



Exploring the Drivers of Environmental Management Accounting and Environmental Performance: Empirical Evidence from Elbasan Region, Albania

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Received: 23 January 2026

Accepted: 07 April 2026

DOI: <https://doi.org/10.32479/irmm.23585>

ABSTRACT

The present study aims to explore the relationships of internal and external drivers influencing the adoption and implementation of environmental management accounting (EMA) in the manufacturing companies located in Elbasan, one of the major industrial zones of Albania. The research specifically investigates the effects of customer influence (CI), regulatory pressure (RP) and firm’s moral and social responsibility (MSR) on EMA. The research further, explores the impact of EMA on environmental performance (EP). This study tested the proposed hypotheses in the research model utilizing the data collected from 301 participants, accountants and senior officers employed in manufacturing companies located in Elbasan. Structural equation modeling (SEM) was utilized to assess the collected data and to examine the complex relationships between the constructs. The finding affirms that customer influence (CI), regulatory pressure (RP) and firm’s moral and social responsibility (MSR) have a significant and positive effect on environmental management accounting (EMA). Furthermore, the results confirm that EMA has a significant role in increasing the environmental performance (EP) of manufacturing companies located in Elbasan. This study provides significant empirical contribution in assessing the adoption of environmental management accounting (EMA) in an emerging economy such as Albania, where similar research remains limited.

Keywords: Regulatory Pressure, Customer Influence, Moral and Social Responsibility, Environmental Performance

JEL Classifications: Q51, Q56

1. INTRODUCTION

The development of the modern economy driven by industrialization and on growing population has resulted in critical environmental degradation (Wu et al., 2020). Environmental challenges such as climate change, carbon emissions and pollution have increased the pressure on the corporate world by imposing strict regulatory constraints (Schaltegger et al., 2016). Government regulations and increased public concern are among the main factors to compel firms incorporating environmentally driven strategies to enhance the environmental performance (Baah et al., 2021). Environmental performance (EP) is the firm’s ability to minimize environmental impacts of its operations while improving

efficiency in the utilization of resources (Jermisittiparsert et al., 2020; Henri and Journeault, 2008). The regulatory frameworks increase firms’ environmental awareness and enhance the ability to achieve sustainable development. Consequently, making these companies more attractive for investors and stakeholders who assess the corporate performance based on the ability to achieve sustainable development (Huynh & Nguyen, 2024; Malavige and Wijesinghe, 2021; Le Gouill et al., 2019). In addition, increased customer awareness regarding environmental issues, has shifted their preferences toward eco-friendly products (Ottman, 2017). Therefore, customer influence promotes environmentally friendly strategies by creating new market opportunities for green products and processes. Eco-friendly strategies enable firms to differentiate

themselves from competitors by achieving competitive advantage and improving market performance (Schiederig et al., 2012; Nyahuna, 2022; Malavige and Wiesinghe, 2021). Recent literature has increasingly emphasized the opportunities created by investments in ecological products and their effects on company's performance (Appiah et al., 2025). The improvement of firm's image in market attractiveness from green process adoption positively impacts the firm's reputation and can translate into more tangible benefits such as gaining strategic advantage and higher market share (Porter & Linde, 1995; Hart, 1995).

Moreover, internal organizational consciousness has a significant role in encouraging organizations to adapt and implement strategic initiatives to improve their impact on the environment. Thus contributing positively in the environmental performance (Amir et al., 2020). Corporate moral and social responsibility can function as a self-regulatory framework that encourages organizations to reduce environmentally harmful practices, while simultaneously promoting economic sustainability through implementation of environmentally friendly practices (King & Lenox, 2002; Daily et al., 2009; Burritt et al., 2019).

Several management tools assist in measuring and assessing the impact of the firm's activities on the environment. Within the accounting field, environmental management accounting (EMA) has emerged as one of the key instruments in managing the environmental performance. It has a significant contribution in determining the firm's environmental cost and their impacts on the environment, thereby enhancing environmentally sustainable practices (Zandi and Lee, 2019; Schaltegger et al., 2003; Latan et al., 2018, Yakhou and Dorweiler, 2004; Albertini, 2013). The implementation of EMA enables organizations to reduce environmental costs like waste disposal, energy consumption and emissions, providing more sustainable decisions about the organization's operations (Frost and Wilmshurst, 2000). Unlike conventional accounting systems, EMA takes into consideration a wide range of physical and monetary indicators that traditional accounting practices often fails to integrate into the information system (Klassen & Whybark, 1999; Watson et al., 2004; Schatteger et al., 2016; Pratiwi et al., 2020). Through this information system, companies can identify and reduce unnecessary environmental costs by optimizing the efficiency of natural resources' use, ultimately enhancing environmental performance (Nyahuna and Doorasamy, 2022; Malavige and Wiesinghe, 2021).

The present study aims to explore the complex relationship between different influencing the adoption and implementation of EMA. Specifically, it aims to explore the relationship of customer influence (CI), regulatory pressure (RP) as key external drivers and firm's moral and social responsibility (MSR) as key internal drive, on EMA within the manufacturing firms operating in Elbasan, one of Albania's main industrial regions. The study further investigates the impact of EMA on firms' environmental performance (EP). The empirical findings of the study are expected to provide valuable insights for organizations seeking to evaluate their impact on the environment and enhance their environmental performance.

The study is structured as follows: The second chapter reviews the literature of similar studies concerning external and internal

factors influencing EMA, and its relationship with environmental performance (EP), followed by the hypothesis developments. The third chapter outlines the utilized methodology in data collection and sampling. Chapter four presents the empirical outcomes by utilizing structural equation modeling (SEM), a sophisticated statistical method, used to analyze complex relationships among observed and unobserved variables by using multiple regression analysis (Hair et al., 2021). The final chapter discusses the findings based on the empirical evidence.

2. LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENT

Previous researches agree that strategic management accounting includes a range of tools that are essential for enhancing organizational performance (Ojra et al., 2021). Environmental management accounting (EMA) has been widely recognized as a critical instrument that contributes and have an essential role in both environmental and economic performance (EP) (Jing et al., 2025; Deb et al., 2023; Huynh, 2021; Ghadge et al., 2017). Different authors have examined the key factors affecting EMA implementation and further, its impact on firms' economic and environmental performance. Although there are different perspectives among researchers regarding the key factors affecting EMA, majority of the studies argue in the direct and positive relationship of EMA with the environmental performance (EP) (Amir et al., 2020; Deb et al., 2023; Werimon et al., 2023; Kong et al., 2022; Huynh, 2020; Mayndarto and Augustine 2021; Saeidi et al., 2018). A study by Zandi and Lee (2019) on Indonesian SME's confirmed that customer influence, regulatory pressure and moral and social responsibility have a positive and significant influence in enhancing environmental management accounting (EMA) systems. The results further demonstrated that EMA contributes significantly in improving firms' environmental performance in Indonesia. Similar results were obtained by Susanto and Meiryani (2019); Nguyen (2024); Malavige and Wiesinghe, (2021); Nyahuna and Doorasamy, (2022). In his study, Latan et al. (2018) found that commitment of the top management, among other factors, influenced positively on the EMA implementation. His finding indicated the important role of EMA in achieving superior environmental performance. Similar results were obtained by Amir et al. (2020); who developed and tested a theoretical model in Pakistan, which revealed that there is a positive and direct impact of top management commitment on the firms' environmental performance. Moreover, environmental management accounting and control system significantly mediate the relationship between top management commitment and environmental performance. The commitment of top-level management to the environment is considered to be an important internal factor contributing directly to the firms' moral and social responsibility. These findings are further validated by Christine et al. (2019) whose research confirms that environmental management accounting enhances environmental accounting practices.

In an attempt of exploring different drivers of environmental management accounting (EMA) and its influence on environmental performance (EP), Jing et al., (2025) investigated the simultaneous

effects of coercive, normative and mimetic pressure of institutional pressures on firms' environmental performance. The study examined both the direct influence of institutional pressures on EMA, as well as the influence of EMA to EP. The findings revealed EMA as a mediating variable that links coercive, normative, and mimetic institutional pressures to firm's environmental performance (Jing et al., 2025; Nguyen, 2024).

In a similar study, Deb et al. (2023), empirically investigated the impact of EMA on both environmental (EP) and financial performance (FP) in the manufacturing companies located in Bangladesh. The results concluded that EMA is positively and significantly associated with EP and FP. The study further confirmed a substantial relationship between recognized factors with both EMA and EP. The findings further confirmed that EMA enhances both EP and FP. Christine et al. (2019), in their study have concluded similar findings stating that EMA simulate not only environmental performance but economic performance as well. In a related study, Mayndarto and Agustine (2021) examined the internal and external factors influencing the implementation of environmentally management accounting in business, and consequently its relationship on environmental performance. The empirical findings confirmed that EMA implementation significantly influence environmental performance. The findings provided further evidence consistent to Deb et al. (2023), emphasizing the significant influence of EMA in encouraging environmental and economic performance.

Imtiaz Ferdous et al. (2019) examined different internal and external drivers, influencing environmental management accounting (EMA) adoption in Australian public water supply organizations. The study specified managerial motivations, and logic alignment as two key internal factors and institutional pressures and community expectation as two key external factors influencing EMA adoption. Similar results were obtained by Deb et al. (2023); Nyahuna (2022); Malavige and Wiesinghe, (2021); Nguyen (2024); and Susanto and Meiryani (2019).

Grounded in these insights, the study of Appiah et al. (2020) reveals that environmental management accounting (EMA) and environment management control system (EMCS) play a crucial role in improving environmental performance (EP). The findings reveal that both EMA and EMCS serve as effective mediators that enhance firms' environmental efficiency (Appiah et al., 2020).

A comprehensive examination of the direct relationship of internal and external factors to environmental management accounting (EMA) reveals different factors and patterns that are crucial for a holistic approach in the understanding their direct impact on EMA (Asa'd et al., 2024). Different empirical evidences consistently demonstrate that EMA serves as a crucial mediator linking internal and external factors to the environmental performance (Susanto and Meiryani, 2019; Nguyen, 2024; Zandi and Lee, 2019). Consequently, EMA generates a dual impact on company performance by aligning environmental performance with economic efficiency, reinforcing its strategic importance in achieving sustainable organizational practices (Christine et al., 2019; Deb et al., 2023; Nyahuna and Doorasamy, 2022; Amir and Chaudhry, 2019; Mayndarto and Agustine 2021; and Huynh, 2020).

Therefore, based on the above literature review, the following hypotheses were formulated:

- Hypothesis 1: Customer influence (CI) has a positive and significant effect on EMA
- Hypothesis 2: Regulatory pressure (RP) has a positive and significant effect on EMA
- Hypothesis 3: Firm's moral and social responsibility (MSR) has a positive and significant effect on EMA.
- Hypothesis 4: EMA has a positive and significant effect on environmental performance (EP).

The hypothesized model proposal of this study is illustrated in Figure 1.

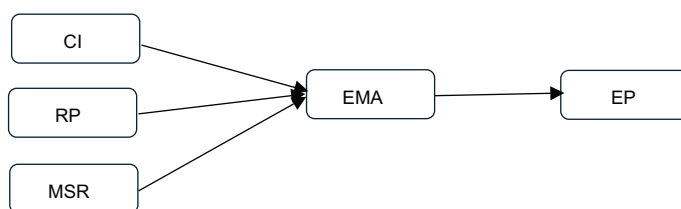
3. METHODOLOGY

This study aims to examine the influence of main internal and external factors on EMA adoption and implementation in manufacturing companies operating in Elbasan, a major industrial zone in Albania characterized by intensive manufacturing activity with significant impact to the environment. Based on the literature review two external factors: customer influence (CI) and regulatory pressure (RP) and one internal factor: Moral and social responsibility (MSR) were identified as key drivers affecting EMA implementation. Furthermore the research explores the impact of EMA implementation on manufacturing companies' environmental performance (EP) operating in this region. To achieve this objective, the present study adopted an empirical model based on similar empirical findings.

To empirically test the proposed hypothesis, structural equation modeling (SEM) was utilized. SEM is a multivariate statistical tool used to test and analyze complex relationships between different variables simultaneously using multiple regression analysis (Hair et al., 2006). It combines elements of regression and factor analysis to assess casual relationships between observed and unobserved variables (latent) (Hoyle, 2014). Each observed variable is measured using Likert scale methodology from 5 (strongly agree) to 1 (strongly disagree). The structural model is composed of five unobserved variables: CI, RP, MSR, EMA and EP. The observed variables or measurement items representing each construct were selected and adopted based on prior studies of Zandi and Lee (2019); Christine et al. (2019); Deb et al. (2023); Agan et al. (2013); Latan et al. (2018); Swalih and Tew (2024); Zhu et al. (2017); Appiah et al. (2025). Concretly five items were selected and adopted for each construct CI and EMA, and six items for the constructs RP, MSR and EP respectively (Table 1).

The data for this study was collected through a questionnaire

Figure 1: Research model



Source: Zandi and Lee (2019)

Table 1: Measurement model results

Code	Constructs and items description	Factor loading	Cronbach's alpha	Composite reliability	AVE
Customer influence			0.777	0.779	0.415
CI1	Our customers expect us to provide environmentally friendly products.	0.735			
CI2	Customer preferences for green products influences environmental management practices.	0.675			
CI3	We adopt environmentally responsible practices to meet our customer's expectations.	0.597			
CI4	Our customer prefers to buy from companies that demonstrate environmental responsibility.	0.629			
CI5	Customer play an important role in shaping our company's environmental policies.	0.573			
Regulatory pressure			0.791	0.792	0.432
RP1	Our company complies with strict environmental regulations set by the government.	0.675			
RP2	Environmental laws and regulations strongly influence our business decisions.	0.694			
RP3	We are under constant pressure from regulatory authorities to improve our environmental performance.	0.634			
RP4	Government environmental inspections motivate us to adopt environmentally friendly practices.	0.669			
RP5	Non-compliance with environmental regulations would result in serious penalties for our firm.	0.613			
Moral and social responsibility			0.803	0.806	0.456
MSR1	Our company believes it has a moral obligation to protect the natural environment.	0.567			
MSR2	We consider environmental protection as part of our social responsibility.	0.653			
MSR3	Our management emphasizes ethical conduct toward the environment and society.	0.739			
MSR4	Protecting the environment is a core value of our organization.	0.709			
MSR5	Our employees are encouraged to act responsibly toward environmental issues.	0.696			
Environmental management accounting			0.813	0.815	0.525
EMA1	Our company systematically collects information of environmental costs and impacts.	0.768			
EMA2	We use environmental information in internal decision-making process.	0.762			
EMA3	Our firm identifies and tracks costs related to waste, emissions and resource use.	0.631			
EMA4	EMA information is regularly reported to management for strategic planning.	0.730			
Environmental performance			0.839	0.840	0.513
EP1	Our company has reduced waste generation over the past few years.	0.689			
EP2	Our company have achieved significant reductions in energy consumption.	0.645			
EP3	Our company effectively minimizes emissions and pollutants.	0.796			
EP4	Our firm's production processes have become more environmentally efficient.	0.708			
EP6	We have implemented effective programs to control environmental impacts.	0.735			

Source: Authors estimations

distributed to 387 respondents, accountants and senior officers employed among 74 Albanian manufacturing companies operating in Elbasan. The data collection process took a period of approximately 3 months and 2 weeks, resulting in 301 collected questionnaires, representing a response rate of 77.7% from the total number of distributed questionnaire.

4. DATA ANALYSIS AND INTERPRETATION

The data analyses were conducted using IBM SPSS Statistics 23.0 for descriptive statistics and reliability and AMOS Graphics 23.0 for hypothesis testing, utilizing structural equation modeling (SEM). The descriptive statistic indicates that approximately 39.5% of the respondents were male and 60.5% female. Regarding the level of education 9.6% had completed a bachelor's degree, 77.1% a master's degree, and 13.3% possessed postgraduate certifications. In terms of professional experience 4% of the respondents had <5 years of work experience, 26.6% had between 6 and 10 years of experience and the majority (69.4%) had over 10 years of experience.

4.1. Measurement Model

The first step in data analyzing is variable screening form missing data, unengaged responses and outliers. There were no outliers and unengaged responses. The missing data were <5% so the mean imputation method was utilized. The items were subject

to normal distribution as skewness and kurtosis of all the items resulted between the accepted range of -2 and +2.

The exploratory factor analysis (EFA) was performed using a principal axis factoring analysis and oblimin with kaiser normalization rotation. An essential step involved assessing the overall significance of the correlation matrix using Bartlett's test of Sphericity, which evaluates whether the correlations among the variables are statistically significant. Bartlett's test ($\chi^2 = 2,500.333$; $P < 0.000$) indicates the suitability for factor analysis and Kaiser-Meyer-Olkin (KMO = 0.850) which measures the sampling adequacy, indicates the appropriateness of the data for the factor analysis. The communality of the scale, representing the proportion of variance explained by each factor, was also examined to ensure acceptable levels of explanation. The results show that all communalities exceeded the threshold value of 0.50. Kaiser's rule identified five factors, that correspond to CI, RP, MSR, EMA and EP, as defined in the research. During the EFA, four items RP6 (Our firm complies with strict environmental laws and standards), MSR6 (Our company support social and community development initiatives), EMA5 (Our company assess environmental cost report) and EP5 (Our company has increased the use of recycled or renewable materials) loaded onto other factors other than its underlying factor. Having more than five items for constructs (latent), the four items were removed and further analysis was continued. The authors repeated the

EFA without including these items. The results of new analysis confirmed the five-dimensional structure theoretically defined in the research, Table 1.

After EFA, confirmatory factor analysis (CFA) was computed using IBM AMOS 23.0 to test the measurement models. As part of confirmatory factor analysis, factor loadings were assessed for each item, and all items resulted over the acceptable range (>0.50). The model-fit measures were used to assess the model’s overall goodness of fit (CMIN/df, CFI, TLI, SRMR, and RMSEA) and all values were within their respective common acceptance levels CMIN/df= 1.945, CFI = 0.901, TLI = 0.887, SRMR = 0.045, and RMSEA = 0.056 (Ullman, 2001; Hu and Bentler, 1998; Bentler, 1990). Table 2 reports the mean and Pearson’s Correlation of the factors utilized in the current study. To address potential multicollinearity issues, the guideline proposed by Hair et al. (2013) was followed, which suggests that Pearson’s correlation coefficients should be underneath 0.90. Accordingly, the results confirmed the absence of multicollinearity among the variables (Hair et al., 2013; Frooghi et al., 2015; Onyinye et al., 2018). Construct Reliability was assessed using Cronbach’s Alpha and Composite Reliability. Cronbach Alpha for each construct in the study was found over the required limited of 0.70 (Nunnally and Bernstein, 1994). Composite reliabilities ranged from 0.791 to 0.893, above the 0.70 benchmark (Hair et al., 2010). Hence, construct reliability was established for each construct in the study, Table 1.

4.2. Convergent and Discriminant Validity

Convergent validity of scale items was estimated using average variance extracted (Fornell and Larcker, 1981). In assessing the measurement quality of the latent constructs customer influence (CI), regulatory pressure (RP), and moral and social responsibility (MSR), we observed that the average variance extracted (AVE) values for these constructs were below the commonly recommended threshold of 0.50. Taking into account their composite reliability (CR) values were very satisfactory, at 0.779 for CI, 0.792 for RP and 0.806 for MSR the researcher continued with the analysis. According to Fornell and Larcker (1981), when AVE is <0.5 but CR exceeds 0.60, the convergent validity of the construct may still be considered adequate. The AVE values for the latent constructs EMA and EP were above the recommended threshold. From a practical standpoint, the lower AVE values for these three constructs may reflect the complex and multidimensional nature of environmental motivations reflected in environmental management accounting settings. In this case different scales may be perceived and interpreted differently, particularly when environmental management accounting (EMA) is not yet institutionalized. This situation reflect the case of Albania where EMA is still in its early stages of adoption. In

Table 2: Pearson correlations

	CI	RP	MSR	EMA	EP
CI					
RP	0.09				
MSR	-0.019	0.301			
EMA	0.454	0.401	0.401		
EP	0.200	0.288	0.277	0.552	

n=301, ***Correlations significant at the 0.01 level (2-tailed). Source: Authors estimations

this case the answers can potentially introduce variance in how respondents evaluate each item, thereby lowering AVE, without necessarily compromising internal consistency (as supported by composite reliability), while the environmental management accounting (EMA) is not yet institutionalized. Furthermore, the use of Likert-type scales to measure attitudes and perceptions can introduce some measurement error, especially when constructs involve subjective judgement or ethical reasoning. Despite this, the overall model exhibited excellent fit, and each construct still contributed meaningfully and significantly to explaining EMA. Therefore, retaining CI, RP and MSR in the model is justified based on both statistical criteria (acceptable CR) and theoretical grounding of literature.

Discriminant validity in the study was evaluated using both the Fornell and Larcker Criterion and the Heterotrait-Monotrait (HTMT) Ratio. According to the Fornell and Larcker criterion, discriminant validity is confirmed when the square root of AVE for each construct exceeds its correlations with other constructs in the model. However, Fornell and Larcker criterion has recently faced criticism, leading to the adoption of a more robust technique, the HTMT ratio. However, when assessed using HTMT ratio, all ratios were less than the required limit of 0.85 (Henseler et al., 2015). Hence, discriminant validity was established (Tables 3 and 4).

4.3. Structural Model

In the last stage, structural model identified by the proposed research model was examined, consisting of five unobserved latent constructs: CI, RP, MSR, EMA and EP. The results of the structural relationship model are presented at Figure 2.

The model-fit measures were used to assess the model’s overall goodness of fit (CMIN/df, CFI, TLI, SRMR, and RMSEA) and all values were within their respective common acceptance levels (Ullman, 2001; Hu and Bentler, 1998, Bentler, 1990). The five-factor model (Customer Influence, Regulatory pressure, Moral and Social Responsibility, Environmental management accounting and Environmental Performance) yielded good fit for the data: CMIN/df= 1.118, CFI = 0.98, TLI = 0.977, SRMR = 0.0470, and RMSEA = 0.025. Table 5 presents the beta coefficients, t-statistics,

Table 3: Discriminant validity fornell and larcker

	CI	RP	MSR	EMA	EP
CI	0.644				
RP	0.009	0.657			
MSR	-0.019	0.003	0.675		
EMA	0.454	0.394	0.401	0.724	
EP	0.2	0.288	0.277	0.552	0.716

Source: Authors estimations

Table 4: Discriminant validity HTMT ratio of correlations

	EP	EMA	MSR	RP	CI
EP					
EMA	0.553				
MSR	0.277	0.401			
RP	0.288	0.394	0.002		
CI	0.200	0.454	0.019	0.008	

Source: Authors estimations

Figure 2: Structural model, standardized solution

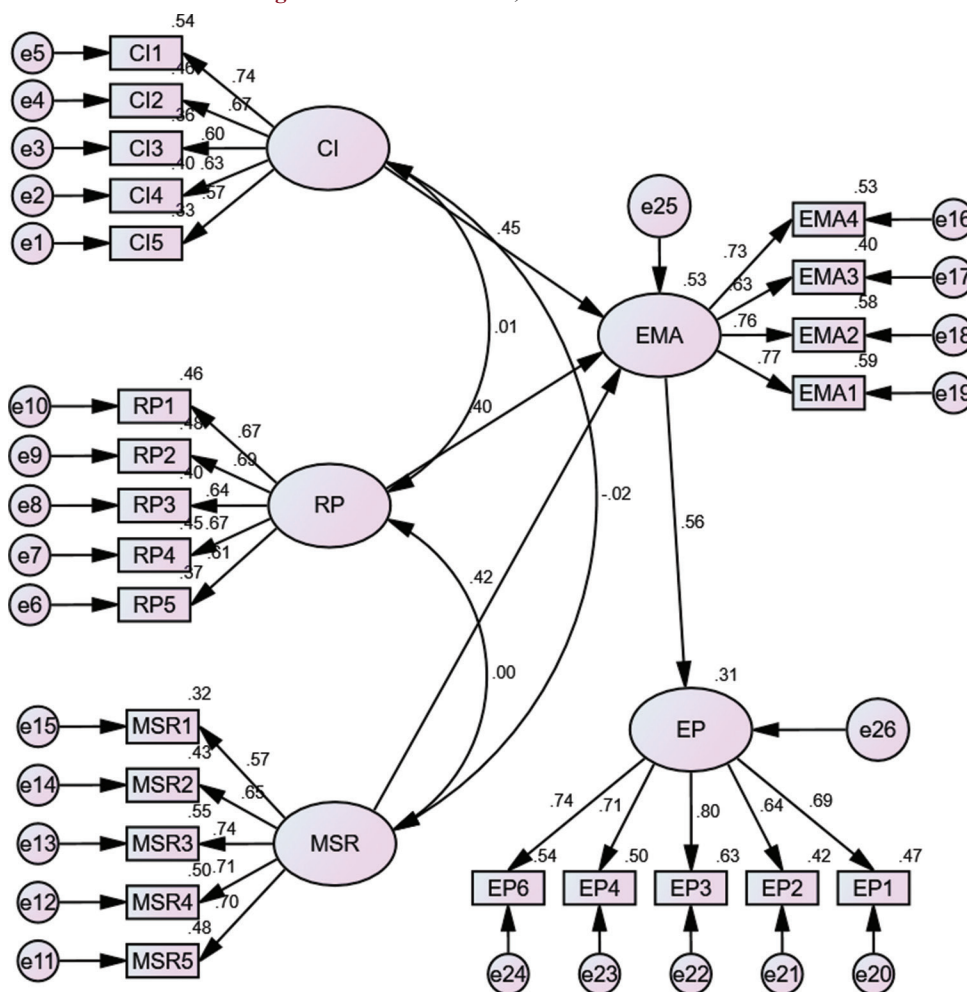


Table 5: Results of path coefficients

Hypothesized path	Path coefficient	t-value	P-value	R ²	Remarks
EMA<--CI	0.452	5.992	0.001	0.53	Supported
EMA<--RP	0.398	5.685	0.001		Supported
EMA<--MSR	0.416	6.185	0.001		Supported
EP<--EMA	0.560	7.297	0.001	0.31	Supported

Source: Authors estimations. Latent constructs CI, RP and MSR jointly explain 53% of the variance in latent variable EMA

and their P-value along the remarks about the theory testing. The results of the structural equation modelling, as shown in Table 5, confirmed the findings through regression path coefficient, t-statistics, probability values (P-values) and related interpretations of the tested hypothesis. Thus, the research model was consistent with the collected data.

Overall, the results confirm that all selected variabes exert a positive and significant influence an environemntal management accounting (EMA). Furthermore, the empirical investigation confirms that EMA has a positive and significant impact on EP. The outcome confirms that CI ($\beta = 0.452, P < 0.001$) has significantly and positively impact on EMA hence affirming H₁. RP ($\beta = 0.398, P < 0.001$) has a positive and significant impact on EMA, confirming H₂. MSR ($\beta = 0.416, P < 0.001$) has a positive and significant impact on EMA, confirming

H₃. In conclusion, the results of SEM confirm that all three variables CI, PR and MSR play a significant and positive role in enhancing EMA system in Albanian manufacturing companies. The results also confirm that good EMA system also help to enhance the EP of Albanian manufacturing companies ($\beta = 0.560, P < 0.001$).

5. DISCUSSION AND CONCLUSION

The negative impact of human activities on the environment has continuously raised the public concern towards environmental issues.

Governments around the world have progressively tightened regulatory framework through different regulatory and legal pressures, to increase the transparency on firm’s impact in the environment. Moreover the growing environmental awareness among customers has shifted their demands towards green products and environmentally sustainable practices. The customer influence increases the pressures to adopt environmentally friendly practices and on the other hand contributing to enhance firms economic performance by developing new products and increasing market shares. In addition internal organizational consciousness such as moral and social responsibilities (MSR) is widely accepted as a key internal factor in encouraging firms

to adopt sustainable organizational practices. Thus, regulatory pressures (RP) and customer influence (CI) and moral and social responsibility (MSR) have been widely recognized among the researchers as the main internal and external factors influencing the implementation of environmentally sustainable system such as environmental management accounting (EMA).

The present study explored the influence of both external and internal drivers on EMA. Specifically, it examined the impact of customer influence (CI), regulatory pressures (RP) and moral and social responsibility (MSR) on adoption and implementation EMA in the manufacturing companies located in Elbasan. Furthermore, the study investigated the impact of EMA on environmental performance (EP). To analyze these relationships, structural equation modeling (SEM) was applied to assess the strength and significance of the connections among the constructs. The findings revealed that CI, RP and MSR have a positive and significant impact on enhancement of EMA systems. Moreover, the results further confirmed that EMA plays a significant role in improving the EP in Albanian manufacturing companies operating in Elbasan region. Based on the empirical findings, this study recommends that the governments agencies should enforce and apply strict environmental legislation, requiring organizations to disclose their environmental impact, thereby enhancing EMA implementation. In this context, professional accounting bodies might establish different industry tailored standards and instructions for EMA adoption and implementation.

Moreover, manufacturing companies should focus on enhancing their internal organizational consciousness by strengthen their moral and social responsibility (MSR) within their organizational structures. This can be achieved by educating and training employees about the implementation and effective utilization of EMA, ultimately enhancing environmental performance. Taking into consideration the significant role of MSR on environmental performance, government agencies could also play a crucial role in supporting these initiatives by providing specialized training programs for management accountants and senior officers.

Based on the empirical findings the customer influence (CI), is a key driver in EMA implementation. To enhance this relationship companies should take initiatives to improve their public image by taking voluntary environmentally responsible actions. Such actions would improve firm's reputation among customers and as a result will contribute in gaining superior marketing advantages and further enhancing the environmental performance.

This research offers a significant contribution to a more profound utilization of environmental management accounting (EMA) in Albania, where environmentally sustainable practices remain in the early stages of implementation. Although Albanian companies occasionally disclose environmental information, the environmental costs and impacts are generally excluded from financial reporting. However, the country's progress toward European Union integration is expected to increase the regulatory pressure through forthcoming mandates of the Corporate Sustainability Reporting Directive (CSRD), encouraging Albanian companies to further enhance the adoption of EMA practices.

The rigorous implementation of EMA is anticipated to contribute further in the improvement of the environmental performance of Albanian enterprises.

There are some limitations to this study that should be taken into consideration. This study explored the direct relationship between constructs. Future studies may consider the moderation and mediation effects between the presented constructs. The present study was conducted on data gathered by manufacturing companies operating in Elbasan, thus any variance in the circumstances under evaluation could provide different results. Future studies could select and explore different sectors and key factors that could affect EMA implementation.

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