - (a) State owned (100%).
  - (b) 100 percent foreign owned.

- (c) 100 percent locally owned.
  - (d) Joint venture: Local equity: \_\_\_\_\_%; Foreign equity: \_\_\_\_\_%.
9. How much of the company's total turnover is derived from contract/subcontract sales (products or services made to customers' design)?
- (a) \_\_\_\_\_ % of the company's total turnover.
  - (b) The company does not undertake contract or subcontract work.
10. How much of your company's sub-contracting products/services are exported or go to a foreign customer in Malaysia?
- (a) Exported: \_\_\_\_\_ %.
  - (b) Sold to foreign customers based in Malaysia: \_\_\_\_\_ %.
  - (c) Partly exported and partly sold to foreign customers based in Malaysia:  
Exported: \_\_\_\_\_ %.  
Foreign customers based in Malaysia: \_\_\_\_\_ %.
  - (d) Do not know.

**B. Corporate Social Responsibility and Environmental Performance (CSR-ENV)**

1. Do you feel that CSR-ENV is a voluntary undertaking or forced upon the company one way or the other?
- (a) Voluntary activity.
  - (b) Forced upon the company by its customers or competitors.
  - (c) Forced upon the company by authorities.
  - (d) Forced upon the company by other stakeholders (the media, NGOs etc).
  - (e) Otherwise, how: \_\_\_\_\_ .
2. Do you think that the competitiveness of the company can be improved or damaged by CSR-ENV issues?
- (a) No, CSR-ENV issues do not affect the company's business.
  - (b) Yes, competitiveness can be enhanced.
  - (c) Yes, competitiveness can be damaged.
  - (d) Do not know.
3. Overall, do you perceive CSR-ENV as a relatively complicated or simple issue for your company to deal with compared to other challenges faced by the company?
- (a) Simple issue/challenge.
  - (b) Complex issue/challenge.
  - (c) Depends on the specific CSR-ENV issue/challenge.
4. Do you think that there is a strong connection between long-term contracts and compliance with environmental practices?
- (a) Yes, what aspect? \_\_\_\_\_ .
  - (b) No.
  - (c) Do not know.

### C. Stakeholder Management

1. A stakeholder is any group or individual who can affect or is affected by the achievement of a firm's objectives. Who are your company's stakeholders currently? ( You may circle more than one).
  - (a) Shareholders/owners.
  - (b) The lead firm (foreign company that your firm obtains outsourcing contract from).
  - (c) Employees.
  - (d) Customers.
  - (e) Suppliers.
  - (f) Authorities of federal or state government.
  - (g) Trade associations.
  - (h) The media.
  - (i) The local community.
  - (j) The public in general.
  - (k) Activist groups.
  - (l) Other stakeholders, which ones? \_\_\_\_\_ .
2. Please rate your firm's emphasis on the following stakeholders. (Please circle your rating 0–5, from weakest to the strongest)

Stakeholders	Rating					
a. Shareholders/owners	0	1	2	3	4	5
b. The lead firm	0	1	2	3	4	5
c. Employees	0	1	2	3	4	5
d. Customers	0	1	2	3	4	5
e. Suppliers	0	1	2	3	4	5
f. Authorities of federal or state government	0	1	2	3	4	5
g. Trade associations	0	1	2	3	4	5
h. The media	0	1	2	3	4	5
i. The local community	0	1	2	3	4	5
j. The public in general	0	1	2	3	4	5
k. Activist groups	0	1	2	3	4	5
l. Other stakeholders, which one?	0	1	2	3	4	5

3. Overall, how will you describe your relations with your main customers?
  - (a) Short termed and market based.
  - (b) Long termed and trust based.
  - (c) In between.
  - (d) Do not know.
4. Has your firm participated in any government or non-government sponsored CSR-ENV programme during the last 5 years?
  - (a) Yes, what CSR-ENV programme? \_\_\_\_\_ .
  - (b) No.
  - (c) Do not know.



5. Did your firm receive any government or non-government assistance (*direct grants, subsidies*) for CSR-ENV over the last 5 years?
- (a) Yes, what kind of assistance? \_\_\_\_\_ .
  - (b) No.
  - (c) Do not know.

**D. CSR-ENV Standards and Codes of Conduct**

Questions 1–3, please circle your rating (0–5 from weakest to strongest)

1. Please rate your firm’s emphasis on the following labour and environmental activities.

Emphasis	Rating					
a. Health and occupational safety of employees	0	1	2	3	4	5
b. Process technology harnessing employee feedback on employees safety	0	1	2	3	4	5
c. Process technology focusing on quality of emissions	0	1	2	3	4	5
d. Product technology focusing on environmental quality	0	1	2	3	4	5
e. Connections and coordination with government environmental organizations such as the Ministry of Science, Technology and the Environment	0	1	2	3	4	5
f. Connections and coordination with environmental NGOs such as CETDEM	0	1	2	3	4	5
g. Connections and coordination with government human and labour organizations such as the Labour Department (Peninsular Malaysia) and Occupational Safety and Health Department	0	1	2	3	4	5
h. Connections and coordination with trade unions	0	1	2	3	4	5

2. Are the following practices important for your firm’s ability to sustain competitiveness in offshore outsourcing market?

Practices	Rating					
a. Labour standard	0	1	2	3	4	5
b. Health and occupational standard	0	1	2	3	4	5
c. Environmental standard	0	1	2	3	4	5
d. Others, please specify	0	1	2	3	4	5

3. Are the following relationships with the lead firm(s) important for sustaining competitiveness in offshore outsourcing market?

Relationships	Rating					
a. Labour standard	0	1	2	3	4	5
b. Health and occupational standard	0	1	2	3	4	5
c. Environmental standard	0	1	2	3	4	5
d. Others, please specify	0	1	2	3	4	5

4. Has the company adopted any national or international business standard?
  - (a) No national or international standard adopted.
  - (b) ISO 9000.
  - (c) ISO 14001.
  - (d) OHSAS 18001.
  - (e) Other standards, which: \_\_\_\_\_ .
  - (f) Do not know.
5. Has any important customer of the company demanded that the company complies with CSR-ENV standard in order to be pre-qualified for a bid or for getting the order?
  - (a) No.
  - (b) Yes, which CSR-ENV standard: \_\_\_\_\_ .
  - (c) Do not know.
6. Has the company ever collaborated or received support from customer to upgrade its CSR standard?
  - (a) No.
  - (b) Yes, how (training in-house, training at customer, training outhouse, technical assistance, financial support)? \_\_\_\_\_ .
  - (c) Do not know.
7. Does the company get support to improve its CSR-ENV standard from other quarter?
  - (a) No.
  - (b) Yes, the government and state agencies.
  - (c) Yes, private domestic fund?
  - (d) Yes, private foreign source?
  - (e) Yes, other source, which: \_\_\_\_\_ .
8. Has the company initiated any CSR-ENV upgrading on its own without external pressure?
  - (a) No.
  - (b) Yes, how: \_\_\_\_\_ .
  - (c) Do not know
9. Has the company demanded that its own supplier addresses CSR problem?
  - (a) No.
  - (b) Yes, how: \_\_\_\_\_ .
  - (c) Do not know.
10. Has the company integrated environmental issue in its operational routine?
  - (a) No.
  - (b) Yes, environmental targeting, monitoring and/or reporting
  - (c) Yes, other routine, which: \_\_\_\_\_ .
11. Has your company integrated social issue (for example by having meeting with employees' representatives) in its company routine?
  - (a) No.
  - (b) Yes, social targeting, monitoring and/or reporting.
  - (c) Yes, other routine, which: \_\_\_\_\_ .
12. Does the company plan to improve the CSR profile, organisation and routine in 2009?
  - (a) No.

- (b) Yes, how: \_\_\_\_\_ .
  - (c) Do not know.
13. Overall, do you assess that your company presently has the capability to upgrade its CSR-ENV standard if demanded by an important customer?
- (a) Yes.
  - (b) No.
  - (c) Depends on the specific CSR standards in question.
  - (d) Depends on the specific ENV standards in question.
  - (e) Do not know.

**E. CSR-ENV Practices and Business Performance**

1. Please rate your firm’s improvement in business performance achieved in each of the following categories because of implementing progressive CSR-ENV policies and practices. (1 = no improvement at all, 2 = not much improvement, 3 = neutral [there is neither improvement nor no improvement], 4 = moderate improvement, 5 = substantial improvement)

Please circle your ratings.

Categories of business performance	Rating				
Economic performance					
Profit margin	1	2	3	4	5
Sales	1	2	3	4	5
Cost saving	1	2	3	4	5
Product price	1	2	3	4	5
Efficiency	1	2	3	4	5
Product quality	1	2	3	4	5
Productivity	1	2	3	4	5
Market shares	1	2	3	4	5
New market opportunities	1	2	3	4	5
Corporate image	1	2	3	4	5
Environmental performance					
Environmental compliance	1	2	3	4	5
Reduction of emissions	1	2	3	4	5
Reduction of solid/liquid waste	1	2	3	4	5
Recycling	1	2	3	4	5
Preserve environment	1	2	3	4	5
Social performance					
Health and safety of employees	1	2	3	4	5
Education/training	1	2	3	4	5
Staff benefits	1	2	3	4	5
Non-discrimination	1	2	3	4	5
Social commitment	1	2	3	4	5

2. How much does your firm spend annually for the compliance and/or upgrading of CSR-ENV standards?
  - (a) The firm does not incur any expense on CSR-ENV.
  - (b) Minor part of the total expenditure (1% – 32%).
  - (c) A substantial part of the total expenditure (33% – 66%).
  - (d) Most of the total expenditure (67% – 100%).
  - (e) Do not know.
3. Do you agree that the benefits derived from the compliance and/or upgrading of CSR-ENV standards outweigh the expenditure incurred?
  - (a) Yes, all the time.
  - (b) Yes, most of the time.
  - (c) Yes, occasionally.
  - (d) No.
  - (e) Do not know.
4. Do you agree with the “sustainable business climate” and “promotion of best practices” that derive benefits by the compliance issue?
  - (a) Yes, all the time.
  - (b) Yes, most of the time.
  - (c) Yes, occasionally.
  - (d) No.
  - (e) Do not know
5. Your other related opinion to maintain the CSR-ENV standard and offshore compliance:
  - (a) Not interested to discuss.
  - (b) If interested, please specify: \_\_\_\_\_ .

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