IJEM
International Journal of Economics and Management
Journal homepage: http://www.ijem.upm.edu.my

The Influence of Institutional Pressures on the Implementation of Sustainability Risk Management in Malaysian Palm Oil Mills

SHAZRUL EKHMAR ABDUL RAZAK[a*], MAZLINA MUSTAPHA[b] AND SABARINA MOHAMMED SHAH[b]

[a]*Department of Agribusiness and Bioresource Economics, Faculty of Agriculture, Universiti Putra Malaysia, Malaysia*
[b]*School of Business and Economics, Universiti Putra Malaysia, Malaysia*

ABSTRACT

Sustainability risk management (SRM) has emerged as an important management control system in recent years and serves as a means to reduce sustainability issues arising as a consequence of a company's operations. Despite the increasing interest, the implementation of SRM remains scarce, and Malaysia is no exception. This paper aims to provide useful insight by investigating the influence of institutional pressures on the implementation of SRM by Malaysian companies. Drawing on institutional theory, this paper aims to examine the influence of regulatory, competitive, and normative pressures on the implementation of SRM in Malaysian palm oil mills. A survey questionnaire was distributed to 407 managers of palm oil mills across Malaysia between July and December 2020, with a response rate of 28.9%. The data from 118 usable questionnaires were analysed using partial least squares structural equation modelling (PLS-SEM). The findings highlight that regulatory pressure and competitive pressure significantly influence the implementation of SRM. The findings contribute to institutional research by understanding the reasons behind SRM implementation in developing country settings. Practically, the findings provide useful insights for policymakers to initiate the implementation of SRM to address sustainability issues.

JEL Classification: M42, M41, Q56

Keywords: Sustainability risk management; Institutional theory; Institutional pressures; Palm oil mills; Malaysia

Article history:
Received: 3 July 2024
Accepted: 20 November 2024

* Corresponding author: Email: shazrul@upm.edu.my
DOI: http://doi.org/10.47836/ijeam.19.2.01
© International Journal of Economics and Management. ISSN 1823-836X. e-ISSN 2600-9390.

INTRODUCTION

The agricultural sector is a significant contributor to Malaysia's gross domestic product (GDP). In the second quarter of 2024, the sector demonstrated strong performance, recording a 7.2% growth, exceeding the -0.7% recorded during the same period in 2023 (Department of Statistics, Malaysia, 2024). In terms of revenue, the agricultural sector contributed RM25.2 billion to the Malaysian GDP for the second quarter of 2024. This performance was bolstered by the palm oil industry, which is the fourth-largest contributor to Malaysia's national economy (Begum et al., 2019; Zieai and Ali, 2021). Apart from its contributions to the Malaysian economy, the palm oil industry also plays an important role in propelling the growth of Malaysian socio-economic conditions by providing numerous employment opportunities in upstream and downstream activities to people living in rural areas since palm oil has been commercially planted in the country (Ezechi and Muda, 2019). The Malaysian Palm Oil Council (MPOC) (2020) states that almost 70% of employed people in the agricultural sector work in the palm oil industry. With employment opportunities, the Malaysian palm oil industry has contributed directly to alleviating poverty in rural areas (Parveez et al., 2024). Malaysia plays an important role in the world's production and trade of palm oil. Currently, Malaysia is the world's second-largest producer and exporter of palm oil, contributing 25.8% of global palm oil production and 34.3% of global palm oil exports (MPOC, 2021). Therefore, the sustainability of the Malaysian palm oil industry is vital to the growth of the Malaysian economy and meeting international market needs.

In recent years, the palm oil industry in Malaysia has received numerous criticisms from various stakeholders due to claims of sustainability issues arising from palm oil production. The major criticism is that the production of palm oil severely impacts social, environmental, and ecosystem sustainability, such as deforestation, soil property changes, water and air pollution, greenhouse gas emissions, waste, and social conflict (Khatun et al., 2017; Parveez et al., 2023). As a result, there are growing concerns and demands for more sustainable palm oil production (Jamaludin et al., 2018). Hence, this creates major challenges for the palm oil industry to remain economically competitive without disregarding sustainability considerations. Nowadays, incorporating sustainability into business operations is important to maintain and survive in the 21st century business environment. A company that fails to incorporate sustainability or address sustainability issues arising from its business operations will face unprecedented sustainability risks in the form of boycotts, reputational risks, and regulatory risks (Zhou and Yuen, 2024), which often threaten the company's survival (Valinejad et al., 2022). Thus, a management control system (MCS) to manage sustainability issues is essential in the palm oil industry to reduce the adverse impact of sustainability risks.

Risk management is regarded as an important MCS for every organisation in today's business environment (Themsen and Skærbæk, 2018) due to the capacity it has to control organisational behaviour and operational activities (Bhimani, 2009). Moreover, risk management, which consists of risk identification, risk assessment and analysis, risk response, and risk monitoring, has been regarded as an important internal control to ensure the safety, soundness, and survival of organisations (Manab et al., 2020). Risk management involves not only managing risks with negative consequences for organisational performance but also opportunities that can increase organisational value (Bui and de Villiers, 2017). However, current risk management is found to be inadequate for managing sustainability issues (World Business Council for Sustainable Development, 2017). Sustainability issues, such as the environmental impact of the BP Deepwater Horizon oil spill in the Gulf of Mexico and the social issues of poor working conditions in Apple manufacturing facilities as well as Rana Plaza, have accentuated the weakness of poor risk management as a control system in ensuring business survival (Bromiley et al., 2015). These business crises not only threaten their sustainability but also leave long-term social and environmental effects in the areas on where the companies operate. Most importantly, the negative business activities have refocused and intensified interest in risk management to manage sustainability issues (Soin and Collier, 2013; Giannakis and Papadopoulos, 2016).

Because of these concerns, sustainability risk management (SRM) has emerged in response to a growing interest in today's business environment in addressing sustainability issues that result from companies' activities (Wijethilake et al., 2018). In addition, the need for SRM is to overcome the limitations of the current risk management (Abdul Aziz et al., 2016c) that focuses heavily on economic issues (Gendron et al., 2016). Within the fast-changing business environment, organisations are more vulnerable to a broad spectrum of risks that are not confined to economic issues, exposing their survival to a higher level of risk (Valinejad et al., 2022; Manab et al., 2020). SRM is a risk management system that concerns risks arising

from economic issues as well as environmental and social issues (Anderson and Anderson, 2009). The aim of SRM is to address the adverse impact of sustainability risks on an organisation's survival and sustainability by managing sustainability issues (Abdul Aziz et al., 2015).

However, the implementation of SRM remains relatively scarce, and Malaysia is no exception (Abdul Aziz et al., 2016c; Razak et al., 2024). The current discussion on SRM is primarily conceptual. It has not yet been supported by empirical evidence, particularly regarding the factors influencing SRM implementation (Manab et al., 2020). Additionally, theoretical explanations for SRM implementation are still underdeveloped. Razak et al. (2024) highlight the importance of advancing theoretical understanding in this area. Consequently, significant gaps exist in academic knowledge concerning SRM implementation. Motivated to address these gaps, the present study offers empirical, quantitative research aimed at expanding the current understanding of the factors influencing SRM implementation.

In prior research, scholars have increasingly employed institutional theory as an important research perspective to explore why firms are willing to incorporate sustainability into business activities (Jalaludin et al., 2011; Jamil et al., 2015; Wang et al., 2018; Aziz et al., 2017; Wijethilake et al., 2017; Valinejad and Rahmani, 2022). These studies argue that institutional pressures could strongly influence companies' sustainability efforts to satisfy internal and external stakeholders' needs. Yet, there are debates about what institutional factors have influenced companies' sustainability efforts due to mixed findings on the influence of institutional pressures. This highlights that companies may exhibit heterogeneous behaviours under different circumstances and institutional environments. Abdul Aziz et al. (2017) argued that institutional pressures are crucial for implementing new MCS, particularly where companies are at the beginning stages of implementing them. The palm oil industry is highly regulated, and the implementation of SRM in Malaysia is relatively new. Thus, recognising these concerns, it is worthwhile to study the influence of institutional pressures on SRM implementation in the highly regulated Malaysian palm oil industry. In doing so, this study aims to address the following research question: What institutional pressures influence the implementation of SRM in the Malaysian palm oil industry?

To date, empirical evidence on SRM implementation in developing countries has not been widely discussed. Therefore, findings from this study provide useful insights into the relevance of SRM implementation across different countries. A better understanding of which institutional pressures are most influential enables more accurate identification of the pressures affecting SRM implementation, thus contributing to the emerging research on SRM. In today's business environment, companies face a wide spectrum of sustainability risks under different circumstances. The implementation of SRM to manage these risks depends on the specific environment in which companies operate. Therefore, employing institutional theory as the underlying framework enhances theoretical knowledge, particularly in explaining the institutional pressures that influence SRM implementation.

This paper is organised as follows: Section 2 provides the theoretical background and development of hypotheses. Section 3 presents the methodology. This is followed by the analysis and findings in Section 4. Section 5 provides a discussion of the findings. The paper then concludes with conclusions, including limitations and recommendations for future research.

THEORETICAL BACKGROUND AND HYPOTHESES DEVELOPMENT

Institutional theory is an accounting study that can explain SRM implementation and its perspective is mainly based on social and economic theoretical views (Dimaggio and Powell, 1983). According to Bouma and van der Veen (2002), the institutional perspective emphasises the impacts of social, economic and political institutions on an organisation's behaviour. In other words, institutional theory emphasises the impact of external groups and imitation processes on the implementation of SRM. In particular, institutional theory focuses on the influences of institutional environments in which organisations operate. Institutional environments are characterised by pressures that are imposed on firms, which they must comply with in order to enjoy support and legitimacy by society (Scott and Meyer, 1983). Thus, organisations are bound to be institutionalised by the institutions around them (Dimaggio and Powell, 1983; Meyer and Rowan, 1977; Zucker, 1987).

Pressure is usually applied formally by the institutions through written laws, regulations and standards, as well as informally through the invention of norms, habits and customs. DiMaggio and Powell (1983), and Meyer and Rowan (1977) argue that the motivation for organisational changes might be caused by the need to obtain legitimacy and maintain survival. In their effort to ensure that the organisation can win or survive, organisations' participants will normally respond to these pressures by acting in accordance with the rules set out by the institutions (Dimaggio and Powell, 1983; Meyer and Rowan, 1977; Zucker, 1987). Accordingly, the legitimacy-seeking behaviour of organisations will lead to the development and adoption of practices to fulfil the expectations of the various constituents in their environment (Moll et al., 2006). DiMaggio and Powell (1983) suggest three institutional pressures that can impact organisational changes: coercive pressure, mimetic pressure, and normative pressure.

Coercive pressure refers to the regulatory compliance to existing regulations (DiMaggio and Powell, 1983). The pressure occurs in response to political influence or/and legitimacy problems (Jalaludin et al., 2011). Among the prominent sources of coercive pressure are governmental legislation, as well as other organisations upon which the company is dependent (Jamil et al., 2015). For example, organisations operating in the public sector tend to conform to policies and requirements issued by the government, due to their dependence on financial support provided by the government for their survival. As such, an organisation may change its systems to conform to the government's policies to obtain legitimacy or guarantee funding support, such as adopting new pollution control technologies to comply with environmental regulations.

Mimetic pressure is explained as a response of companies to imitate the success of competing companies in adopting techniques or practices when faced with ambiguous and uncertain situations (DiMaggio and Powell, 1983). Through mimetic processes, an organisation seeks legitimacy by resembling the response of other similar or superior organisations in terms of initiatives (Jalaludin et al., 2011). Companies, for example, will follow leading competitors in adopting a control system to stay relevant in the market (Jabbour and Abdel-Kader, 2016). Finally, normative pressures stem from professionalism and primarily stem from collective expectations, norms, and standards within a particular organisational context (DiMaggio and Powell, 1983). The collective expectations, norms, and standards generate normative pressure and push companies to adopt the prevailing behaviours and practices (Teo et al., 2003). Normative pressures also emphasise the importance of voluntary adoption to mitigate coercive pressures (Jamil et al., 2015).

In accounting literature, the discussion between institutional pressure and management control systems has been widely documented. Among others is the study of Yi et al. (2012) that examined the impact of institutional pressures on companies' radical innovation by introducing management control systems. Moreover, Strauss et al. (2013) apply institutional pressures to understand the reasons for introducing a management control system (MCS). Furthermore, the literature has also shown valuable insights of institutional theory in sustainability and accounting research. Jalaludin et al. (2011) and Jamil et al. (2015) reveal different levels of EMA adoption in Malaysian companies under different kinds of institutional pressures. Chu et al. (2018) argue that coercive, normative, and mimetic pressures influence the adoption of green innovation techniques in organisations. Similarly, Wijethilake et al. (2017) found that institutional pressure on sustainability plays an important role in influencing companies to implement management control systems.

In the risk management context, the institutional theory emphasises that the implementation of risk management is associated with the processes of the norm, imitation, and external groups-pressure, such as accounting professional bodies, competitors, and governmental agencies (Beasley et al., 2015). The theory also posits that the implementation of a management control system depends on the argument that changes in the surrounding institutional environments can motivate or hinder the introduction of organisational changes or the adoption of new practices and innovations. For example, the UK and the US's government efforts, plus professional bodies pressure, by introducing regulations (i.e. Cadbury Code, Sarbanes-Oxely Act, etc.), have led companies to implement a necessary risk management system (Beasley et al., 2015; Paape and Speklé, 2012). In fact, the move to impose regulations has been imitated by other countries (Arena et al., 2010), such as Malaysia, which introduced the Malaysian Code on Corporate Governance (MCCG) and revamped Bursa Malaysia listing requirement for listed companies to have a risk management system (Abdullah et al., 2017; Sanusi et al., 2017).

Similar to the sustainability context, institutional pressures have been found to have different pressures under different circumstances in relation to the adoption of ERM in insurance companies (Jabbour and Abdel-Kader, 2016). For example, companies that implemented risk management early were mostly internal strategic drivers, whereas the recent adoption decision was more driven by coercive and mimetic pressures. Besides, weak institutional pressures were associated with less developed risk management and internal control systems compared to companies with strong institutional pressures (Sarens and Christopher, 2010). Finally, drawing on institutional theory, multiple institutional pressures tend to devote more proactive implementation of risk management in local government (Valdivieso et al., 2017).

Building on the above discussion, it is evident that institutional theory is relevant for studying the influence of institutional pressures on changes in accounting practices. However, the application of institutional theory has predominantly focused on other types of management control systems (MCSs), such as green initiatives, sustainability control systems, green supply chain management, and environmental management accounting. Its use in the context of risk management has been limited to traditional risk management or enterprise risk management. The impact of institutional pressures on Sustainability Risk Management (SRM) implementation remains unclear. Given that SRM implementation requires further theoretical development (Razak et al., 2024), this study aims to address this theoretical gap by employing institutional theory to explain how institutional pressures influence SRM implementation. It is hypothesized that the presence of institutional pressures, namely regulatory pressure, competitive pressure, and normative pressure may drive firms to adopt SRM practices. Overall, institutional theory is argued to offer a significant explanation for SRM implementation in specific contexts.

Regulatory Pressure and the Implementation of SRM

Sustainability issues have attracted increasing attention among stakeholders who constantly request companies to change their business practices to incorporate sustainability practices (Ong et al., 2018). According to Pondeville et al. (2013), stakeholders play a major and significant role in influencing companies' policies and operations. With increasing public scrutiny of sustainability, many companies are facing pressure to take measures to control the negative impacts of operational activities on the environment and society (Wang et al., 2018). Notably, in recent years, growing strict regulations by regulators have forced companies to control and monitor their business operations to prevent the adverse impact of sustainability issues (Bui and de Villiers, 2017; Kumarasiri and Gunasekarage, 2017). Hence, companies face pressure from regulations to operate profitably while minimising sustainability issues. Chu et al. (2018) assert that regulatory pressures, typically through regulations and threats of penalties, have become an important external factor driving firms to adopt sustainability practices. Thus, with strict regulations, companies would feel pressured to adopt sustainability practices to gain legitimacy and avoid penalties.

Institutional theory posits that organisational behaviours and practices are greatly influenced by institutional forces that surround organisations (Jalaludin et al., 2011; Kumari and Patil, 2019). The theory asserts that firms are willing to change their organisational structures and apply new practices that meet external and institutional pressure to gain legitimacy or acceptance within society (Wang et al., 2018). Regulatory pressure has been indicated to play a critical role in promoting the adoption of new organisational practices and structures (Jamil et al., 2015). Under regulatory pressure, companies are bound to change their practices and structures to comply with the compulsory regulations exerted by the government, policymakers, and authorised bodies (Abdul Aziz et al., 2017). In other words, regulatory pressure provides a source of pressure by which companies can be coerced into implementing a management control system (Christ, 2014; Muhammad-Jamil and Mohamed, 2017; Ong et al., 2018).

The palm oil industry has made a significant and major contribution to the Malaysian and world economy (Begum et al., 2019; Choong and Mckay, 2014; Hafizuddin-Syah et al., 2018; Lim et al., 2015). In order to maintain its contribution, the palm oil industry is highly governed and regulated by the government through the ministry and Malaysian Palm Oil Board (MPOB) (Begum et al., 2019; Jamaludin et al., 2018). Abdul Aziz et al. (2017) found that companies are highly dependent on the government, policymakers, and authorised bodies when they are forced to implement new sustainability practices. As such, palm oil mills would likely comply with policies and requirements issued by government policymakers and authorised bodies due to their dependence on financial and technical support. Therefore, regulatory pressure is a powerful

catalyst for the success of implementing SRM in Malaysian palm oil mills, particularly in addressing sustainability issues. This study develops the following hypothesis:

H1: There is a positive relationship between the regulatory pressure and the implementation of SRM.

Competitive Pressure and the Implementation of SRM

Institutional theory is based on the premise that external pressures shape companies' practices and behaviours (Dimaggio and Powell, 1983; Jalaludin et al., 2011). Institutional theory posits that pressures from other companies in the industry may have a strong influence in determining a company's actions to adopt proven or established practices (Christ, 2014; Islam et al., 2020; Jamil et al., 2015). In other words, the theory asserts that companies in uncertain situations tend to imitate and follow the actions of competing companies in the same industry to gain legitimacy and achieve success, thus indicating the presence of competitor pressure on companies' practices (Abdul Aziz et al., 2017; Jalaludin et al., 2011; Muhammad-Jamil and Mohamed, 2017). For example, the growing demand for companies to address sustainability issues arises when they are placed in uncertain situations regarding the choice of best practices (Abdul Aziz et al., 2017). Hence, companies may study the practices adopted by leading competitors and replicate the success of a competitor's actions to obtain the same benefits (Wang et al., 2018).

According to Dai et al. (2018), competitors' actions in implementing management control systems will influence other companies to implement the same practices to keep abreast of their successful rivals. Accordingly, the greater the level of implementation of management control systems by competitors, the higher the pressure for other companies in the same industry to implement such practices and appear legitimate (Dai et al., 2018; Sancha et al., 2015). In addition, competitor pressure will push companies to replicate industry leaders' actions when uncertainty is high (Kumari and Patil, 2019). For example, implementing a new management control system can be costly and risky while the benefits are uncertain (Chu et al., 2018). Companies will place a close observation of their competitors' practices to reduce the related risks and to minimise costs (Wang et al., 2018). Once the rivals have obtained benefits from implementing a management control system, the company will follow the successful competitors accordingly (Abdul Aziz et al., 2017; Dai et al., 2018).

SRM has gained popularity among companies due to its capacity to integrate sustainability into business operations in order to minimise and control the potential sustainability issues that could arise from companies' operations (Bui and de Villiers, 2017; Wijethilake and Lama, 2018; Wong, 2014). Abdul Aziz et al. (2016b) found that companies in the plantation industry are effective in implementing SRM. In that sense, it can be argued that many plantation companies will be pushed to imitate the industry champions to obtain a competitive advantage and be socially accepted. In particular, palm oil mills can align themselves with successful competitors to stay competitive. As such, competitor pressure may push palm oil mills to implement SRM by assisting them in dealing with sustainability issues that could impact their contributions (Abdullah et al., 2017). Drawing on the literature presented above, the following hypothesis is proposed:

H2: There is a positive relationship between the competitor pressure and the implementation of SRM.

Normative Pressure and the Implementation of SRM

Institutional theory posits that organisational structures and practices are likely to be influenced by normative pressures (Dimaggio and Powell, 1983). Normative pressure refers to the acceptable norms and behaviours within an industry that determine the legitimacy of firms to operate within that particular industry (Jalaludin et al., 2011; Masocha, 2019). According to Misopoulos et al. (2018), members of an industry are expected to follow the rules and regulatory mechanisms created by industry associations or other associations that have an interest in the companies' activities. The influence of normative pressure on structural and practical changes is particularly notable in manufacturing companies. These changes are evident when an increasing number of manufacturing companies are able to cope with the rising expectation of sustainability practices by various stakeholder groups (Abdul Aziz et al., 2017; Pondeville et al., 2013). The reason why manufacturing companies decide to adopt or proactively implement sustainability practices is to avoid scandals and reputational loss resulting from NGOs and the media (Wang et al., 2018). Thus, the higher the level of

normative pressure from industry associations, consumer associations, and local communities, the more likely companies will change from current practices to sustainability practices.

Palm oil mills have been experiencing pressure from different stakeholders for years due to allegations of unsustainable palm oil production that harms the environment and social sustainability. For example, some notable palm oil customers such as Starbucks, Unilever and Ferrero Corporation have switched to other palm oil suppliers as a result of sustainability issues (Hafizuddin-Syah et al., 2018) stemming from the companys' decision to use only sustainable palm oil production in their production line (Jamaludin et al., 2018). Therefore, to protect themselves from such claims and maintain their reputation, industry associations may develop their own sustainability standards to maintain legitimacy. Thus, it can be said that normative pressures force organisations to be more sustainably-conscious (Misopoulos et al., 2018).

Recently, SRM has gained considerable attention due to its capacity to assist companies in addressing sustainability issues. Many companies have started to integrate sustainability into business operations by implementing SRM. With the clear benefits, normative pressures would likely force palm oil mills to implement SRM to conform to the norms and behaviours of sustainable palm oil production. Misopoulos et al. (2018) found that the presence of normative pressures is the most influential driver of sustainability practices in manufacturing companies. In addition, a study conducted on SMEs also documented a significant positive effect of normative pressures on firms' sustainability practices. Not only the pressure on sustainability practices, the normative pressures also have positively influenced companies to disclose their sustainability activities (Yusoff et al., 2019). These findings suggest that the presence of normative pressures from industrial organisations, consumer associations, and NGOs is crucial in sustainability practices to ensure the proliferation of sustainable palm oil production among palm oil mills. Drawing on the literature presented above, the following hypothesis is proposed:

H3: There is a positive relationship between normative pressure and the implementation of SRM.

METHODOLOGY

This study followed the positivism paradigm. The method for acquiring knowledge was using quantitative research to explain the influence of institutional pressures and SRM implementation. Specifically, a quantitative research approach by distributing questionnaires was employed as an instrument for the research method. The questionnaire was validated through a pre-test with academics and experts who had experience in the palm oil industry, particularly in the palm oil mills. Most importantly, the Ethics Committee of Human Research at the university where the research was conducted validated and approved the study's questionnaire and research method.

Before distributing the questionnaire, each palm oil mill was contacted by telephone to explain the purpose of the study and to seek consent to distribute the questionnaire. Once permission was granted, a signed cover letter and a questionnaire were emailed to them. For the palm oil mills that could not be reached via telephone, a cover letter that highlighted the purpose of the study, the confidentiality of the answers, ethical compliance, voluntary participation, and any other important details that might affect their decision to participate, along with the questionnaire, was directly distributed to them via email. The completion of the questionnaire demonstrated the respondent's consent to participate in this study.

Overall, the questionnaire was divided into three sections. Section A was designed to get information about the demographics of the respondents. Section B, on the other hand, was designed to measure the institutional pressures. Finally, Section C measured the SRM implementation. Established measurement items were adapted to measure each variable, as detailed in Appendix 1.

Measurement of Constructs

Regulatory Pressures

Regulatory pressures were measured by five items adapted from Jalaludin et al. (2011). Prior studies have identified various sources of institutional pressure, including the government, financial institutions, management, and the market. Respondents were asked to rate the agreement of five statements. Each statement was measured by using the seven-point Likert scale, from 1- strongly disagree to 7 - strongly agree.

Competitive Pressures

Regarding competitive pressures, five items were adapted from Chu et al. (2018) and Jalaludin et al. (2011). These measures are related to perceived pressures from competitors' success in sustainability practices. Respondents were asked to indicate their level of agreement on a seven-point Likert scale ranging from strongly disagree 1 to strongly agree 7.

Normative Pressures

Normative pressures were measured by three items adapted from Wang et al. (2018). Prior studies have identified various sources of normative pressure, including local communities, environmental groups, customers, and management. Respondents were asked to rate the agreement of three statements. Each statement was measured by using the seven-point Likert scale, from 1- strongly disagree to 7 - strongly agree.

SRM Implementation

SRM implementation was measured by six items adapted from Fan et al. (2017). Respondents were asked to indicate the implementation of SRM in their mills based on a seven-point Likert scale ranging from strongly disagree 1 to strongly agree 7.

Sample and Data Collection

The sample for this study was drawn from palm oil mills in Malaysia. They were selected based on the fact that they are responsible for the production of crude palm oil (CPO). CPO is the main unit of oil palm that is extensively used for cooking and food processing, as well as oleo cosmetics and biofuel programmes. The information about the palm oil mills, including thier names, addresses, telephone numbers, and email addresses, was obtained from a directory issued by the Malaysian Palm Oil Board (MPOB). The MPOB is a regulatory body entrusted by the Malaysian government to promote and develop national objectives, policies, and priorities for the viability and well-being of the Malaysian oil palm industry.

The census technique was employed, indicating that the whole population was drawn as the sample size for this study. This approach was chosen to improve the response rate because previous studies have shown that a low response must be expected for an emerging accounting issue in Malaysia (Jalaludin et al., 2011). The target respondents for the questionnaire were mill managers, assistant managers, supervisors, engineers, executives, safety officers, sustainability officers, and those directly involved in palm oil production. They were selected based on their role in ensuring that the production of sustainable palm oil follows industry standards so as to avoid any issues arising from palm oil production. Thus, their position, experience, and knowledge were important in providing reliable information when evaluating the operational performance of their mills.

Response Rate

In total, 407 questionnaires were distributed to all palm oil mills in Malaysia. The number of responses received totalled 121, giving an initial response rate of 29.7%. Out of 121 questionnaires, three were discarded at the data cleaning stage due to either incompletion or the entire questionnaire being left totally blank. Hence, the final response rate for this study was 29%. The response rate of 29% was considered satisfactory when compared to the rates reported in risk management, environmental management accounting, and sustainability studies (e.g., Chu et al., 2018; Pondeville et al., 2013; Subramaniam et al., 2015). In fact, the response rate for a study using a questionnaire in Malaysia typically ranges between 20% to 30% (Abu Bakar and Ahmad, 2010; Ahmad et al., 2019; June and Mahmood, 2011). A non-response bias test was carried out. Specifically, this study compared the first 30 responses, representing the early response group, and the last 30 responses, representing the late group. The result of the independent t-test indicated that non-response bias was not an issue for this study.

ANALYSIS AND FINDINGS

This study employed partial least squares structural equation modelling (PLS-SEM). PLS-SEM was used for three reasons. First, PLS-SEM is a suitable method for a study that has a large number of variables and indicators (Hair et al., 2017), given the complexity of the research framework (Richter et al., 2016; Rigdon, 2014). Second, PLS-SEM is more suitable for testing research frameworks with reflective and formative measurement models (Hair et al., 2017). Lastly, PLS-SEM can also be used for a study with a small sample size. The research model in this study comprises reflective and formative indicators. For the sample size, the 118 usable data in this study were deemed inappropriate for using CB-SEM as it requires a large sample. Based on these characteristics and matching the above-mentioned reasons, PLS-SEM was the most suitable data analysis method for this study. The PLS-SEM consists of a measurement model and a structural model.

Measurement Models

In this study, the measurement models comprise a reflective measurement model and a formative measurement model. The three institutional pressures are measured using reflective indicators. Dropping an indicator would not alter the meaning of the construct. The SRM implementation has six formative items, and removing or dropping of these dimensions would change the meaning of the SRM implementation. Each indicator is highly correlated and interchangeable.

The tests to validate the measurement model of reflective indicators included internal consistency reliability, convergent validity, and discriminant validity. Table 1 shows the internal reliability and convergent validity of the reflective measurement model. The assessment of the reflective measurement model starts with internal consistency reliability and convergent validity. Cronbach's alpha and composite reliability (CR) were used for internal consistency reliability with the aim of determining whether the items that represent each construct have a similar range and meaning. The satisfactory range for Cronbach's alpha and CR is between 0.7 and 0.9. Convergent validity is measured by factor loadings and the average variance extracted (AVE). The satisfactory value for factor loading is equal to or greater than 0.7 (Hair et al., 2010), while adequate convergent validity is achieved when the AVE value is higher than 0.5 (Fornell and Larcker, 1981).

Table 1 Internal reliability and convergent validity

Construct	Indicator	Loadings	Cronbach's Alpha	CR	AVE
Regulatory pressure	RP1	0.911	0.578	0.727	0.490
	RP2	0.676			
	RP4	0.430			
Competitive pressure	CP1	0.795	0.823	0.869	0.571
	CP2	0.791			
	CP3	0.690			
	CP4	0.711			
	CP5	0.785			
Normative pressure	NP1	0.706	0.734	0.827	0.619
	NP2	0.715			
	NP3	0.921			

Note: RP3 and RP5 were deleted.

Based on Table 1, competitive pressure and normative pressure meet the satisfactory values for factor loading, Cronbach's alpha, CR, and AVE, thus fulfilling the internal consistency and convergent validity requirements. Hence, all indicators are retained, and no adjustment is needed for these constructs. On the other hand, regulatory pressure did not meet the minimum requirements of internal consistency and convergent validity, requiring necessary corrective actions. There were two indicators (RP3 and RP5) with loadings less than 0.5. Ramayah et al. (2018) recommend that if there is more than one indicator in a construct that does not meet the minimum value of factor loading, the deletion process must be done only one at a time, starting with indicators that carry the lowest loading until the satisfactory value of AVE is achieved. Based on the initial results of the reflective measurement model, RP5 was deleted first, followed by RP3. Consequently, the AVE of regulatory pressure increased to a value closer to 0.5.

Despite the fact that RP4 has a factor loading of less than 0.5, this indicator was not deleted. The decision was based on two reasons: First, deleting RP4 would reduce Cronbach's alpha value of CP from 0.578 to 0.492. Second, it is suggested that the number of deleted indicators should not be more than 20% of the total indicators in the research model (Hair et al., 2017; Ramayah et al., 2018). Hence, no additional

adjustment was made to all remaining indicators (RP1, RP2, and RP4). Overall, all constructs meet the satisfactory requirement for a reflective measurement model.

The discriminant validity was checked through the Forner-Lacker criterion and HTMT. Table 2 shows that the AVE of a construct is higher than the squared correlation between the construct and all other constructs, indicating that there is no issue with discriminant validity.

Table 2 Discriminant validity using Forner-Lacker Criterion

	RP	CP	NP	SRM
RP	0.700			
CP	0.330	0.756		
NP	0.400	0.349	0.787	
SRM	0.462	0.362	0.190	

Note: SS = RP = Regulatory Pressure; NP = Normative Pressure; CP = Competitive Pressure; SRM = Sustainability Risk Management Implementation.

When using HTMT, any construct that has an HTMT value greater than the HTMT.85 value of 0.85 or the HTMT.90 value of 0.90 indicates that there is an issue with discriminant validity. Table 3 exhibits that all the values fulfil the criteria of HTMT.85 and HTMT.90.

Table 3 Discriminant validity using HTMT Criterion

	RP	CP	NP
RP			
CP	0.509		
NP	0.635	0.489	

Note: SS = RP = Regulatory Pressure; NP = Normative Pressure; CP = Competitive Pressure.

The formative measurement model was validated by assessing collinearity issues and analysing the significance and relevance of formative indicators (Hair et al., 2011). The variance inflation factor (VIF) was used to assess collinearity issues. Table 4 shows the VIF for items being below the threshold value of 10 (Hair et al., 2010), indicating that collinearity is not an issue for this study. Next, the relevance of formative indicators was examined. The results show that all formative indicators have insignificant outer weights. The decision to remove the non-significant indicators was made after checking the outer loadings. Hair et al. (2017) state that formative indicators with factor outer loadings ≥ 0.5 that are significant are relevant and should be retained. Based on Table 4, all formative indicators have outer loadings ≥ 0.5 and are significant. Hence, all formative indicators are retained. Thus, the results fulfil the requirements for the significance and relevance of formative indicators.

Table 4 Collinearity issues, outer weights and outer loadings

Construct	Indicators	VIF	Outer weights	T-values	P-values	Outer loadings	P-values
SRM	SRM1	2.955	-0.084	0.291	0.771	0.728	0.000
	SRM2	4.335	0.302	0.610	0.542	0.866	0.000
	SRM3	4.723	0.030	0.092	0.927	0.880	0.000
	SRM4	3.506	0.392	1.363	0.173	0.879	0.000
	SRM5	6.340	0.360	0.855	0.393	0.925	0.000
	SRM6	6.381	0.106	0.231	0.817	0.898	0.000

Structural Model

Table 5 shows that the R-square (R^2) of the research model is 0.256. This indicates that 25.6% of the SRM implementation is explained by the exogenous variables, indicating a substantial research model, as suggested by Cohen (1988). By using the blindfolding procedure, the predictive relevance (Q^2) values for all constructs are more than 0, indicating that the research model has sufficient predictive relevance. Finally, the effect sizes (f^2) were assessed to measure the relative impact of the predictor constructs on the dependent variable. It can be observed that regulatory pressure has a medium effect size (f^2 = 0.176) in producing R^2 for SRM implementation. Contrastingly, competitive pressure (f^2 = 0.071) and normative pressure (f^2 = 0.004) have a small effect size in producing R^2 for SRM implementation.

Table 5 also shows that regulatory pressure and competitive pressure have a positive and significant influence on SRM implementation at p-value < 0.000 and p-value < 0.05, respectively. This means that H1 and H2 are supported. However, normative pressure has no significant effect on SRM implementation. This means that the result does not support H3.

Table 5 Results structural model and hypotheses testing

Hypothesis	Std. beta	Std. Error	T-values	P-values	VIF	R^2	f^2	Q^2
H1: RP → SRM	0.403	0.096	4.187	0.000*	1.252	0.256	0.176	3.620
H2: CP → SRM	0.249	0.085	2.933	0.003**	1.197		0.071	
H3: NP → SRM	-0.058	0.120	0.483	0.629	1.270		0.004	

Note: RP = Regulatory Pressure; CP = Competitive Pressure; NP = Normative Pressure; SRM = Sustainability Risk Management. t-value > 1.96; *p-value < 0.001; **p-value < 0.05; ***p-value < 0.10 (two-tailed).

DISCUSSION

Regulatory Pressure and SRM Implementation (H1)

The finding implies that when the pressure from regulators is high, palm oil mills are likely to implement SRM as a controlling system. This finding is consistent with prior studies examining the impact of regulatory pressure on several MCSs, such as EMA (Jalaludin et al., 2011; Wang et al., 2018), environmental management control systems (Pondeville et al., 2013), carbon management accounting (Bui and de Villiers, 2017; Kumarasiri and Gunasekarage, 2017), and carbon risk management (Subramaniam et al., 2015). In addition, the positive and significant relationship between regulatory pressure and SRM implementation highlights the importance of institutional theory in explaining the impact of institutional pressure on organisations' practices. Institutional theory posits that organisational behaviours or management control practices are greatly influenced by the external and institutional environment. With such regulatory pressure, firms are more likely to change their practices to conform to the institutional environment in order to maintain legitimacy and avoid penalties. The findings reveal that government regulation is important for sustainable palm oil practices, and the respondents agree that failure to comply with sustainable palm oil practices leads penalties. The significant effect of regulatory pressure shows that palm oil mills' activities are under greater scrutiny from the government's sustainability policies due to the strong law enforcement imposed by the ministry and authoritative bodies. Thus, the finding highlights the important role played by policymakers in instilling regulatory pressure for the purpose of promoting the benefits of implementing SRM in palm oil mills.

Competitive Pressure and SRM Implementation (H2)

The finding implies that competitive pressure has a positive and significant influence on the implementation of SRM in palm oil mills in Malaysia. From the perspective of institutional theory, DiMaggio and Powell (1983) suggest that organisational decisions are heavily affected by mimetic pressure that generates a common set of values to produce similar organisational practices. Mimetic pressure occurs through the imitation of the practices of successful competitors within the same industry (Abdul Aziz et al., 2017). This significant finding indicates that competitive pressure is highly important for palm oil mills when implementing SRM to manage their sustainability issues. Therefore, this finding enriches the notion of institutional theory, which claims that organisations will adopt a similar practice from competitors that they acknowledge as successful, seeking to replicate their own path to success and enhance their legitimacy through established policies. In Malaysia, the implementation of SRM is still at the infancy stage, and most companies are not ready to implement it (Abdul Aziz et al., 2016c). Thus, most companies in Malaysia, including palm oil mills, have little or no information about SRM implementation and have no experience with this kind of business strategy. Therefore, competitors' success, especially from the industry leaders, in implementing the SRM may provide organisations with access to examples of best practices and avenues for them to imitate. The finding is important for policymakers in promoting the benefits of SRM to industry leaders among palm oil mills as a benchmark. This will trigger other palm oil mills to study how benchmarked rivals operate and imitate these successful mills under imitative pressure.

Normative Pressure and SRM Implementation (H3)

This implies that normative pressure does not significantly influence the implementation of SRM in palm oil mills. Institutional theory posits that external groups such as industry and trade associations, local communities, environmental protection groups, and customers play a crucial role in shaping organisational norms and culture, which greatly influence their behaviour and practices (Dimaggio and Powell, 1983;

Jalaludin et al., 2011; Wang et al., 2018). In the present study, local communities, environmental protection groups, and customers do not significantly influence palm oil mills' practices in implementing the SRM. The finding can be attributed to the strong influence of regulations that govern the palm oil industry. This means that the sustainability regulations issued by MPOB, DOE, and the ministry have a greater influence than the pressure from other external groups in driving palm oil mills' behaviour and practices. The finding is consistent with Wang et al. (2018), who found that normative pressure exerts only a weak influence on organisational behaviour and practices when the regulatory pressure that comes from government enforcement is high. One possible explanation is that the government has a significant effect on an organisation's practices. Even if the external groups have sustainability demands, they must use a proper channel designed by the government so that enforcement can be made. This is evident in Table 4, which shows that the standard coefficient of normative pressure and SRM implementation is positive but lower than regulatory pressure, explaining the insignificant findings of H3.

CONCLUSION, LIMITATIONS, AND RECOMMENDATIONS

The objective of this study was to investigate the influence of institutional pressures on the implementation of SRM in Malaysian palm oil mills. Drawing on institutional theory, the findings indicate that regulatory pressure and competitive pressure have a positive and significant influence on the implementation of SRM, while normative pressure has no significant influence. Overall, the findings have theoretical and practical implications.

From a theoretical perspective, institutional theory provides a theoretical framework for explaining why companies implement SRM. The findings of this study contribute to institutional theory by suggesting that regulatory and competitive pressures shape an organization's structure and determine its actions. Second, while studies on institutional theory and MCS have been widely conducted in various contexts—including manufacturing, logistics, service companies, public-listed firms, and small and medium enterprises across different industries—this study specifically focuses on the influence of institutional pressures on SRM in palm oil mills. Empirically, the findings provide valuable insights for the understanding of how institutional pressures affect industries with different characteristics, particularly from the perspective of a developing country. Although an organization's actions may require internal drivers, such as its unique characteristics, to proactively address sustainability issues, its response to these issues is likely influenced by the institutional forces surrounding it. Finally, this study advances the understanding of institutional pressures not only in industries facing intense sustainability demands but also during the early stages of SRM implementation.

Practically, these findings acknowledge the importance of institutional pressures in the implementation of SRM. They provide useful insights for policymakers in drafting and formulating suitable rules and regulations to induce palm oil industry players to implement the SRM. Thus, the findings highlight the important role played by policymakers in instilling regulatory pressure to promote the benefits of implementing SRM in palm oil mills. In addition, the findings indicate that competitive pressure has a positive influence on the implementation of SRM. This highlights that companies are likely to change their structures and adopt dominant sustainability practices by emulating the same practices as successful competitors. Accordingly, the relevant authorities can induce the implementation of SRM in large companies and set benchmarks for small companies to follow, thus fulfilling the stakeholders' demand for sustainable palm oil production.

Notwithstanding the useful insights, the findings of this study should be viewed considering the following limitations, which provide avenues for future research directions. First, the data are subject to the normal limitations of the survey method, which may include response bias. Hence, there is the potential for inaccuracy or misinterpretation of the meaning of the questionnaire. Given that fact that SRM implementation is relatively new in Malaysia and worldwide, it is recommended that future research employ qualitative research or mixed methods to develop a deeper understanding of the factors that influence the implementation of SRM. Second, the generalisation of the findings should be made with caution as the data are restricted to palm oil mills in Malaysia. It would be valuable for future research to replicate this study across different settings to gauge whether the findings obtained are applicable to the global context or only reflect industry-specific characteristics. Next, the findings show that only 25.6% of SRM implementation is explained by

institutional pressures. This indicates that other factors could be tested to examine their influence on SRM implementation. Specifically, the variables used in this study are from the perspective of the external environment of palm oil mills. Future studies may include other relevant internal factors that could drive SRM implementation. Finally, SRM implementation is not measured based on its four components (risk identification, risk assessment, risk response, and risk monitoring). It is recommended that future studies measure SRM implementation using the four components via a higher-order construct.

ACKNOWLEDGEMENT

This research work is supported by UPM IPS GRANT (GP-IPS/2020/9682900)

REFERENCES

Abdul Aziz, N. A., Abdul Manab, N., & Othman, S. N. (2016a). Managing The Adverse Impact of Crises and Disasters Through Sustainability Risk Management (SRM). *Science International Journal*, *28*(2), 1827–1831.

Abdul Aziz, N. A., Abdul Manab, N., & Othman, S. N. (2016b). Sustainability Risk Management (SRM): An Extension of Enterprise Risk Management (ERM) Concept. *International Journal of Management and Sustainability*, *5*(1), 1–10. https://doi.org/10.18488/journal.11/2016.5.1/11.1.1.10

Abdul Aziz, N. A., Manab, N. A., & Othman, S. N. (2015). Exploring the Perspectives of Corporate Governance and Theories on Sustainability Risk Management (SRM). *Asian Economic and Financial Review*, *5*(10), 1148–1158. https://doi.org/10.18488/journal.aefr/2015.5.10/102.10.1148.1158

Abdul Aziz, Nor Azah, Senik, R., Foong, S. Y., Ong, T. S., & Attan, H. (2017). Influence of institutional pressures on the adoption of green initiatives. *International Journal of Economics and Management*, *11*(3 Special Issue), 939–967.

Abdullah, I., Mahmood, W. H. W., Fauadi, H. F. M., Rahman, M. N. A., & Mohamed, S. B. (2017). Sustainability manufacturing practices in Malaysian palm oil mills: Priority and current performance. *Journal of Manufacturing Technology Management*, *28*(3), 278–298. https://doi.org/10.1108/MBE-09-2016-0047

Abdullah, M. H. S. B., Janor, H., Hamid, M. A., & Yatim, P. (2017). The Effect of Enterprise Risk Management on Firm Value: Evidence from Malaysian Technology Firms. *Jurnal Pengurusan*, *49*(1), 3–11.

Abu Bakar, L. J., & Ahmad, H. (2010). Assessing the relationship between firm resources and product innovation performance: A resource-based view. *Business Process Management Journal*, *16*(3), 420–435. https://doi.org/10.1108/14637151011049430

Ahmad, M. F., Ismail, S. N., Hassan, M. F., Wei, C. S., Abdul, N., Ahmad, A. N. A., Nawi, M. N. M., & Rahman, N. A. A. (2019). A study of green factory practices in Malaysia manufacturing industry. *International Journal of Supply Chain Management*, *8*(1), 772–776.

Anderson, D. R., & Anderson, K. E. (2009). Sustainability risk management. *Risk Management and Insurance Review*, *12*(1), 25–38. https://doi.org/10.1111/j.1540-6296.2009.01152.x

Beasley, M. S., Branson, B., & Pagach, D. (2015). An analysis of the maturity and strategic impact of investments in ERM. *Journal of Accounting and Public Policy*, *34*(3), 219–243. https://doi.org/10.1016/j.jaccpubpol.2015.01.001

Begum, H., Alam, A. S. A. F., & Awang, A. H. (2019). Sustainability of Malaysian oil palm: a critical review. *International Journal of Environment and Sustainable Development*, *18*(4), 387–408. https://doi.org/10.1504/IJESD.2019.103467

Bouma, J. J., & van der Veen, M. (2002). *Wanted: A Theory for Environmental Management Accounting*, *January*, 279–290. https://doi.org/10.1007/0-306-48022-0_22

Bromiley, P., McShane, M., Nair, A., & Rustambekov, E. (2015). Enterprise Risk Management: Review, Critique, and Research Directions. *Long Range Planning*, *48*(4), 265–276. https://doi.org/10.1016/j.lrp.2014.07.005

Bui, B., & de Villiers, C. (2017). Business strategies and management accounting in response to climate change risk exposure and regulatory uncertainty. *British Accounting Review*, *49*(1), 4–24. https://doi.org/10.1016/j.bar.2016.10.006

Choong, C. G., & Mckay, A. (2014). Sustainability in the Malaysian palm oil industry. *Journal of Cleaner Production*, *85*, 258–264. https://doi.org/10.1016/j.jclepro.2013.12.009

Christ, K. L. (2014). Water management accounting and the wine supply chain : Empirical evidence from Australia. *The British Accounting Review*, *46*(4), 379–396. https://doi.org/10.1016/j.bar.2014.10.003

Chu, Z., Xu, J., Lai, F., & Collins, B. J. (2018). Institutional theory and environmental pressures: The moderating effect of market uncertainty on innovation and firm performance. *IEEE Transactions on Engineering Management*. *65*(3), 392-403. https://doi.org/10.1109/TEM.2018.2794453

Dai, J., Chan, H. K., & Yee, R. W. Y. (2018). Examining moderating effect of organizational culture on the relationship between market pressure and corporate environmental strategy. *Industrial Marketing Management*, *74*, 227–236. https://doi.org/10.1016/j.indmarman.2018.05.003

Department of Statistics Malaysia. (2024, August 18). Economy - Gross Domestic Product (GDP). Retrieved from https://open.dosm.gov.my/dashboard/gdp

Dimaggio, P. J., & Powell, W. W. (1983). The Iron Cage Revisited: Institutional Isomorphism and Collective Rationality in Organizational Fields. *American Sociological Review*, *48*, 147-160. https://doi.org/10.2307/2095101

Ezechi, E. H., & Muda, K. (2019). Overview of trends in crude palm oil production and economic impact in Malaysia. *Sriwijaya Journal of Environment*, *4*(1), 19–26. https://doi.org/10.22135/sje.2019.4.1.19

Fan, H., Li, G., Sun, H., & Cheng, T. C. E. (2017). An information processing perspective on supply chain risk management: Antecedents, mechanism, and consequences. *International Journal of Production Economics*. *185*, 63-75. https://doi.org/10.1016/j.ijpe.2016.11.015

Gendron, Y., Brivot, M., & Guénin-Paracini, H. (2016). The Construction of Risk Management Credibility Within Corporate Boardrooms. *European Accounting Review*, *25*(3), 549–578. https://doi.org/10.1080/09638180.2015.1064008

Giannakis, M., & Papadopoulos, T. (2016). Supply chain sustainability: A risk management approach. *International Journal of Production Economics*, *171*, 455–470. https://doi.org/10.1016/j.ijpe.2015.06.032

Hafizuddin-Syah, B. A. M., Shahida, S., & Fuad, S. H. (2018). Sustainability certifications and financial profitability: An analysis on palm oil companies in Malaysia. *Jurnal Pengurusan*, *54*, 143–154. https://doi.org/10.17576/pengurusan-2018-54-12

Hair, J. F., Ringle, C. M., & Sarstedt, M. (2011). PLS-SEM: Indeed a silver bullet. *Journal of Marketing Theory and Practice*, *19*(2), 139–152. https://doi.org/10.2753/MTP1069-6679190202

Hair, J. F. Jr., Hult, G. T. M., Ringle, C. M., & Sarstedt, M. (2017). *A Primer on Partial Least Squares Structural Equation Modeling (PLS-SEM) (2nd. ed.)*. Sage Publications.

Hofmann, H., Busse, C., Bode, C., & Henke, M. (2014). Sustainability-Related Supply Chain Risks: Conceptualization and Management. *Business Strategy and the Environment*, *23*(3), 160–172. https://doi.org/10.1002/bse.1778

Islam, K. S., Muthaiyah, S., & Fie, D. Y. G. (2020). Isomorphic drivers of institutional pressure and importance of environmental management system implementation towards the adoption propensity of green ICT. *International Journal of Energy Economics and Policy*, *10*(6), 624–634. https://doi.org/10.32479/ijeep.10618

Jabbour, M., & Abdel-Kader, M. (2016). ERM adoption in the insurance sector: Is it a regulatory imperative or business value driven? *Qualitative Research in Accounting and Management*, *13*(4), 472–510. https://doi.org/10.1108/QRAM-03-2015-0035

Jalaludin, D., Sulaiman, M., & Nik Ahmad, N. N. (2011). Understanding environmental management accounting (EMA) adoption : a new institutional sociology perspective. *Social Responsibility Journal*, *7*(4), 540–557. https://doi.org/10.1108/17471111111175128

Jamaludin, N. F., Hashim, H., Muis, Z. A., Zakaria, Z. Y., Jusoh, M., Yunus, A., & Abdul Murad, S. M. (2018). A sustainability performance assessment framework for palm oil mills. *Journal of Cleaner Production*, *174*, 1679–1693. https://doi.org/10.1016/j.jclepro.2017.11.028

Jamil, C. Z. M., Mohamed, R., Muhammad, F., & Ali, A. (2015). Environmental management accounting practices in small medium manufacturing firms. *Procedia - Social and Behavioral Sciences*, *172*, 619–626. https://doi.org/10.1016/j.sbspro.2015.01.411

June, S., & Mahmood, R. (2011). Role Ambiguity and Job Performance of. *Malaysian Management Journal*, *15*, 1–20.

Khatun, R., Reza, M. I. H., Moniruzzaman, M., & Yaakob, Z. (2017). Sustainable oil palm industry: The possibilities. In *Renewable and Sustainable Energy Reviews*, *76*, 608–619. https://doi.org/10.1016/j.rser.2017.03.077

Kumarasiri, J., & Gunasekarage, A. (2017). Risk regulation, community pressure and the use of management accounting in managing climate change risk: Australian evidence. *British Accounting Review*, *49*(1), 25–38. https://doi.org/10.1016/j.bar.2016.10.009

Kumari, S., & Patil, Y. B. (2019). Enablers of sustainable industrial ecosystem: framework and future research directions. *Management of Environmental Quality: An International Journal*, *30*(1), 61–86. https://doi.org/10.1108/MEQ-02-2018-0044

Lim, C. I., Biswas, W., & Samyudia, Y. (2015). Review of existing sustainability assessment methods for Malaysian palm oil production. *Procedia CIRP*, *26*, 13–18. https://doi.org/10.1016/j.procir.2014.08.020

Manab, N. A., Aziz, N. A. A., & Jadi, D. M. (2020). Sustainability risk management: an integrative framework to evaluate emerging risks and other non-quantifiable risks affecting company survival. World Review of Science, Technology and Sustainable Development, *16*(2), 87-104.

Masocha, R. (2019). Normative environmental configuration of SMEs within the sustainable development discourse in South Africa: An empirical study. *Sustainability (Switzerland)*, *11*(23), 6537. https://doi.org/10.3390/su11236537

Meyer, J. W., & Rowan, B. (1977). Institutionalized Organizations: Formal Structure as Myth and Ceremony. *American Journal of Sociology*. *83*(2), 340-363. https://doi.org/10.1086/226550

Misopoulos, F., Michaelides, R., Salehuddin, M. A., Manthou, V., & Michaelides, Z. (2018). Addressing organisational pressures as drivers towards sustainability in manufacturing projects and project management methodologies. *Sustainability (Switzerland)*, *10*(6), 2098. https://doi.org/10.3390/su10062098

Moll, J., Burns, J., Major, M., & Hoque, Z. (ed. . (2006). Institutional theory in accounting research. In *Methodological Issues in Accounting Research: Theories and Methods*. Spiramus Press.

MPOC. (2021). Malaysian Palm Oil Industry. In *MPOC*. http://mpoc.org.my/malaysian-palm-oil-industry/

Muhammad-Jamil, C. Z., & Mohamed, R. (2017). Antecedent factors of environmental management accounting practice. *International Journal of Economic Research*, *14*(16), 543–553.

Ong, T. S., Teh, B. H., Selley, S., & Magsi, H. (2018). The relationship between contingent factors that influence the environmental management accounting and environmental performance among manufacturing companies in Klang Valley, Malaysia. *International Journal of Economics and Management*, *12*(1), 205 - 232.

Paape, L., & Speklé, R. F. (2012). The Adoption and Design of Enterprise Risk Management Practices: An Empirical Study. *European Accounting Review*. *21*(3), 533-564. https://doi.org/10.1080/09638180.2012.661937

Parveez, G. K. A., Leow, S. S., Kamil, N. N., Madhihah, A. Z., Ithnin, M., Ng, M. H., ... & Idris, Z. (2024). Oil palm economic performance in Malaysia and R&D progress in 2023. *Journal of Oil Palm Research*, *36*(2), 171-186.

Parveez, G. K. A., Rasid, O. A., Ahmad, M. N., Taib, H. M., Bakri, M. A. M., Hafid, S. R. A., ... & Idris, Z. (2023). Oil palm economic performance in Malaysia and R&D progress in 2022. *Journal of Oil Palm Research*, *35*(2), 193-216.

Pondeville, S., Swaen, V., & De Rongé, Y. (2013). Environmental management control systems: The role of contextual and strategic factors. *Management Accounting Research*, *24*(4), 317–332. https://doi.org/10.1016/j.mar.2013.06.007

Razak, S. E. A., Mustapha, M., Shah, S. M., & Kasim, N. A. A. (2024). Sustainability risk management: Are Malaysian companies ready?. *Heliyon*, *10*(3). e24681.

Richter, N. F., Sinkovics, R. R., Ringle, C. M., & Schlägel, C. (2016). A critical look at the use of SEM in international business research. *International Marketing Review*, *33*(3), 376–404. https://doi.org/10.1108/IMR-04-2014-0148

Rigdon, E. E. (2014). Rethinking Partial Least Squares Path Modeling: Breaking Chains and Forging Ahead. *Long Range Planning*, *47*(3), 161–167. https://doi.org/10.1016/j.lrp.2014.02.003

Sancha, C., Longoni, A., & Giménez, C. (2015). Sustainable supplier development practices: Drivers and enablers in a global context. *Journal of Purchasing and Supply Management*, *21*(2), 95–102. https://doi.org/10.1016/j.pursup.2014.12.004

Sanusi, Z. M., Nia, M. S., Roosle, N. A., Sari, R. N., & Harjitok, A. (2017). Effects of Corporate Governance Structures on Enterprise Risk Management Practices in Malaysia. *International Journal of Economics and Financial Issues*, *7*(1), 6-13.

Sarens, G., & Christopher, J. (2010). The association between corporate governance guidelines and risk management and internal control practices: Evidence from a comparative study. *Managerial Auditing Journal*, *25*(4), 288–308. https://doi.org/10.1108/02686901011034144

Sarstedt, M., Hair, J. F., Cheah, J. H., Becker, J. M., & Ringle, C. M. (2019). How to specify, estimate, and validate higher-order constructs in PLS-SEM. *Australasian Marketing Journal*, *27*(3), 197–211. https://doi.org/10.1016/j.ausmj.2019.05.003

Scott, W. R., & Meyer, J. W. (1983). *Organization and Environments: Ritual and Rationality*. Beverly Hills, CA: Sage.

Strauss, E. R., Nevries, P., & Weber, J. (2013). The development of MCS packages - Balancing constituents' demands. In *Journal of Accounting and Organizational Change*, *9*(2), 155-187. https://doi.org/10.1108/18325911311325942

Subramaniam, N., Wahyuni, D., Cooper, B. J., Leung, P., & Wines, G. (2015). Integration of carbon risks and opportunities in enterprise risk management systems: Evidence from Australian firms. *Journal of Cleaner Production*, *96*, 407-417. https://doi.org/10.1016/j.jclepro.2014.02.013

Themsen, T. N., & Skærbæk, P. (2018). The performativity of risk management frameworks and technologies: The translation of uncertainties into pure and impure risks. *Accounting, Organizations and Society*, *67*, 20-33. https://doi.org/10.1016/j.aos.2018.01.001

Valdivieso, P., Andersson, K. P., & Villena-Roldán, B. (2017). Institutional drivers of adaptation in local government decision-making: evidence from Chile. *Climatic Change*, *143*(1–2), 157–171. https://doi.org/10.1007/s10584-017-1961-9

Wang, S., Wang, H., & Wang, J. (2018). Exploring the effects of institutional pressures on the implementation of environmental management accounting: Do top management support and perceived benefit work? *Business Strategy and the Environment*, *28*(1), 233–243. https://doi.org/10.1002/bse.2252

World Business Council for Sustainable Development. (2017). *Sustainability and enterprise risk management: The first step towards integration*. https://docs.wbcsd.org/2017/01/WBCSD_Risk_Publication_2016.pdf

Wijethilake, C., & Lama, T. (2018). Sustainability core values and sustainability risk management: Moderating effects of top management commitment and stakeholder pressure. *Business Strategy and the Environment*, *28*(1), 143–154. https://doi.org/10.1002/bse.2245

Wijethilake, C., Munir, R., & Appuhami, R. (2017). Strategic responses to institutional pressures for sustainability: The role of management control systems. *Accounting, Auditing and Accountability Journal*, *30*(8), 1677–1710. https://doi.org/10.1108/AAAJ-07-2015-2144

Wong, A. (2014). Corporate sustainability through non-financial risk management. *Corporate Governance*, *14*(4), 575-586. https://doi.org/10.1108/CG-02-2013-0026

Yi, Y., Liu, Y., He, H., & Li, Y. (2012). Environment, governance, controls, and radical innovation during institutional transitions. *Asia Pacific Journal of Management*, *29*(3), 689–708. https://doi.org/10.1007/s10490-010-9231-7

Yusoff, R., Yusoff, H., Abd Rahman, S. A., & Darus, F. (2019). Investigating Sustainability Reporting from the Lens of Stakeholder Pressures and Isomorphism. *Journal of Asia-Pacific Business*, *20*(4), 302–321. https://doi.org/10.1080/10599231.2019.1684170

Zhou, Y., & Yuen, K. F. (2024). A Bayesian network model for container shipping companies' organisational sustainability risk management. *Transportation Research Part D: Transport and Environment*, *126*, 103999.

Ziaei, S. M., & Ali, I. (2021). Commodity exports and macroeconomic performance: The case of palm oil in Malaysia. *Cogent Economics & Finance*, *9*(1), 1901388.

Zucker, L. (1987). Institutional Theories Of Organization. *Annual Review of Sociology*, *13*, 443-464. https://doi.org/10.1146/annurev.soc.13.1.443

APPENDIX

Appendix 1Variable measurement

Regulatory pressure	
No.	Item
1.	Our mill is subject to governmental regulation regarding the sustainable palm oil practices.
2.	Our mill is subject to pay fines if there is failure to comply with sustainable palm oil practices.
3.	Our sustainable palm oil practices are influenced by the mill's shareholders.
4.	Our sustainable palm oil practices are influenced by the decision of mill's head office.
5.	Our sustainable palm oil practices are influenced by the availability to get funding from financial institutions.
Competitive pressure	
No.	Item
1.	The leading competitors set an example of implementing sustainable palm oil practices.
2.	The leading competitors influence our sustainable palm oil practices.
3.	The leading competitors' action pressures our mill for implementing sustainable palm oil practices.
4.	The leading competitors have obtained competitive advantages by implementing sustainable palm oil practices.
5.	The leading competitors have benefited greatly by implementing sustainable palm oil practices.
Normative pressure	
No.	Item
1.	Our sustainable palm oil practices are influenced by the local communities where mill operates.
2.	Our sustainable palm oil practices are influenced by the environmental protection groups.
3.	Our sustainable palm oil practices are influenced by the customer's sustainability awareness.
SRM Implementation	
No.	Item
1.	Our mill periodically identifies sustainability issues.
2.	Our mill has a clear process in place to assess the impact of sustainability issues.
3.	Our mill has a clear process to assess the occurrence of sustainability issues.
4.	Our mill has a clear process to detect sustainability issues.
5.	Our mill has a clear process for mitigation of sustainability issues.
6.	Our mill has a clear monitoring system to monitor the sustainability issues.