






# “The role of corporate environmental ethics in shaping environmental management accounting adoption under the institutional theory”

<b>AUTHORS</b>	Chetanraj D. B.  Senthil Kumar J. P.  Velaga Sri Sai  Ramegowda K. V. 
<b>ARTICLE INFO</b>	Chetanraj D. B., Senthil Kumar J. P., Velaga Sri Sai and Ramegowda K. V. (2024). The role of corporate environmental ethics in shaping environmental management accounting adoption under the institutional theory. <i>Environmental Economics</i> , 15(1), 32-45. doi: <a href="https://doi.org/10.21511/ee.15(1).2024.03">10.21511/ee.15(1).2024.03</a>
<b>DOI</b>	<a href="http://dx.doi.org/10.21511/ee.15(1).2024.03">http://dx.doi.org/10.21511/ee.15(1).2024.03</a>
<b>RELEASED ON</b>	Thursday, 15 February 2024
<b>RECEIVED ON</b>	Tuesday, 02 January 2024
<b>ACCEPTED ON</b>	Tuesday, 06 February 2024
<b>LICENSE</b>	 This work is licensed under a <a href="https://creativecommons.org/licenses/by/4.0/">Creative Commons Attribution 4.0 International License</a>
<b>JOURNAL</b>	"Environmental Economics"
<b>ISSN PRINT</b>	1998-6041
<b>ISSN ONLINE</b>	1998-605X
<b>PUBLISHER</b>	LLC “Consulting Publishing Company “Business Perspectives”
<b>FOUNDER</b>	LLC “Consulting Publishing Company “Business Perspectives”



NUMBER OF REFERENCES

**45**



NUMBER OF FIGURES

**2**



NUMBER OF TABLES

**9**

© The author(s) 2024. This publication is an open access article.



## BUSINESS PERSPECTIVES



LLC "CPC "Business Perspectives"  
Hryhorii Skovoroda lane, 10,  
Sumy, 40022, Ukraine  
[www.businessperspectives.org](http://www.businessperspectives.org)

**Received on:** 2<sup>nd</sup> of January, 2024  
**Accepted on:** 6<sup>th</sup> of February, 2024  
**Published on:** 15<sup>th</sup> of February, 2024

© Chetanraj D. B., Senthil Kumar J. P.,  
Velaga Sri Sai, Ramegowda K. V., 2024

Chetanraj D. B., Research Scholar,  
Department of Accounting  
and Finance, GITAM School of  
Business, GITAM University, India.  
(Corresponding author)

Senthil Kumar J. P., Associate Professor,  
Department of Finance, GITAM School  
of Business, GITAM University, India.

Velaga Sri Sai, Research Scholar,  
Department of Human resource  
management, GITAM School of  
Business, GITAM University, India.

Ramegowda K. V., Assistant Professor,  
Department of Finance, GITAM School  
of Business, GITAM University, India.

Chetanraj D. B. (India), Senthil Kumar J. P. (India), Velaga Sri Sai (India),  
Ramegowda K. V. (India)

# THE ROLE OF CORPORATE ENVIRONMENTAL ETHICS IN SHAPING ENVIRONMENTAL MANAGEMENT ACCOUNTING ADOPTION UNDER THE INSTITUTIONAL THEORY

## Abstract

This study aims to investigate the complex association between institutional pressure, adoption of environmental management accounting (EMA), and financial performance, with corporate environmental ethics as a moderating component. It explains why and how firms adopt EMA in response to institutional demand to factor environmental factors into their strategic decision-making processes. Quantitative information is gathered using a structured questionnaire from 256 manufacturing companies' environmental managers and executives who monitor environmental practices and policies and decision-makers who shape business environmental ethics and strategy in the Indian state of Karnataka. Data are analyzed using SmartPLS 4, and PLS-SEM tests the hypotheses. The results show that coercive pressure ( $\beta = 0.244$ ,  $p = 0.000$ ), mimetic pressure ( $\beta = 0.221$ ,  $p = 0.000$ ), and normative pressure ( $\beta = 0.209$ ,  $p = 0.000$ ) have a major role in determining the rate of EMA adoption. It is further identified that EMA adoption ( $\beta = 0.217$ ,  $p = 0.000$ ) positively influences the organization's financial performance. Furthermore, EMA adoption mediates the relationship between coercive pressure ( $\beta = 0.053$ ,  $p = 0.000$ ), normative pressure ( $\beta = 0.045$ ,  $p = 0.000$ ), mimetic pressure ( $\beta = 0.048$ ,  $p = 0.000$ ), and firm's financial performance. Coercive pressure is associated with higher EMA adoption, although the impact of this link is moderated by corporate environmental ethics ( $\beta = 0.069$ ,  $p = 0.000$ ).

## Keywords

institutional pressure, EMA adoption, corporate environmental ethics, financial performance

## JEL Classification

L51, M41, M14, L00

## INTRODUCTION

Government regulations and societal expectations have made environmental sustainability a top priority for businesses in recent years. In order to monitor and manage their environmental impact, an increasing number of companies are employing environmental management accounting (EMA) methods (Qian et al., 2011). A few environmental challenges that have increased managers' awareness include climate change, carbon emissions, waste management, junkyards, recycling, and land and water pollution (Deb et al., 2023). The term "corporate environmental ethics" describes the moral compass that directs a firm in its approach to environmental problems (Marcus Alfred & Fremeth Adam, 2009). It reflects the organization's commitment to environmental sustainability and its values as a custodian of the natural world. Executive leadership, organizational culture, and stakeholder pressures all shape how environmentally ethical a company is (Andersson et al., 2005). Companies with a strong sense of corporate environmen-



This is an Open Access article, distributed under the terms of the [Creative Commons Attribution 4.0 International license](https://creativecommons.org/licenses/by/4.0/), which permits unrestricted re-use, distribution, and reproduction in any medium, provided the original work is properly cited.

### Conflict of interest statement:

Author(s) reported no conflict of interest

tal ethics proactively and comprehensively address environmental issues for society's greater good (Kim et al., 2017). While the possible moderating effects of a company's internal position toward environmental issues are well understood, the monetary implications of EMA adoption are not.

The influence on the financial performance of the organizations has been studied through environmental performance (Deb et al., 2023), environmental management strategy (Mohd Fuzi et al., 2022), management accounting systems effectiveness (Abu Afifa & Saleh, 2022), environmental innovation (Chaudhry et al., 2020) and environment-related skills for the circular economy (Scarpellini et al., 2020). The mediator variables, such as EMA and a firm's ecological strategy, impact financial performance (Chaudhry et al., 2020), product innovation, and process innovation (Saeidi & Othman, 2017). However, it is not investigated how institutional pressure may affect financial performance with EMA adoption as a mediating factor. On the other hand, the moderating impact of external variables (Elhossade et al., 2020), top management support, and perceived benefit (Kong et al., 2022; Wang et al., 2019) among institutional pressure and EMA adoption is widely investigated. In contrast, the moderating effect of corporate environmental ethics (Chaudhry & Amir, 2020) is not thoroughly investigated between the institutional pressure and EMA adoption leading to financial performance.

## 1. LITERATURE REVIEW

From the viewpoints of contingency theory, there have been several attempts at empirical investigation of the association between EMA and environmental performance (Abdelhalim et al., 2023; Le et al., 2019; Nkundabanyanga et al., 2021), institutional theory (Chaudhry & Amir, 2020; Kong et al., 2022), stakeholders theory (Zandi & Lee, 2019), and natural resource-based view (Appannan et al., 2023; Asiaei et al., 2022; Solovida & Latan, 2017); that is, how EMA adoption leads to the organization's environmental performance, where influence on financial performance is not explored completely. Few studies talk about the influence of EMA on financial (Chaudhry et al., 2020; Christine et al., 2019; Le et al., 2019) and organizational performance (Gunarathne et al., 2021). However, research does not explore the effect of institutional pressure and EMA adoption on financial performance.

Critics argue that businesses are morally obligated to prevent environmental damage and reduce their impact on the planet. They contend that companies should prioritize renewable energy sources, reduce waste, and be open about how much they contribute to environmental deterioration in their decision-making processes (Aragon-Correa et al., 2017). Those who argue that firms should be compelled to adopt environmentally responsible policies and practices through government regulation argue that voluntarism has failed (Gunningham

et al., 2004). Hence, it is vital to grasp the role of institutional factors and ethical stances in shaping the connection between EMA and financial performance. Research must be done to see if the financial benefits of EMA are enhanced by a company's commitment to environmental sustainability. This can reveal whether businesses focusing on sustainability can properly exploit EMA intelligence. To understand when EMA improves financial performance and when external factors or internal mindsets hinder its benefits, one must consider the ethical variable as a moderator (Larrinaga-Gonzalez & Bebbington, 2001).

As the meeting point of environmental and management accounting, EMA incorporates monetary and nonmonetary data. Information gathered by EMA practices can be used for various objectives, including internal and external reporting. However, EMA's main objective is to provide environmental data for corporate activities (Le et al., 2019). EMA can be used as a group of managerial tools that help companies improve their financial, environmental, and social performance by providing both financial and non-financial data, such as costs and revenues as well as energy, water, material consumption, and carbon emissions (Solovida & Latan, 2021). Researchers have paid a great deal of attention to EMA in recent decades. According to Kong et al. (2022), stakeholders are happier as a result of EMA's efforts. Businesses that do well in terms of their impact on the environment are the ones most likely to succeed financially and socially in the future.

The term “corporate environmental ethics” describes the guiding moral principles and ideals companies employ to lessen the impact of their activities, products, and services on the surrounding environment. It claims businesses should adopt a morally grounded ecological sustainability philosophy that prioritizes doing right by the environment (Jennings & Zandbergen, 1995). According to Marcus Alfred and Fremeth Adam (2009), corporate environmental ethics necessitate making changes motivated by moral obligation and principles like sustainability, accountability, and transparency rather than merely complying with existing legislation. Corporate environmental ethics are a collection of guiding principles and ideals that drive a company’s approach to and style of thinking about its environmental performance and impacts.

The findings of previous studies regarding the proliferation of modern management accounting practices, such as EMA, across various nations and industries are inconsistent and incoherent (Kalifa et al., 2020). Similarly, the Vietnamese construction material industry has benefitted financially and environmentally from implementing EMA (Le et al., 2019). According to Chaudhry and Amir (2020), the institutional pressures have a crucial impact on EMA adoption in the manufacturing firms of Pakistan. These results are consistent with the Sri Lankan business entities (Gunaratne et al., 2021).

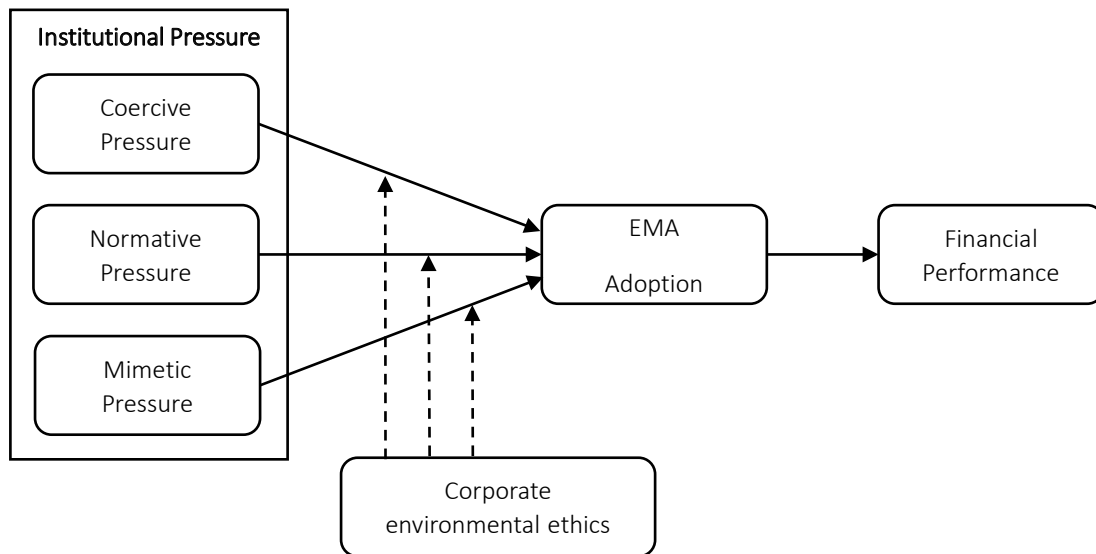
EMA is directly connected to sustainable development and indirectly to an organization’s financial performance (Chaudhry et al., 2020). With this complete picture, the firm’s decision-makers can better anticipate and prepare for the environmental and economic consequences of their actions (Saeidi & Othman, 2017). The bottom line improved for businesses that factored environmental considerations into their long-term strategies. Although some research has discovered a connection between environmental management and economic growth, other studies have discovered the exact reverse (Wachira & Wang’ombe, 2019). The results from PLS-SEM further indicate that EMA considerably influences the performance of the economy and environment (Christine et al., 2019). Le et al. (2019) proved that EMA tends to have a beneficial effect on financial outcomes.

EMA adoption can positively influence the organization’s financial performance (Christ & Burritt, 2013; Ferreira et al., 2010; Guenther et al., 2016).

Qian et al. (2015) found that regulatory and consumer pressure positively impacts EMA adoption by Chinese businesses, leading to better environmental and economic outcomes. A case study by Gale (2006) illustrates how regulatory pressure resulted in adopting EMA at a pulp mill, which enabled environmental advancements that lowered costs. According to Pondeville et al. (2013), by assisting in the translation of external forces, environmental management control systems like EMA improved environmental and economic performance. Several studies have provided empirical evidence for the idea that institutional pressures drive EMA adoption, which in turn mediates benefits to the financial performance of enterprises. Institutional variables impact companies’ bottom lines due to how external pressures shape strategic choices.

The case study by Gale (2006) shows that an established internal sustainability culture bolstered EMA adoption prompted by regulatory pressure. Pondeville et al. (2013) discovered that the impact of external limitations on the use of management control instruments like EMA was exacerbated by environmental values. Larrinaga-Gonzalez and Bebbington (2001) showed how environmentally proactive values organizations accepted EMA despite institutional pressure. Toms (2002) indicated that implementing EMA improved the credibility of institutions, most among businesses with strong environmental principles and cultures. The empirical evidence suggests that internal corporate environmental ethics and values shape organizational responsiveness and strategic decisions, thus enhancing the impact of outside pressure on EMA acceptance.

This study employs institutional theory to identify additional potential factors for EMA adoption by manufacturing companies. This theory explains how institutional pressures like the government, trade associations, and society shape behavior and organizational structure. The three sorts of pressure that institutional theory suggests are coercive pressure, normative pressure, and mimetic pressure (Elhossade et al., 2020; Yusoh & Mat, 2020). Institutional theory implies that a corporation must be under external pressure to adopt a particular accounting method



Note: EMA = environmental management accounting.

**Figure 1.** Research framework

(Elhossade et al., 2020). The institutional theory holds that organizations arose, are rooted in, and are connected to broader social contexts comprising cognitive, normative, and cultural systems of rational networks, norms, and beliefs (Boukr, 2016). Rules, regulations, and the need for official approval exert a degree of regulatory or coercive pressure (Chaudhry & Amir, 2020). The development of environmental strategies is also impacted by normative pressure from vendors, the media, consumers, businesses, and other social actors. Competitors' successes can be directly attributed to the mimetic pressure (Kong et al., 2022). Companies plan for future earnings by analyzing the performance of their competitors. When businesses have problems with uncertainty, they often adopt the practices of their rivals (Kong et al., 2022).

The literature review highlights the lack of thorough investigation of the impact of EMA adoption on financial performance, particularly in relation to institutional pressures and corporate environmental ethics. Furthermore, it highlights the significance of comprehending the ethical factor as a moderator when evaluating the correlation between EMA and financial results. The literature review explores the impact of coercive, normative, and mimetic forces from institutional theory on organizations' decisions to adopt EMA. It highlights the importance of considering more comprehensive social settings and external influences.

This study aims to investigate the role of corporate environmental ethics in moderating the relationship between institutional pressure and the adoption of environmental management accounting and how this relationship ultimately impacts financial performance. Additionally, it seeks to highlight the potential benefits of such alignment regarding both environmental sustainability and financial performance.

Figure 1 shows the research framework developed based on institutional theory and relevant extant literature. These hypotheses are therefore proposed:

- H1: Institutional pressures (coercive, normative, and mimetic) positively affect EMA adoption.*
- H2: EMA adoption positively affects the financial performance of the organization.*
- H3: EMA adoption positively mediates the association between institutional pressures (coercive, normative, and mimetic) and financial performance.*
- H4: Corporate environmental ethics positively moderate the association between institutional pressures (coercive, normative, and mimetic) and EMA adoption.*

## 2. METHOD

The study focuses on the manufacturing firms from Karnataka, India, that provide the highest representation of the state's manufacturing sector. The population comprises businesses listed in Dun & Bradstreet, a leading business-to-business data provider with over 500 million records in its data cloud. For the current study, a sample is taken from the population using purposive sampling. Given the study's purpose, the sample consists of high- and middle-level environmental managers and owners from Karnataka's industrial sector. Accurate data regarding institutional pressures, EMA use, and financial performance are obtained. To determine the sample size for this experiment, Using G\*-Power 3.1, a statistical power study was performed beforehand (El Maniani et al., 2016). By cautiously assuming a mean effect size  $f^2$  of 0.05, a power of 0.95, an alpha of 0.05, and a maximum of 4 predictors, the paper arrived at a minimum sample size of 218.

In part to distributing 1,500 structured questionnaires to selected managers and business owners of enterprises in Karnataka, India, a questionnaire-based survey was used to obtain the data for the current investigation (Appendix A). With a response rate of 19.7 percent, the study obtained 296 responses. There were 256 valid responses after excluding those with missing values for the analysis. The self-administered method is used to gather data using a questionnaire developed using scales from previous research to assure the validity and reliability of the data.

The replies to each question have been recorded on a five-point Likert scale, with 1 representing "strongly disagree" and 5 representing "strongly agree." The study used five items to calculate coercive pressure, five to calculate the normative pressure, and five to calculate the mimetic pressure. These are all taken directly from Gunarathne et al. (2021). Only the CP5 item is adopted from Chaudhry and Amir (2020). The EMA adoption is measured by thirteen items from Elhossade et al. (2020) and Gunarathne et al. (2021). The financial performance is based on six items adopted from Deb et al. (2023) and Gunarathne et al. (2021). The corporate environmental ethics construct is measured from three items adopted by El-Kassar and Singh (2019).

## 3. RESULTS

The data were analyzed quantitatively to assess the hypotheses because the current study primarily concerns association testing. Data were acquired using questionnaire answers. The relationships are tested through the PLS-SEM analysis. Additionally, PLS-SEM enables a thorough evaluation of the relationships under inquiry and offers more accurate estimates of the phenomena (Fam et al., 2020). Confirmatory factor analysis and PLS-SEM are performed using SmartPLS 4, a statistical software program. Additional key tests performed in the current study include the reliability, discriminant, and convergent validity tests. Table 1 shows respondents' demographics.

**Table 1.** Demographics of respondents

	Description	Occurrence	Percentage
Gender	Male	173	67.58
	Female	83	32.42
	Total	256	100
Education	Bachelor	123	48.05
	Master	85	33.20
	Other	48	18.75
	Total	256	100
Firm size (Employees)	Less than 250	73	28.52
	251 to 500	137	53.51
	501 to 750	43	16.80
	751 and above	3	1.17
	Total	256	100
Firm age	10 years or less	94	36.72
	10 to 20 years	87	33.98
	21 to 30 years	53	20.70
	More than 30 years	22	8.59
	Total	256	100

According to Table 1, males account for 67.58 percent of completed surveys, while females account for 32.42 percent of responses. This means that males predominate in the highest management and ownership positions at certain corporations. The results show that among the respondents, 48.05 percent hold an undergraduate degree, 33.20 percent hold a master's degree, and 18.75 percent hold another educational level. The firm age and size are other important factors to consider when analyzing the demographics of a company. 28.52 percent of respondents work for companies with fewer than 250 people, while 53.51 percent work for organizations with 251 to 500 workers. Only 1.17 percent of the sample works for a company with more than 750 employees, while 16.8 per-

cent work for a company with 501-750 workers. According to the age of the firm, 36.72 percent of companies are younger than 10 years old, 33.98 percent companies are between 10 and 20 years old, 20.70 percent companies that are between 21 and 30 years old, and 8.59 percent companies that are older than 30 years.

The measurement model uses a reflective model. The construct validity of a measuring model can be evaluated by looking at things like the amount and significance of indicator loadings, the construct's reliability, convergent validity, and discriminant validity.

Loadings below 0.50 (Bagozzi & Yi, 1988) and/or 0.708 (Hair et al., 2019) indicate that the con-

struct does not adequately explain the variation of the indicator. Because of this, the study may confidently apply the indicator. Despite its popularity, Cronbach's alpha ignores the relative importance of indicators when calculating trustworthiness. Joreskog's composite reliability has surpassed other reliability methods since it does not have this restriction. Hair et al. (2019) indicate that values between 0.70 and 0.95 for reliability are acceptable. Convergent validity is a summary statistic for judging the degree of similarity between construct indicators. Quality is typically evaluated using the AVE (average variance extracted). Indicator loadings, composite reliability, and convergent validity can be found in Table 2. Hair et al. (2019) state that an acceptable AVE is 0.50 or above.

**Table 2.** Reliability and validity

Construct	Item	Outer loadings	Cronbach's Alpha	Composite reliability	AVE
Corporate environmental ethics	CEE1	0.758	0.794	0.798	0.549
	CEE2	0.847			
	CEE3	0.831			
	CEE4	0.737			
Coercive pressure	CP1	0.769	0.806	0.813	0.632
	CP2	0.773			
	CP3	0.775			
	CP4	0.704			
	CP5	0.678			
Environmental management accounting	EMA1	0.692	0.881	0.882	0.512
	EMA10	0.686			
	EMA2	0.723			
	EMA3	0.732			
	EMA4	0.721			
	EMA5	0.724			
	EMA6	0.748			
	EMA7	0.697			
Financial performance	FP1	0.756	0.81	0.812	0.512
	FP2	0.720			
	FP3	0.695			
	FP4	0.707			
	FP5	0.680			
	FP6	0.735			
Mimetic pressure	MP1	0.769	0.806	0.809	0.563
	MP2	0.745			
	MP3	0.764			
	MP4	0.767			
	MP5	0.705			
Normative pressure	NP1	0.751	0.83	0.832	0.596
	NP2	0.796			
	NP3	0.767			
	NP4	0.804			
	NP5	0.739			

**Table 3.** Discriminant validity

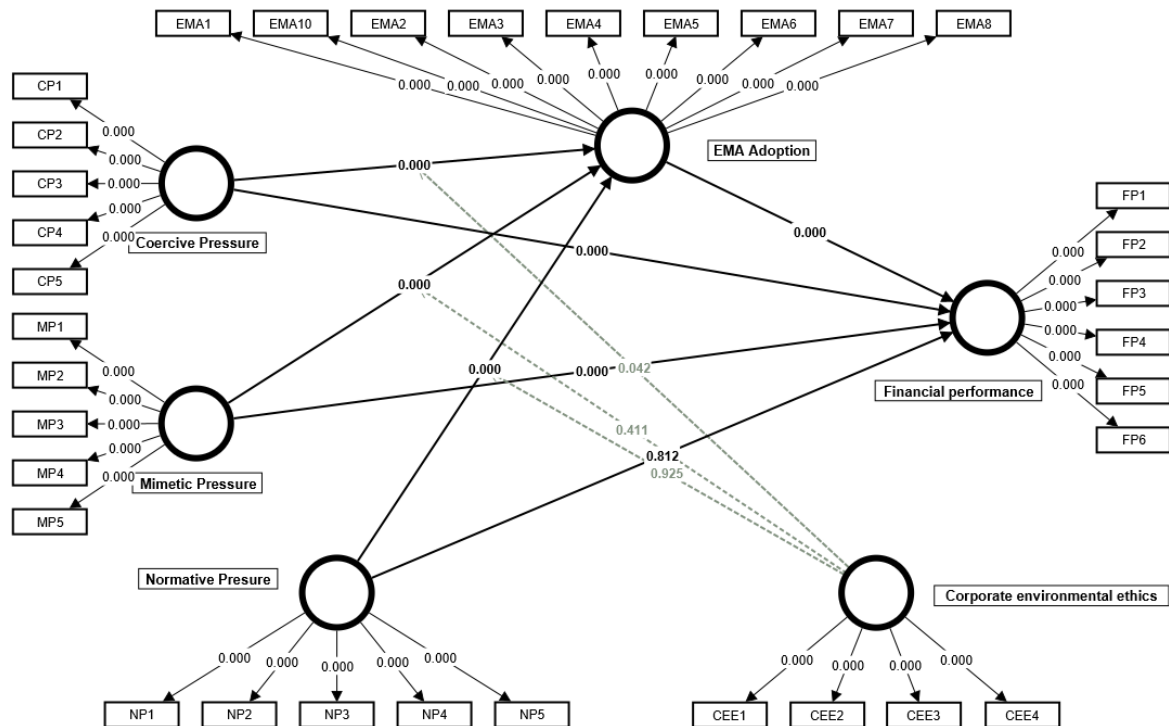
Constructs	Coercive pressure	Corporate environmental ethics	EMA adoption	Financial performance	Mimetic pressure
Coercive pressure	–	–	–	–	–
Corporate environmental ethics	0.622	–	–	–	–
EMA Adoption	0.827	0.764	–	–	–
Financial performance	0.800	0.570	0.774	–	–
Mimetic pressure	0.858	0.666	0.834	0.785	–
Normative pressure	0.851	0.677	0.827	0.732	0.823

When evaluating an indicator’s discriminant validity, it is helpful to compare how well it represents the target construct with how well it is distinct from the model’s other constructs. When using PLS-SEM, calculating the heterotrait-monotrait ratio (HTMT) of correlations is one technique to guarantee discriminant validity. An HTMT score above 0.90 is considered normal; discriminant validity results are represented in Table 3.

Tables 1, 2, and 3 display the findings of this investigation based on the four criteria of the reflecting measuring model. All indicator loadings are more than 0.6. Only the CEE5, CEE6, EMA9, EMA11, EMA12, and EMA13 items are dropped because of low indicator loadings. Both Cronbach’s alpha and composite reliability, indicators of construct reliability, are greater than the threshold of 0.70.

At the same time, AVE’s assessment of convergent validity shows that it is greater than the threshold of 0.50. The HTMT is used to check the ability to discriminate. The statistics reveal no connection between the constructs and values below 0.90. Figure 2 represents the PLS-SEM model.

The structural model is evaluated, and research ideas are tested after the measurement model has been confirmed. The results from a structural model are often evaluated based on how well they predict the end variable and/or indicators. The effectiveness of a prediction model can be evaluated using several metrics, such as R-squared, f-squared, and the number and significance of path co-efficient (Hair et al., 2019). The reliability of in-sample prediction is evaluated by computing the coefficient. According to Hair et al. (2019),



**Figure 2.** Structural model of PLS-SEM



the best possible relationship is represented by an R-squared value of 1, but if  $R^2$  is 0, there is no correlation. Table 4 displays the R-squared values.

**Table 4.** R-Square results

Construct	R-square	R-square adjusted
EMA adoption	0.669	0.667
Financial performance	0.584	0.583

Table 4 represents 66.7 percent of the variance in EMA adoption is explained by the exogenous variables in the research model. Financial performance is explained by 58.3 percent by the independent variables.

When an exogenous variable is removed from a model, the magnitude of the effect ( $f^2$ ) is defined as the disparity between the  $R^2$  values of the baseline and adjusted models. The effects of an independent variable are considered moderate when the  $F^2$  value is between 0.15 and 0.35 (Hair et al., 2019). There is no discernible effect when the effect size is less than 0.02. The  $f$ -square findings are listed in Table 5.

**Table 5.**  $f$ -square statistics

Construct	EMA adoption	Financial performance
Coercive pressure	0.076	0.204
Corporate environmental ethics	0.161	–
EMA adoption	–	0.044
Financial performance	–	–
Mimetic pressure	0.052	0.024
Normative pressure	0.046	0.000

Table 5 shows that coercive pressure has less effect on EMA adoption and a moderate effect on financial performance. Corporate environmental ethics affect EMA adoption. EMA adoption has less effect on financial performance. Mimetic pressure has less effect on EMA adoption and also on financial performance. Normative pressure has a weak effect on EMA adoption and no effect on financial performance. Figure 2 depicts the structural model used in this investigation.

**Table 6.** Direct effects

Direct effect	Beta value	Standard deviation	T statistics	P value	Result
Coercive pressure → EMA adoption	0.244	0.035	6.929	0.000	Supported
Mimetic pressure → EMA adoption	0.221	0.035	6.317	0.000	Supported
Normative pressure → EMA adoption	0.209	0.039	5.376	0.000	Supported
EMA adoption → Financial performance	0.217	0.045	4.870	0.000	Supported

The study assesses the SRMR statistics of the PLS-SEM model's fit to the data as a quality criterion. The cutoff value is 0.085. The model fits well within the specified limits, with estimated model values of 0.054.

Table 6 represents the direct effects of PLS-SEM results. Since all of the  $p$ -values for the impacts on EMA are less than 0.05, coercive pressure ( $\beta = 0.244$ ,  $p = 0.000$ ), mimetic pressure ( $\beta = 0.221$ ,  $p = 0.000$ ), and normative pressure ( $\beta = 0.209$ ,  $p = 0.000$ ) have a beneficial effect on EMA. This means that when these pressures rise, so does the firm's EMA adoption. Hence, H1 is accepted. The statistical evidence suggests that EMA adoption ( $\beta = 0.217$ ,  $p = 0.000$ ) benefits financial performance. Hence, H2 is accepted.

The application of EMA serves as a bridge between institutional pressure and financial performance, indirectly affecting the latter (Table 7). Applying EMA, coercive, normative, and mimetic pressures significantly improve financial performance ( $p < 0.05$ ). This means that while the EMA implementation has demonstrated some mediation between coercive pressure ( $\beta = 0.053$ ,  $p = 0.000$ ), mimetic pressure ( $\beta = 0.048$ ,  $p = 0.000$ ), and financial performance, it has demonstrated partial mediation. In contrast, normative pressure ( $\beta = 0.045$ ,  $p = 0.000$ ) significantly indirectly affects financial performance with full mediation. Normative pressure has a negligible direct impact on financial performance. This indicates that institutional pressures greatly improve EMA utilization, which boosts the company's financial performance. Hence, H3 is significantly proved and accepted.

Moreover, the findings illuminate the moderating effects (Table 8) in the research model. Coercive pressure and EMA adoption are related, and their relationship is moderated by corporate environmental ethics ( $\beta = 0.069$ ,  $p = 0.000$ ). Corporate environmental ethics, however, do not

**Table 7.** Indirect effects

Indirect effect	Beta value	Standard deviation	T statistics	P value	Result
Coercive pressure → EMA adoption → Financial performance	0.053	0.014	3.872	0.000	Supported
Normative pressure → EMA adoption → Financial performance	0.045	0.013	3.504	0.000	Supported
Mimetic pressure → EMA adoption → Financial performance	0.048	0.013	3.717	0.000	Supported

**Table 8.** Moderating effects

Moderating effect	Beta value	Standard deviation	T statistics	P value	Result
Corporate environmental ethics x Normative pressure → EMA adoption	0.004	0.043	0.094	0.925	Rejected
Corporate environmental ethics x Coercive pressure → EMA adoption	0.069	0.034	2.034	0.042	Supported
Corporate environmental ethics x Mimetic pressure → EMA adoption	0.035	0.042	0.821	0.411	Rejected

act as a moderator in the relationship between normative pressure and EMA adoption or the relationship between mimetic pressure and EMA adoption.

## 4. DISCUSSION

This study assesses how institutional pressures (coercive pressure, normative pressure, and mimetic pressure) affect the adoption of EMA and how corporate environmental ethics act as a mediating factor. The data collected from Karnataka manufacturing company managers and owners allowed this study to evaluate the assumptions about the connections between these variables. SEM findings, which show that institutional pressures considerably benefit the firm's adoption of EMA through positive impacts on coercive pressure, normative pressure, and mimetic pressure, corroborate the first hypothesis. This is because firms tend to embrace norms and customs that improve EMA adoption when they are subject to pressure from coercive sources like laws and regulations, normative sources like standards and norms, and mimetic sources like the practices of competitors. In line with these results, the study accepts H1. These findings are consistent with prior research and have substantial theoretical backing from institutional theory (Appiah et al., 2019; Chaudhry & Amir, 2020; Elhossade et al., 2020; Gunarathne et al., 2021; Wang et al., 2019). However, a contradictory finding of Kong et al. (2022) is that both normative and mimetic pressure have little effect on EMA adoption.

The findings of a positive connection between EMA adoption and financial performance demonstrate the financial benefits organizations might realize

from using EMA practices. In relation to Chaudhry et al. (2020) and Saeidi and Othman (2017), the study accepts H2. Thus, adopting environmental management accounting positively influences the firm's environmental performance (Christine et al., 2019; Le et al., 2019; Zandi & Lee, 2019).

Following these initial EMA implementation predictions, the current study examines how EMA implementation might be mediated by institutional pressures and a firm's financial performance. The findings show a partial mediation of EMA adoption on coercive pressure and financial performance and mimetic pressure and financial performance. However, there is a full mediation of EMA adoption between normative pressure and financial performance. This study is unique since no previous research has shown how institutional pressure and organizational financial performance are mediated by EMA adoption. Previous studies have shown that the EMA is a mediator when institutional pressure meets environmental effectiveness (Kong et al., 2022).

H4 contends that corporate environmental ethics moderate institutional pressure on EMA adoption. Chaudhry and Amir (2020) identified this research gap. It was discovered that corporate environmental ethics moderated the connection between coercive pressure and EMA adoption. Corporate environmental ethics did not impact the relationship between normative pressure, mimetic pressure, and EMA adoption. These results may differ from those of earlier studies since the EMA adoption may not entail the same importance in enterprises in Karnataka, India, with regard to financial performance. Therefore, the present results have theoretical and practical support.

## CONCLUSION

The study aimed to examine the moderating role that corporate environmental ethics played in the association between institutional pressures and EMA adoption. The study found that institutional pressures and the financial performance of the organization are mediated by EMA adoption. The strong correlation between EMA implementation and financial performance provides evidence for the business case for environmental responsibility by highlighting the possibility of financial gains from sustainable business practices.

This study demonstrates the importance of corporate environmental ethics as a moderator by showing how a company's ethical stance affects the nexus between institutional pressure, EMA adoption, and financial performance. Adopting EMA proactively is associated with increased financial success, and businesses that have high environmental standards are more inclined to see coercive pressure favorably. The study also revealed how adopting EMA improved the organization's financial performance. This study investigated the complicated interplay between institutional pressure, EMA adoption, financial performance, and the moderating effect of corporate environmental ethics. It offers a fresh understanding of the connection between workplace ethics and economic and environmental performance.

These results raise the intriguing prospect of a win-win scenario in which ethical environmental practices, motivated by external pressure and internal ethics, might result in economic growth and ecological sustainability. Given the growing importance of sustainability, this study provides policy recommendations for environmental management accountants, managers, and regulatory agencies. The study also promotes ecologically and morally related environmental management accounting practices. It also highlights the environmental sustainability and financial performance benefits of such alignment.

To further improve the links explored in this paper, future research should analyze additional contextual elements and go deeper into understanding the complicated dynamics of corporate environmental ethics. As the landscape of corporate sustainability and its consequences for economic success continues to evolve, longitudinal research may shed light on the sustainability and long-term impact of EMA implementation on financial performance. To further develop this notion, subsequent research might examine how other factors moderate this connection.

## AUTHOR CONTRIBUTIONS

Conceptualization: Chetanraj D. B., Senthil Kumar J. P., Velaga Sri Sai, Ramegowda K. V.

Data curation: Chetanraj D. B., Senthil Kumar J. P.

Formal analysis: Chetanraj D. B., Senthil Kumar J. P., Velaga Sri Sai, Ramegowda K. V.

Investigation: Chetanraj D. B., Senthil Kumar J. P., Velaga Sri Sai, Ramegowda K. V.

Methodology: Chetanraj D. B., Senthil Kumar J. P., Velaga Sri Sai, Ramegowda K. V.

Project administration: Senthil Kumar J. P.

Software: Chetanraj D. B., Senthil Kumar J. P.

Supervision: Chetanraj D. B., Senthil Kumar J. P., Velaga Sri Sai, Ramegowda K. V.

Validation: Chetanraj D. B., Senthil Kumar J. P.

Visualization: Chetanraj D. B., Senthil Kumar J. P.

Writing – original draft: Chetanraj D. B., Senthil Kumar J. P., Velaga Sri Sai, Ramegowda K. V.

Writing – review & editing: Chetanraj D. B., Senthil Kumar J. P., Velaga Sri Sai, Ramegowda K. V.

## REFERENCES

1. Abdelhalim, A. M., Ibrahim, N., & Alomair, M. (2023). The moderating role of digital environmental management accounting in the relationship between eco-efficiency and corporate sustainability. *Sustainability*, 15(9), 7052. <https://doi.org/10.3390/su15097052>
2. Abu Afifa, M. M., & Saleh, I. (2022). Management accounting systems effectiveness, perceived environmental uncertainty and companies' performance: The case of Jordanian companies. *International Journal of Organizational Analysis*, 30(2), 259-288. <https://doi.org/10.1108/IJOA-07-2020-2288>
3. Andersson, L., Shivarajan, S., & Blau, G. (2005). Enacting ecological sustainability in the MNC: A test of an adapted value-belief-norm framework. *Journal of Business Ethics*, 59(3), 295-305. Retrieved from <https://www.jstor.org/stable/25123560>
4. Appannan, J. S., Mohd Said, R., Ong, T. S., & Senik, R. (2023). Promoting sustainable development through strategies, environmental management accounting and environmental performance. *Business Strategy and the Environment*, 32(4), 1914-1930. <https://doi.org/10.1002/bse.3227>
5. Appiah, B. K., Donghui, Z., Majumder, S. C., & Monaheng, M. P. (2019). Effects of environmental strategy, uncertainty and top management commitment on the environmental performance: Role of environmental management accounting and environmental management control system. *International Journal of Energy Economics and Policy*, 10(1), 360-370. <https://doi.org/10.32479/ijeeep.8697>
6. Aragon-Correa, J. A., Marcus, A. A., Rivera, J. E., & Kenworthy, A. L. (2017). Sustainability management teaching resources and the challenge of balancing planet, people, and profits. *Academy of Management Learning & Education*, 16(3), 469-483. <https://doi.org/10.5465/amle.2017.0180>
7. Asiaei, K., Bontis, N., Alizadeh, R., & Yaghoubi, M. (2022). Green intellectual capital and environmental management accounting: Natural resource orchestration in favor of environmental performance. *Business Strategy and the Environment*, 31(1), 76-93. <https://doi.org/10.1002/bse.2875>
8. Bagozzi, R. P., & Yi, Y. (1988). On the evaluation of structural equation models. *Journal of the Academy of Marketing Science*, 16, 74-94. <https://doi.org/10.1177/009207038801600107>
9. Boukr, A. M. (2016). A study of the factors influencing the adoption of Management Accounting Innovations in less developed countries: The case of Libya. *Jurnal Penelitian Pendidikan Guru Sekolah Dasar*, 6(August), 128. Retrieved from <https://salford-repository.worktribe.com/output/1381557/>
10. Chaudhry, N. I., & Amir, M. (2020). From institutional pressure to the sustainable development of firm: Role of environmental management accounting implementation and environmental proactivity. *Business Strategy and the Environment*, 29(8), 3542-3554. <https://doi.org/10.1002/bse.2595>
11. Chaudhry, N. I., Asad, H., Ch, M. A., & Hussian, R. I. (2020). Environmental innovation and financial performance: Mediating role of environmental management accounting and firm's environmental strategy. *Pakistan Journal of Commerce and Social Science*, 14(3), 715-737. Retrieved from <http://hdl.handle.net/10419/224961>
12. Christ, K. L., & Burritt, R. L. (2013). Environmental management accounting: The significance of contingent variables for adoption. *Journal of Cleaner Production*, 41, 163-173. <https://doi.org/10.1016/j.jclepro.2012.10.007>
13. Christine, D., Yadiati, W., Afiah, N. N., & Fitrianti, T. (2019). The relationship of environmental management accounting, environmental strategy and managerial commitment with environmental performance and economic performance. *International Journal of Energy Economics and Policy*, 9(5), 458-464. <https://doi.org/10.32479/ijeeep.8284>
14. Deb, B. C., Rahman, M. M., & Rahman, M. S. (2023). The impact of environmental management accounting on environmental and financial performance: Empirical evidence from Bangladesh. *Journal of Accounting & Organizational Change*, 19(3), 420-446. <https://doi.org/10.1108/JAOC-11-2021-0157>
15. El Maniani, M., Rechchach, M., El Mahfoudi, A., El Moudane, M., & Sabbar, A. (2016). A Calorimetric investigation of the liquid Bi-Ni alloys. *Journal of Materials and Environmental Science*, 7(10), 3759-3766. Retrieved from [https://www.jmaterenvironsci.com/Document/vol7/vol7\\_N10/414-JMES-2507-El%20Maniani.pdf](https://www.jmaterenvironsci.com/Document/vol7/vol7_N10/414-JMES-2507-El%20Maniani.pdf)
16. Elhossade, S. S., Abdo, H., & Mas'ud, A. (2020). Impact of institutional and contingent factors on adopting environmental management accounting systems: The case of manufacturing companies in Libya. *Journal of Financial Reporting and Accounting*, 19(4), 497-539. Retrieved from <https://ideas.repec.org/a/eme/jfrapp/jfraq-08-2020-0224.html>
17. El-Kassar, A. N., & Singh, S. K. (2019). Green innovation and organizational performance: The influence of big data and the moderating role of management commitment and HR practices. *Technological Forecasting and Social Change*, 144, 483-498. <https://doi.org/10.1016/j.techfore.2017.12.016>
18. Fam, K. S., Ting, H., Tan, K. L., Hussain, K., & Cheah, J. H. (2020). Does it matter where to run? Intention to participate in destination marathon. *Asia Pacific Journal of Marketing and Logistics*, 32(7), 1475-1494. <https://doi.org/10.1108/APJML-12-2019-0737>

19. Ferreira, A., Moulang, C., & Hendro, B. (2010). Environmental management accounting and innovation: An exploratory analysis. *Accounting, Auditing & Accountability Journal*, 23(7), 920-948. <https://doi.org/10.1108/09513571011080180>
20. Gale, R. (2006). Environmental costs at a Canadian paper mill: A case study of environmental management accounting (EMA). *Journal of Cleaner Production*, 14(14), 1237-1251. <https://doi.org/10.1016/j.jclepro.2005.08.010>
21. Guenther, E., Endrikat, J., & Guenther, T. W. (2016). Environmental management control systems: A conceptualization and a review of the empirical evidence. *Journal of Cleaner Production*, 136, 147-171. <https://doi.org/10.1016/j.jclepro.2016.02.043>
22. Gunarathne, A. D. N., Lee, K.-H., & Hitigala Kaluarachchilage, P. K. (2021). Institutional pressures, environmental management strategy, and organizational performance: The role of environmental management accounting. *Business Strategy and the Environment*, 30(2), 825-839. <https://doi.org/10.1002/bse.2656>
23. Gunningham, N., Kagan, R. A., & Thornton, D. (2004). Social license and environmental protection: Why businesses go beyond compliance. *Law and Social Inquiry*, 29(2), 307-341. <https://doi.org/10.1086/423681>
24. Hair, J. F., Risher, J. J., Sarstedt, M., & Ringle, C. M. (2019). When to use and how to report the results of PLS-SEM. *European Business Review*, 31(1), 2-24. <https://doi.org/10.1108/EBR-11-2018-0203>
25. Jennings, P. D., & Zandbergen, P. A. (1995). Ecologically sustainable organizations: An institutional approach. *The Academy of Management Review*, 20(4), 1015-1052. <https://doi.org/10.2307/258964>
26. Kalifa, A. M., Triyuwono, I., Irianto, G., & Prihatiningtias, Y. W. (2020). The use and benefit of management accounting practices in Libyan oil companies. *Asian Journal of Accounting Research*, 5(1), 91-102. <https://doi.org/10.1108/AJAR-08-2019-0066>
27. Kim, A., Kim, Y., Han, K., Jackson, S. E., & Ployhart, R. E. (2017). Multilevel influences on voluntary workplace green behavior: Individual differences, leader behavior, and coworker advocacy. *Journal of Management*, 43(5), 1335-1358. <https://doi.org/10.1177/0149206314547386>
28. Kong, Y., Javed, F., Sultan, J., Hanif, M. S., & Khan, N. (2022). EMA implementation and corporate environmental firm performance: A comparison of institutional pressures and environmental uncertainty. *Sustainability*, 14(9), 5662. <https://doi.org/10.3390/su14095662>
29. Larrinaga-Gonzalez, C., & Bebbington, J. (2001). Accounting change or institutional appropriation? – A case study of the implementation of environmental accounting. *Critical Perspectives on Accounting*, 12(3), 269-292. <https://doi.org/10.1006/cpac.2000.0433>
30. Le, T. T., Nguyen, T. M. A., & Phan, T. T. H. (2019). Environmental management accounting and performance efficiency in the Vietnamese construction material industry – A managerial implication for sustainable development. *Sustainability*, 11(19), 5152. <https://doi.org/10.3390/su11195152>
31. Marcus Alfred, A., & Fremeth Adam, R. (2009). Green management matters regardless. *Academy of Management Perspectives*, 23(3), 17-26. <https://doi.org/10.5465/amp.2009.43479261>
32. Mohd Fuzi, N., Habidin, N. F., Adam, S., & Ong, S. Y. Y. (2022). The relationship between environmental cost on organisational performance and environmental management system: A structural equation modelling approach. *Measuring Business Excellence*, 26(4), 496-507. <https://doi.org/10.1108/MBE-03-2021-0039>
33. Nkundabanyanga, S. K., Muramuzi, B., & Alinda, K. (2021). Environmental management accounting, board role performance, company characteristics and environmental performance disclosure. *Journal of Accounting & Organizational Change*, 17(5), 633-659. <https://doi.org/10.1108/JAOC-03-2020-0035>
34. 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>
35. Qian, W., Burritt, R., & Chen, J. (2015). The potential for environmental management accounting development in China. *Journal of Accounting & Organizational Change*, 11(3), 406-428. <https://doi.org/10.1108/JAOC-11-2013-0092>
36. Qian, W., Burritt, R., & Monroe, G. (2011). Environmental management accounting in local government: A case of waste management. *Accounting, Auditing & Accountability Journal*, 24(1), 93-128. <https://doi.org/10.1108/09513571111098072>
37. Saeidi, S. P., & Othman, M. S. H. (2017). The mediating role of process and product innovation in the relationship between environmental management accounting and firm's financial performance. *International Journal of Business Innovation and Research (IJBIR)*, 14(4), 421-438. <http://dx.doi.org/10.1504/IJBIR.2017.10008175>
38. Scarpellini, S., Marín-Vinuesa, L. M., Aranda-Usón, A., & Portillo-Tarragona, P. (2020). Dynamic capabilities and environmental accounting for the circular economy in businesses. *Sustainability Accounting, Management and Policy Journal*, 11(7), 1129-1158. <https://doi.org/10.1108/SAMPJ-04-2019-0150>
39. Solovida, G. T., & Latan, H. (2017). Linking environmental strategy to environmental performance: Mediation role of environmental management accounting. *Sustainability Accounting, Management and Policy Journal*, 8(5), 595-619. <https://doi.org/10.1108/SAMPJ-08-2016-0046>

40. Solovida, G. T., & Latan, H. (2021). Achieving triple bottom line performance: Highlighting the role of social capabilities and environmental management accounting. *Management of Environmental Quality*, 32(3), 596-611. <https://doi.org/10.1108/MEQ-09-2020-0202>
41. Toms, J. S. (2002). Firm resources, quality signals and the determinants of corporate environmental reputation: Some UK evidence. *The British Accounting Review*, 34(3), 257-282. <https://doi.org/10.1006/bare.2002.0211>
42. Wachira, M. M., & Wang'ombe, D. (2019). The application of environmental management accounting techniques by manufacturing firms in Kenya. In *Advances in Environmental Accounting and Management* (pp. 69-89). Bingley: Emerald Publishing Limited. <https://doi.org/10.1108/S1479-35982019000008004>
43. Wang, S., Wang, H., & Wang, J. (2019). 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>
44. Yusoh, N. N. A. M., & Mat, T. Z. T. (2020). Environmental management accounting adoption barriers among Malaysian hotel companies. *International Journal of Financial Research*, 11(3), 31-42. <https://doi.org/10.5430/ijfr.v11n3p31>
45. Zandi, G., & Lee, H. (2019). Factors affecting environmental management accounting and environmental performance: An empirical assessment. *International Journal of Energy Economics and Policy*, 9(6), 342-348. <https://doi.org/10.32479/ijee.8369>

## APPENDIX A

**Table A1.** Questionnaire: Items for survey scale

Conceptual model variables and items	Item Code	Item Description	Adopted from	
Coercive pressure	CP1	The practice of environmental regulations, both domestic and international	(EMA 35) Gunarathe et al. (2021)	
	CP2	Adherence to conservation and resource-saving mandates at the national and regional levels		
	CP3	Supplier, partner, and customer pressure to address environmental concerns		
	CP4	Head office or top management influence	(EMA 34) Chaudhry and Amir (2020)	
	CP5	Several penalties have been imposed on firms that violate environmental standards and regulations		
Mimetic pressure	MP1	Similar or equivalent product manufacturers' green initiatives	(EMA 35) Gunarathe et al. (2021)	
	MP2	Industry competition		
	MP3	Knowledge of current trends and best practices in the industry		
	MP4	Employees' awareness of the environment		
	MP5	Consumers' growing ecological consciousness		
Normative pressure	NP1	Coverage of one's field in the media	(EMA 35) Gunarathe et al. (2021)	
	NP2	Environmental consciousness among the general public (individuals, groups, NGOs, etc.)		
	NP3	The acceptance of the organization's actions as legitimate		
	NP4	The importance placed on environmental policy in the organization's stated goals and objectives		
	NP5	Concern for the environment at the professional level		
EMA adoption	EMA 1	Identification of environment-related costs	(EMA 35) Gunarathe et al. (2021)	
	EMA 2	Estimation of environmental-related contingent liabilities		
	EMA 3	Classification of environment-related costs		
	EMA 4	Environmental life cycle costing		
	EMA 5	Environmental target costing		
	EMA 6	Introduction or improvement to environment-related cost management		(EMA 9) Elhossade et al. (2020)
	EMA 7	Creation and use of environment-related cost accounts		
	EMA 8	Development and use of environment-related key performance indicators		
	EMA 10	Elaboration of monetary environmental capital budgeting		
	Financial performance	FP1		Increase in profit margin and sales revenues
FP2		Increase in market share		
FP3		Increase in return on investment		
FP4		Increase in overall financial performance		
FP5		Decreased cost of materials purchased	(EMA 35) Gunarathe et al. (2021)	
FP6		Decreased fee for waste discharge		
Corporate environmental ethics	CEE1	The company has clear and concrete environmental policies	El-Kassar and Singh (2019)	
	CEE2	The company's budget planning includes the concerns of environmental investment or procurement		
	CEE3	The company has integrated its environmental plan, vision, or mission to its marketing events		
	CEE4	Do you spend in R&D to make your products or services more environmentally friendly?		—

Note: Questionnaire items (1 = "Strongly Disagree" to 5 = "Strongly Agree").