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Organizational Determinants of Environmental Management Accounting Adoption: Evidence from Malaysian Local Councils

Che Ku Hisam Che Ku Kassim
Faculty of Accountancy, Universiti Teknologi MARA, Cawangan Terengganu, Kampus Dungun, Malaysia
Email: cheku521@uitm.edu.my

Abstract: Despite the numerous benefits that environmental management accounting (EMA) offers, its adoption by the public sector in developing countries seems to be progressing slowly. Therefore, the purpose of this paper is to examine the organizational determinants influencing the adoption of EMA by Malaysian local councils. A self-administered questionnaire survey was conducted among accountants at local councils in Peninsular Malaysia using a consensus approach. The questionnaire items are based on prior studies on EMA adoption. The results suggest that an internal environmental committee plays a significant role in encouraging local councils to adopt EMA. This committee is responsible for planning, monitoring, measuring, and reporting environmental performance, for which EMA is needed to provide pertinent information. The research provides an impetus for other local councils to set up their in-house environmental committee to promote EMA adoption and subsequently improve the generation of information for more accurate measurement of environmental performance. Since research on EMA adoption in the public sector is relatively scarce, it contributes to a limited understanding of the internal and external factors that influence its adoption. Therefore, the paper offers useful insights to relevant authorities, such as federal and state governments, on policy changes that could enhance EMA adoption within public sector organisations.

Keywords: *Environmental Management Accounting, Environmental Accounting, Environmental Reporting, Local Council, Local Government*

1. Introduction

Rapid economic development has transformed the social fabric and altered ecosystems in Malaysia, leading to the emergence of various environmental problems. One such problem is the increasing generation and variety of solid waste (Che Ku Kassim, Ahmad, Mohd Nasir, Mod Arifin, & Wan Mohd Nori, 2019; Mohd Shakil, Mohamad Azhar, & Othman, 2023). Statistics show that an estimated 49,670 tonnes of waste are generated daily (Abdul Ghani, 2021), with municipal waste accounting for 64% of the total solid waste generated (Mohd Shakil et al., 2023). However, only 70% is collected, while the remaining 30% often ends up in illegal dumping sites or is diverted for recycling purposes at the source or during collection (Hassan, Awang, & Jaafar, 2006).

The responsibility for managing waste and public cleansing falls on the shoulders of public authorities, specifically local councils (Ibrahim and Md Salleh, 2006). The increasing volume of waste and limited resources, such as landfill space, have led to various environmental problems and challenges, including effective waste control management and sustainable development (Qian, Burritt, & Monroe, 2011). The complexity and rising costs of waste management highlighted the need for a more holistic approach to identify environmental information and make environmentally amicable decisions (Qian et al., 2011).

Jasch (2003) has highlighted the lack of appropriate accounting techniques, especially in the management accounting discipline, for addressing environmental matters. Although a host of techniques have been developed, they have mostly originated from other disciplines rather than accounting itself (Jasch, 2003). The failure to capture environmental information may distort the success of environmental initiatives developed and promoted by an organization, as accountants fail to provide the necessary support for environmental decision-making (Gibson and Martin, 2004). Traditionally, many environment-related costs are grouped into overhead accounts, leading to obscured cost information. This practice means that environmental costs are treated as hidden costs that are not properly acknowledged or reported (Gale, 2006).

The shortcomings of conventional accounting practices suggest the necessity of embracing a more contemporary approach to overcome these flaws. This is where EMA comes into play (Che Ku Kassim, Mohd Ariffin, & Muhmad, 2024). The core idea of EMA is often associated with internal costs, as external costs, such as those impacting society or the environment in which an organization operates, are often viewed as beyond

the organization's legal obligations (Gibson and Martin, 2004; Jasch, 2006). EMA is constantly being adopted to improve an organization's environmental performance significantly, as it helps in improving the identification, measurement, and reporting of environmental information. This, in turn, provides a more accurate basis for assessing environmental performance (Jasch, 2006).

Although EMA adoption has been dominated by the private sector, there is evidence suggesting that the public sector is beginning to show some commitment to EMA (Qian et al., 2011; Che Ku Kassim, Adnan, & Ali, 2022). However, particularly in developing countries such as Malaysia, EMA adoption is only at a moderate level (Che Ku Kassim et al., 2022). This raises the question of what factors are likely to influence the adoption of EMA. The literature indicates that various internal and external factors influence EMA adoption; however, this paper, being explanatory, focuses only on the organizational determinants.

The paper is structured as follows: The next section reviews prior studies related to organizational determinants and develops relevant hypotheses. Following that, the research methods adopted are elaborated upon. Then, the results are presented and discussed. Finally, the paper ends with a conclusion.

2. Literature Review

EMA is introduced to resolve the shortcomings of conventional management accounting (MA) practices, particularly concerning environmental costs and impacts (Burritt, Schaltegger, & Christ, 2023; Che Ku Kassim et al., 2024). In the past, environmental costs were often treated as part of overhead expenses, leading to obscured cost information (Gibson and Martin, 2004). This inaccurate practice of MA presents significant challenges for EMA, such as the necessity to disclose hidden environmental costs accurately through revising cost identification, measurement, and reporting methods. Proper scrutiny of environmental costs allows an organization to accurately calculate and manage these costs, leading to improved environmental performance information (Gibson and Martin, 2004). This demonstrates the important role of EMA as a valuable tool to assist organizations in managing costs and reducing the environmental impact of their operations.

Generally, EMA is classified into two main categories: physical and financial information. Physical information includes records on the use, flows, and final disposal of energy, water, and materials (including corresponding waste), as many environmental impacts are related to these physical substances. Monetary information includes environmental costs, earnings, and savings (Che Ku Kassim et al., 2022). Private and public sector organizations are under pressure to integrate environmental issues into their policies, strategies, and decisions (Che Ku Kassim et al., 2024). Moreover, bowing to the heightened environmental awareness, stakeholders are demanding that sufficient environmental information be included in corporate reports and other communication channels such as organizational websites and social media (Che Ku Kassim, Ahmad, Mohd Nasir, Mod Arifin, & Wan Mohd Nori, 2020; Giacomini, Rocca, Zola, & Mazzoleni, 2021). To support the environmental reporting process, EMA is crucial as it can help organizations accurately identify, measure, and report information related to numerous environmental aspects of production and transactions (Che Ku Kassim et al., 2022).

Since EMA is an internal practice, its adoption is likely to be influenced by various factors. There is a wealth of evidence suggesting that environmental practices are systematically determined by a set of observable organizational determinants (Frost and Seamer, 2002; Christ and Burritt, 2013; Mokhtar, Jusoh, & Zulkifli, 2016). Whilst the association between EMA and organizational determinants has been a consistent area of interest over the years (Mokhtar et al., 2016), limited analysis of such an association is available for public sector organizations, especially local councils (Che Ku Kassim et al., 2022). Therefore, this paper attempts to examine the extent of influence that organizational determinants have on EMA in local councils in Malaysia. Several organizational determinants examined in this paper are reviewed below.

Age of Organization

According to Kobeissi and Damanpour (2009), age is one of the organizational attributes that contribute to the development of internal environmental practices. Mature organizations are often associated with high expectations from stakeholders regarding the organization's involvement in social and environmental activities. The authors further argue that an organization goes through different growth phases in its life cycle before

reaching a point of stability. Newer and less mature organizations tend to prioritize achieving their economic goals, while more established organizations shift their focus towards addressing pertinent social issues that can set them apart from their peers (Kobeissi and Damanpour, 2009). On the other hand, Welbeck, Owusu, Bekoe, and Kusi (2017) argue that when an organization matures, its involvement in social responsibility activities becomes ingrained, with social and environmental activities becoming integral to organizational strategy.

Past research rarely examines the age of an organization as a variable influencing environmental practices. Although one may argue that an organization's age symbolizes political visibility similar to organizational size, there appears to be a lack of empirical studies to substantiate the claim. Arguably, mature organizations, particularly those in the public sector, may be more susceptible to public pressures due to their visibility to relevant publics. This heightened visibility may attract a disproportionate amount of scrutiny, necessitating a greater organizational response to ensure its legitimacy. (Frost and Seamer, 2002). In the context of EMA, it can be speculated that mature organizations are more driven to embrace EMA to help in identifying, quantifying, and disclosing environmental costs and/or benefits with a certain degree of accuracy. Therefore, the following hypothesis is formulated:

H_1 = *There is a positive relationship between the age of the local council and EMA adoption.*

Organizational Size

Organizational size has been widely examined in environmental accounting and reporting research in the public sector (Frost and Seamer, 2002; Ribeiro and Aizar-Guzman, 2010). The consistent results show that size positively influences organizations to adopt environmental accounting practices. An identical finding is also found in empirical research conducted within the Malaysian context (see, for example, Mokhtar et al., 2016). Larger organizations often feel that they are under intense scrutiny from regulators and the public. To avoid unwanted scrutiny, they tend to be more proactive in responding to their social responsibilities compared to smaller organizations (Mandigma and Omier, 2024). Moreover, due to the extensive nature of their operations, larger organizations need EMA to support the measurement and reporting of their environmentally-related commitments. This aligns with the Legitimacy Theory, which suggests that larger organizations face significant pressure to disclose environmental information because of their numerous stakeholders and societal expectations (Mandigma and Omier, 2024).

In general, larger organizations have greater financial resources to implement projects or activities aimed at reducing environmental impacts and subsequently report on their efforts compared to smaller organizations (Ribeiro and Aizar-Guzman, 2010; Mokhtar et al., 2016). As EMA is a comprehensive MA practice, it requires a data management and technology infrastructure to support new processes for gathering and handling environmental data (Zatini, Porta, & Za, 2025). Arguably, only larger organizations with extensive financial resources can afford to invest in acquiring new data infrastructure and the related information systems. Moreover, implementing EMA also requires organizations to provide sufficient training and skills support for staff to handle new forms of data, which necessitates a budget allocation that smaller organizations may struggle to fulfil. Therefore, consistent with the above contentions, the following hypothesis is developed:

H_2 = *There is a positive relationship between the size of a local council and EMA adoption.*

Presence of an Environmental Committee

According to Gale (2006), an EMA and reporting system requires a comprehensive set of environmental performance information that can only be obtained through the establishment of an internal environmental committee within an organization. Ideally, this environmental committee serves as a support system that provides relevant environmental information, which is crucial input for EMA and reporting (Jasch, 2003). In research conducted by Velte and Stawinoga (2020), it was discovered that the presence of an internal environmental committee responsible for social and environmental involvement is significantly associated with the extent of the organization's engagement in social and environmental-related activities. To acknowledge their efforts, organizations make appropriate disclosures to highlight their environmental commitment and responsibility. Moreover, an internal environmental committee plays a significant role in shaping an organization's environmental strategies, which in turn influence the organization's strategic policies to meet stakeholder needs (Dixon-Fowler, Ellstrand, & Johnson, 2017).

The extant studies consistently show evidence of a positive relationship between the development of an internal environmental committee and environmental accounting practices and performance (Dixon-Fowler et al., 2017; Velte and Stawinoga, 2020). This suggests that having an environmental committee could propel the involvement of an organization in social and environmental initiatives. Similar results have been observed in the context of local councils. Ribeiro and Aibar-Guzman (2010), for example, conducted a study on the determinants of environmental accounting practices in local entities in Portugal. They found that these practices are significantly influenced by the adoption and implementation of internal environmental management practices. This indicates that local councils prioritize environmental-related activities, contributing to improvements in their social and environmental performance. Therefore, consistent with the foregoing arguments, the following hypothesis is developed:

H_3 = *There is a positive relationship between the existence of an environmental committee in a local council and EMA adoption.*

Status of Local Council

There is existing evidence suggesting variations in the adoption of environmental accounting practices among different tiers of local councils. Marcuccio and Steccolini (2009), for example, found differences in voluntary extended performance reporting, which consists of social, environmental, and economic elements among Italian local governments. Their study reveals that municipalities that are closer to citizens prioritize reporting on social impacts compared to provinces. Provinces, on the other hand, adopt a more balanced approach in their reports. Additionally, since provinces are more related to economic activities, they place greater emphasis on disclosing financial information, which may result in lower levels of environmental and social disclosure compared to municipalities. Joseph and Taplin (2011) also suggest that differences are likely to exist among different tiers of local councils, as each has different types of constituents and faces varying levels of pressure when it comes to engaging in environmental-related accounting practices.

Similarly, Qian and Burritt (2007) also found that the localization of local councils is an important criterion in the adoption of environmental accounting practices. They discovered that urban councils are more likely to identify and use EMA information compared to rural councils for waste management, although the difference is not significant between large and small councils. However, evidence from Che Ku Kassim, Mohd Nasir, Ahmad, Wan Mohd Nori, and Mod Arifin (2021) suggests otherwise. They discovered that high-level local councils tend to provide a lower level of environmental disclosures compared to their low-level counterparts. In explaining the differences in the adoption of environmental accounting and reporting practices by urban and rural local councils, Williams, Wilmshurst, and Cliff (2011) suggest that insufficient resources and a lack of mandatory requirements are the main reasons. Therefore, consistent with the above contentions, the following hypothesis is developed:

H_4 = *There is a positive relationship between the status of a local government and EMA adoption.*

3. Methodology

A mail survey was conducted to examine the organizational determinants influencing EMA adoption in local councils in Malaysia, which are geographically scattered across the country. The selection of local councils was based on their participation in Local Agenda 21, which emphasizes their role in achieving sustainable development (Joseph and Taplin, 2011). This marks the pivotal role that local councils should play in the implementation of sustainable development at the local level. In supporting local councils, EMA can serve as a valuable tool that supplies pertinent information to help them address numerous environmental challenges (Qian et al., 2011). Moreover, the infusion of the New Public Management (NPM) concept into local councils has led to considerable administrative reforms aimed at improving the operations and performance of the public sector. This includes the application of private sector practices such as EMA in the public sector (Joseph et al., 2014). These evidences suggest that local councils may have adopted EMA in fulfilling their roles and responsibilities.

Survey Population

The population of the survey consisted of local councils in Peninsular Malaysia, as local councils in East Malaysia are governed by different legislation (Che Ku Kassim et al., 2020). There are a total of 103 local councils in Peninsular Malaysia, consisting of eight city councils, 34 municipal councils, 57 district councils, and

four modified local councils (Che Ku Kassim et al., 2019). Modified local councils are agencies with the authority to operate similarly to a local council (Che Ku Kassim et al., 2020). Due to the small number of local councils, a census approach was used instead of a sampling method.

Survey Instrument

A questionnaire was used as the survey instrument, which was divided into two parts. Section A consisted of seven items used to secure demographic information, while Section B consisted of ten items used to measure the extent of EMA usage within the local councils. The constructs were measured as follows:

Organizational size: The size of an organization has been measured using various proxies, as there is no theoretical explanation that justifies why a particular indicator should be selected over another indicator. When selecting the appropriate proxy for organizational size within the public sector domain, caution should be taken. According to Frost and Seamer (2002), the private and public sectors differ in a number of ways, and certain proxies may be inappropriate for public sector organizations. As an example, a proxy of entity size based on sales revenues or profit may be deemed to be unsuitable for government departments, as they do not generate revenue and are funded mainly by the government. This paper adopted total employees as a proxy for size, a similar approach to that used by Marcuccio and Steccolini (2009).

Organizational age: Organizational age is rarely examined in EMA research. Age has a significant influence on promoting the adoption of environmental-related accounting, as mature and stable organizations are often anticipated by stakeholders to be more involved in environmental and social activities. Consistent with Che Ku Kassim et al. (2019), the age of the organization was calculated based on the difference between the current operating year and the year of establishment.

Presence of environmental committee: The impact of the environmental committee, as a component of the internal management system, on social and environmentally related activities is clearly demonstrated in Velte and Stawinoga (2020). Having an environmental committee helps organizations engage in various social and environmental activities. To take credit for their efforts, an EMA is arguably crucial for providing relevant social and environmental data to inform organizational strategies and decisions. The presence of the environmental committee was measured using a dummy variable.

Status of local council: According to Joseph and Taplin (2011), different levels of local government experience varying degrees of pressure to adopt environmental accounting practices. The upper levels (city and municipal councils) often confront more pressure to adopt these practices compared to district councils. These differences in status can be measured using categorical data, as demonstrated by Che Ku Kassim et al. (2021).

EMA: The theoretical concept of EMA encompasses both monetary and physical aspects. Therefore, any measure intended to serve as an appropriate proxy for EMA should incorporate both elements. However, research on EMA in the public sector receives relatively little attention, resulting in a limited availability of measures developed to represent EMA. This paper adopts a measure of EMA developed by Ferreira, Moulang, and Hendro (2010), as the construct has been tested in various organizations, including the service sector.

Operationalization of the Survey

Before the actual survey, a pilot test was conducted with three accountants from municipal councils and two from district councils. The accountants were contacted personally through emails and telephone calls. Once they agreed to participate, the questionnaire was sent by mail. Stamped and self-addressed envelopes were provided to them to encourage a prompt reply. No major changes were required. However, there was a suggestion from the pilot test that the questionnaire should be made bilingual, in English and Bahasa Melayu (the national language of Malaysia), to improve comprehension. The revamped questionnaires were mailed to 98 accountants from all local councils in Peninsular Malaysia. Accountants were selected as they are the key individuals involved in preparing various types of organizational environmental and sustainability accounting information (Ferreira et al., 2010; Schaltegger and Zvezdov, 2015). The contact information and addresses of the accountants were obtained from the local councils' organizational portals. Two follow-ups were conducted, and the completed questionnaires were codified into a menu-driven software program for analysis.

4. Findings and Results

A total of 69 replies were received, yielding a response rate of 70.4%. However, three questionnaires were excluded from the analysis due to having more than 10% missing items (Hair, Black, Babin, Anderson, & Tatham, 2006). A non-response bias analysis was also performed by comparing the responses from early ten and late ten respondents, as the latter is often used as a proxy for non-respondents. The comparison of the two groups was conducted using the independent sample t-test. The two-tailed significance test indicates that $p>0.05$ (not significant), suggesting that the difference between the responses of the "early" and "late" respondents in the questionnaire was not significant. This, therefore, suggests that there is no significant difference between the two groups, and non-response bias is unlikely to be a problem.

Demographic Profile of the Local Councils

Table 1 summarizes the demographic profile of the local councils that responded to the survey. Out of the 66 local councils, district councils were the majority of the survey participants, with 38 respondents, accounting for approximately 57.6% of the total respondents. This is so as district councils comprise more than half (55.3%) of the total local councils in Peninsular Malaysia. The majority of the local councils (57.6%) have been in their current status for more than 20 years. In terms of age, the oldest local council is 79 years old, and 50% of the councils are considered newer, with an age of below 10 years. The number of employees is found to be correlated with the status of the local council. The higher the status, the greater the number of employees. For example, city councils have over 1,000 employees, while district councils in rural areas have fewer than 50 employees. Approximately 46 (69.7%) local councils have established an internal environmental committee within their organizations. Meanwhile, only four (6.1%) local councils have revealed that their organizations have a budget allocation for research and development (R&D) in environmental matters. These four are all municipal councils. None of the city councils has set aside a budget allocation for R&D in environmental matters. However, only one of the four local councils provided an estimate of their budget for R&D in environmental matters, which amounts to approximately 0.2% of the total organizational budget. Moreover, out of these four local councils, only three have established an Environmental Management System (EMS) and are certified under ISO 14001. Due to the limited number of local councils involved in R&D and having established an internal EMS, further analysis was not conducted.

Table 1: Demographic Profile of Local Councils

Description	Range	Frequency	Percentage
Status	City council	4	6.1
	Municipal council	20	30.3
	District council	38	57.6
	Modified local council	4	6.1
Number of years in the current status	< 1 year	1	1.5
	1 – 5 years	4	6.1
	6 – 10 years	10	15.2
	11 – 20 years	10	15.2
	> 20 years	38	57.6
	No information	3	4.5
Organisational age	< 10 years	4	6.1
	11 – 20 years	6	9.1
	21 – 30 years	7	10.6
	31 – 40 years	46	69.7
	41 – 50 years	2	3.0
	> 50 years	1	1.5
Total employees	< 50	4	6.1
	51 – 150	21	31.8
	151 – 300	17	25.8
	301 – 1,000	17	25.8
	> 1,000	7	10.6
Presence of an environmental committee	Yes	46	69.7

	No	20	30.3
R&D on environmental matters	Yes	4	6.1
	No	62	93.9
EMS certification	Yes	3	4.5
	No	62	93.9
	No information	1	1.5

In terms of the extent of EMA application within the organization, the mean score was 3.022, indicating a moderate level of EMA usage. Cronbach's Alpha was also computed for a variable related to the EMA application to measure the degree to which the ten items in the variable were positively correlated with one another (Coakes, Steed, & Dzidic, 2006). The alpha coefficient yielded a value of 0.954, indicating a high level of reliability, which is considered fairly strong (Sekaran and Bougie, 2016). The normality test was also conducted by measuring the values of skewness and kurtosis, as it is a fundamental assumption for regression analysis (Field, 2009). According to Kline (1998), data with a skewness value of less than three and a kurtosis value below ten can be generally classified as normally distributed. The tests indicate that all variables with continuous data (size, age, and EMA usage) have skewness and kurtosis values within the acceptable range for normality.

Organizational Determinants for EMA Adoption

The main objective of the study was to examine the organizational determinants that may influence the adoption of EMA. Stepwise regression was conducted for this purpose. Besides being the most popular method, stepwise regression allows the independent variable that contributes the most to explaining the dependent variable to be added first (Cooper and Schindler, 2008). Subsequent variables are then included based on their incremental contribution over the former variable. In addition, variables may be excluded if they meet the removal criterion. Before conducting multiple regressions, various assessments, including normality, the ratio of cases to independent variables, linearity, homoscedasticity, and independence of residuals (Coakes et al., 2006), were run. It is noteworthy to mention that these assumptions are not completely met. However, according to Fields (2009), violations of the assumptions do not necessarily mean that the regression model is incorrect; rather, they only alert that the findings may not be applicable beyond the sample used in the research. Table 2 below presents the results of the stepwise regression analysis.

Table 2: Regression Results

Independent Variable	t	Sig.	Tolerance	VIF	Hypothesis
Organizational size	0.470	0.640	0.967	1.039	Rejected
Organizational age	-1.061	0.293	0.995	1.005	Rejected
Environmental committee	2.202	0.031**	1.000	1.000	Accepted
Status of local government	-0.690	0.493	0.967	1.034	Rejected

**$p < 0.05$

The Mahalanobis distance values indicate that there are no multivariate outliers among the independent variables, as all values are less than the critical chi-square value of 13.8 at an alpha level of 0.000 (Coakes et al., 2006). Multicollinearity is another concern, as it can have damaging effects on multiple regressions (Cooper and Schindler, 2008). In assessing multicollinearity, the variable inflation factor (VIF) index and tolerance statistics are useful. Large VIF values exceeding 10 (Cooper and Schindler, 2008) and tolerance statistics below 0.1 (Fields, 2009) suggest a serious issue of multicollinearity. The results presented in Table 2 suggest that multicollinearity is unlikely to be an issue.

Contrary to earlier studies by Frost and Seamer (2002) and Ribeiro and Aizar-Guzman (2010), the organizational size of Malaysian local councils does not appear to be a significant determinant of EMA adoption. City and municipal councils, being larger in size than district councils, are expected to be involved in various environmental activities and programs. This involvement may lead them to adopt EMA in order to generate environmental information for better reporting (Mokhtar et al., 2016). However, such an expectation is not apparent. The results appear to be consistent with those of Ferriera et al. (2010) as they discovered a similar pattern and argued that EMA is not driven by organizational size but rather by the environmental sensitivity

of the organization. A study by Lynch (2010) indicates that the nature of public sector departments influences their environmental reporting. The level of reported environmental disclosures is found to be higher in departments with substantial environmental portfolios compared to their counterparts. This suggests that the more environmentally conscious an organization is, the more likely it is to provide environmentally-related disclosures and adopt EMA to help measure and report such information. Moreover, small and medium organizations in Malaysia are increasingly using EMA to gain a competitive advantage and match the information needs of stakeholders, despite having limited resources (Muhammad Jamil, Mohamed, & Muhammad, 2015).

Table 2 also exhibits evidence that organizational age is not a significant determinant for EMA adoption. While Welbeck et al. (2017) suggest that mature organizations prioritize social and environmental practices, the findings of the study suggest otherwise. EMA is an internal management practice that necessitates investment in data infrastructure and human skills (Muhammad Jamil et al., 2015). Therefore, a relatively young organization with strong financial resources may adopt EMA earlier as compared to mature organizations with limited resources. As shown in Table 1, only four local councils in Malaysia have allocated a budget for R&D in environmental matters. This indicates that EMA adoption is not a managerial priority for local councils. Perhaps, the focus of the local councils is more towards fulfilling their responsibilities in public service delivery to mitigate any unwanted criticisms from the public, such as long delays, unprofessional attitudes, and ineffective policy enforcement (Che Ku Kassim et al., 2022). Moreover, as Lynch (2010) points out, a lack of external pressures from stakeholders is also a factor that hinders the adoption of environmental accounting and reporting in the public sector. Qian et al. (2011) have shown that the rising demand for environmental improvements from the local community has influenced local councils in Australia to embark on EMA to facilitate the waste management practices. Unfortunately, in Malaysia, the power of the local community appears to be too weak to exert any significant influence on driving the adoption of EMA (Che Ku Kassim et al., 2022).

Consistent with Dixon-Fowler et al. (2017), an interesting finding related to the establishment of an internal environmental committee is observed. One of the advantages of having this committee is that it helps the organization streamline its environmental initiatives, ensuring that environmental costs and performance are properly tracked and accurately measured. This, in turn, will have a favorable impact on managerial decisions (Dixon-Fowler et al., 2017). In addition, an internal environmental committee signals the commitment of top managerial leaders to environmental matters, which can boost the organization's reputation and build strong credentials. As evidenced by Hasan, Waghule, and Hasan (2024), proper top management support encourages an organization to adopt EMA, and its adoption can help the organization improve its overall environmental performance. This is possible because EMA can provide relevant environmental and financial data that are crucial inputs for more effective decision-making. The internal environmental committee is responsible for advising local councils on operations that are properly aligned with organizational environmental goals, and EMA supports the measurement and reporting of environmental costs and benefits. Hence, local councils are provided with comprehensive information that will be beneficial in strategic planning and environmental strategies aimed at improving the overall performance of local councils.

The status of the local council also appears to be a non-significant determinant for EMA adoption. Although earlier studies indicate differences between environmental accounting and reporting practices among different levels of local councils (see, for example, Qian and Burritt, 2007; Marcuccio and Steccolini, 2009), such findings are not evident in the current study. One possible justification is that EMA is a relatively new concept in Malaysian local councils, and its nature and benefits are not well understood (Che Ku Kassim et al., 2022). In a survey conducted by Che Ku Kassim et al. (2019), one of the reasons for the low level of environmental information provided by Malaysian local councils is the lack of skilled staff to handle environmental-related matters. Therefore, to promote the adoption of EMA, especially within the public sector, the roles of education and professional bodies need to be strengthened. In addition, as highlighted in Che Ku Kassim et al. (2022), coercive pressure in the form of state government regulations can impact EMA adoption within local councils. However, regulating EMA as a compulsory practice may not be suitable at present due to the absence of a standardized framework. One possible approach to encourage the adoption of EMA in the Malaysian public sector is by making environmental reporting mandatory, mirroring the private sector. This would then lead to EMA adoption to facilitate reporting practices.

5. Conclusion

EMA is a comprehensive MA practice that helps organizations to accurately track information related to environmental costs and benefits. This information is crucial for organizations to measure their environmental performance and make informed decisions for long-term strategic planning. EMA adoption has been promoted in the private sector at both international and national levels. Of late, there has been a trend towards the adoption of EMA in the public sector as well, indicating a growing interest in environmental commitments. However, in the public sector, particularly at the local council level, EMA is only used at a moderate level, especially in developing countries such as Malaysia. An array of internal and external factors is found to influence EMA adoption. This paper examines four internal factors related to the organizational determinants, including organizational size, age, presence of an environmental committee, and the status of local councils. The results suggest that having an in-house environmental committee is a significant predictor that influences EMA adoption by local councils. This committee provides a systematic structure responsible for effective and efficient planning, monitoring, measuring, and reporting of the local councils' environmental performance. To help the committee fulfil its goals, EMA is considered vital as it can supply the required information for better environmental sustainability, governance, and accountability.

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