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Total Quality Management and Corporate Green Performance: The Mediating Role of Environmental Sustainability and Corporate Social Responsibility

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ABSTRACT

The purpose of this study is to examine the relationship among total quality management, environmental sustainability, and corporate social responsibility on corporate green performance in MSMEs in Indonesia. Additionally, it aims to explore the role of environmental sustainability (ES) and corporate social responsibility (CSR) as mediating variables in the relationship between total quality management (TQM) and corporate green performance (CGP). This study uses primary data collected from owners and managers of MSMEs across Indonesia. The sample of this study consisted of owners and managers of MSMEs in Indonesia. This study used a purposive sampling method and employed the SEM PLS v.26 tool and SPSS Version 27 for data analysis. The results of this study show that TQM has a significant positive effect on CSR, ES, and CGP. Additionally, CSR has a significant positive effect on ES and CGP. Lastly, ES has a significant positive effect on CGP. The findings also indicate that MSMEs in Indonesia do not prioritize involving employees in the development of TQM operations. This suggests that MSME management does not give sufficient attention to sustainable operational activities and comprehensive training. Therefore, this finding should be a point of concern for the government of Indonesia, to foster the development and progress of MSMEs in the country.

1. INTRODUCTION

Nowadays, we often encounter products labeled with messages emphasizing the importance of environmental awareness or going green as part of socially responsible investments that do not harm the environment. This can even be seen on paper products and beverages certified by environmental protection alliances [1]. Restaurants are also participating by offering eco-friendly menus that showcase the use of biogas in food preparation and recycling all waste into valuable by-products. These efforts aim to fulfill ethical sustainability practices [2]. Educational institutions are incorporating CSR sustainability studies into their curricula and establishing research units to advance sustainability research. CSR continues to attract increasing attention from academics, highlighting its growing relevance in how companies are managed efficiently [3], especially in terms of how multinational corporations can enhance their corporate reputation through CSR practices [4]. In addition, many firms now include labels on their products indicating environmental consciousness or a commitment to sustainability, signaling socially responsible investments. This is evident in products like paper and beverages certified by environmental protection alliances [1, 2]. Academics are increasingly focusing on CSR and its significance in managing firms effectively [3], particularly how multinational corporations may improve their corporate brand through CSR policies [4].

Green theory, a recent form of multidisciplinary thinking, focuses on the environment, globalization, social responsibility, corporate governance, and human rights, and was popularized by Ban et al. [5]. The goal of green theory is to achieve environmental sustainability at the regional, national, and international levels. Green Performance draws its philosophy from green theory, with CGP representing the relationship between organizational activities and the environment [6]. According to Yuan and Xiang [7], to become a green organization, a company should focus on transforming its operations into environmentally friendly activities by implementing fundamental reforms in the operational processes of products and services.

This study aims to explore the relationship between total quality management (TQM) and corporate green performance (CGP), as well as the mediating role played by environmental sustainability (ES) and corporate social responsibility (CSR). In recent decades, the focus on quality management and its impact on company performance has evolved, with particular attention to managing environmental impacts. This research tests the hypothesis that TQM implementation can enhance CGP, with ES and CSR serving as important mediating factors. Recent literature shows that, while the relationship

between quality management and environmental performance has begun to receive attention, the role of CSR and ES within the context of TQM remains underexplored. Based on this review, the study seeks to fill this gap by examining the interactions between TQM, CSR, and ES in influencing CGP. The research methodology employs a quantitative approach through survey data collection from various SMEs in Indonesia, which is analyzed using structural equation modeling (SEM). The findings of this study are expected to provide clearer insights into how companies can integrate TQM with sustainability principles and CSR to improve their green performance.

2. LITERATURE REVIEW

2.1 Green and CGP in SMEs

The objective of CGP is to introduce or improve products from existing processes in a way that not only meets consumer quality standards but also improves environmental performance [8, 9]. Associated with Green Management practices [10], Green Products, and Green Processes [11] that try to reduce environmental damage caused by industrial activities. In addition, CGP can not only increase its environmental and social impact, but also improve competitiveness and sustainable business [12, 13]. Eco-friendly and sustainable practices are not only beneficial to the earth but also help strengthen the business's position in the market, as current consumer trends also demand eco-friendly products [14, 15]. However, despite the company's promising green potential efforts, several common challenges hinder the Company in its sustainability practices. Micro, Small, and Medium Enterprises (MSMEs) are also affected by this [13, 16, 17]. In addition to raising consumer awareness, local environmental conservation laws have forced companies to implement eco-friendly procedures and think about how their activities affect the environment [14]. In addition, this situation has changed consumer tastes and needs, encouraging consumers to choose goods and services that reduce environmental damage [15]. Eco-friendly and sustainable practices are not only beneficial to the earth but also help strengthen the business's position in the market, as current consumer trends also demand eco-friendly products [14, 15]. However, despite the promising potential of MSMEs, several common challenges hinder MSMEs in sustainability practices.

MSMEs have the potential to be a strong driver of sustainability. MSMEs have flexibility in adapting, focusing on the community, resource efficiency, and market opportunities so that they can embrace sustainability practices in line with the SDGs. This reflects a global trend that more and more MSMEs are adopting sustainability principles as an integral part of their business models, helping to create a positive impact and remain competitive. In addition, MSMEs can not only increase their environmental and social impact but also increase their competitiveness and going-concern business [12, 13]. Eco-friendly and sustainable practices are not only beneficial to the earth but also help strengthen the business's position in the market, as today's consumer trends also demand eco-friendly products [14, 15]. However, although the potential of MSMEs is promising, several common challenges hinder MSMEs in sustainability practices, namely internal organizational problems.

Due to the general challenges that hinder MSMEs in Indonesia from implementing sustainability practices, such as the lack of awareness about sustainability practices and complex environmental regulations, there is currently a consumer trend demanding the use of environmentally friendly products or packaging. Therefore, the relationship between TQM, CSR, ES and CGP, using a green theory approach, is expected to provide valuable insights to MSMEs, helping them strengthen their market position. Additionally, it is hoped that this information can serve as knowledge for other researchers and the Indonesian government to understand the extent to which MSMEs have implemented sustainability practices, increasing their environmental and social impact, which will, in turn, enhance their competitiveness and long-term viability.

2.2 The effect of TQM on CSR, ES and CGP

CSR refers to a company's commitment to being accountable for the social and environmental impacts of its operations. In the context of TQM, CSR is often seen as one of the dimensions that should be considered in the management of sustainable quality. TQM, with its principles focused on continuous improvement, employee involvement, and data-driven management, strongly supports the achievement of CSR objectives. Almuntfjy et al. [18] and Kumar and Antony [19] in their research stated that the implementation of TQM can strengthen CSR practices by improving relationships between the company and its stakeholders, including employees, consumers, and the community. TQM encourages companies to involve stakeholders in decision-making processes and broader social initiatives. Abbas and Sağsan [17] also noted that TQM and CSR complement each other in creating long-term value for both the company and society. The continuous improvement process at the core of TQM can enhance the company's social performance, as well as increase transparency and accountability in CSR implementation.

ES refers to an organization's ability to operate in a way that minimizes negative environmental impacts and focuses on more efficient resource use. TQM, which emphasizes process improvement and efficiency, is highly relevant to ES initiatives. TQM practices can help companies reduce waste, improve energy and resource usage efficiency, and minimize the environmental impact of their operations. Vanichchinchai and Igel [20] demonstrated that companies implementing TQM tend to focus more on operational efficiency, which in turn can lead to a reduction in environmental impact. They argue that TQM's systematic approach to process improvement can reduce waste in raw materials, energy, and emissions [20]. It was found that the implementation of TQM principles within an organization can help introduce environmentally friendly practices, such as more efficient product design and cleaner production processes. By improving quality in every aspect of operations, companies can reduce energy and resource consumption.

CGP encompasses a company's performance in managing environmental impacts through the development of eco-friendly products, emission reductions, and energy conservation efforts. TQM can facilitate the achievement of CGP objectives by integrating greener quality practices, such as improving environmentally friendly products and processes. Khalil and Muneenam [21] revealed that TQM principles, such as employee involvement and strict quality control, can enhance a company's performance in terms of

green sustainability. TQM helps organizations design and produce more eco-friendly products while reducing waste at every stage of production. Abbas [22] added that companies effectively implementing TQM can adopt a more structured green approach to improving quality and reducing their carbon footprint. This includes the use of cleaner technologies, the implementation of stricter standards for green products, and the management of the product life cycle in a more environmentally friendly way.

There is evidence suggesting that TQM can strengthen CSR, enhance ES, and improve a company's green performance. The application of TQM is not limited to managing product quality but can also be extended to managing the company's social and environmental impacts. Through the systematic approach offered by TQM, companies can integrate sustainability practices into their processes and organizational culture. Further research is needed to explore in more detail how the specific implementation of TQM principles can be tailored to meet CSR and ES needs across different industries. Based on the above arguments, the proposed hypothesis is as follows:

H1a: There is influence between TQM on CSR.

H1b: There is influence between TQM on ES.

H1c: There is influence between TQM on CGP.

2.3 The effect of CSR on ES and CGP

The relationship between CSR, ES, and CGP is highly relevant in the context of a business landscape increasingly focused on social responsibility and sustainability. CSR refers to a company's practices in managing its operations responsibly toward society and the surrounding environment. CSR can encompass a wide range of activities, from social initiatives, carbon emission reduction, waste management, to natural resource conservation.

CSR that focuses on ES aims to reduce a company's negative impact on nature and involves various initiatives such as the use of renewable energy, waste reduction, and efforts to minimize the company's carbon footprint. Companies that actively implement environmentally-based CSR are expected to achieve better sustainability goals, such as more efficient natural resource management, pollution reduction, and the development of environmentally-friendly practices. A study conducted by Carroll and Shabana [23] shows that CSR can enhance the relationship between a company and society, where attention to environmental issues builds a positive image and contributes to ecological sustainability. With the right CSR, companies can support better environmental policies and promote the use of more environmentally-friendly technologies.

A company's green performance refers to its ability to implement environmentally friendly practices in its operations. This includes aspects such as reducing greenhouse gas emissions, using eco-friendly technologies, and achieving green certifications. Effective CSR implementation contributes to higher green performance, as companies tend to focus more on reducing their negative environmental impacts and meeting stricter environmental standards. According to research by Cai and Ye [24], companies committed to sustainable CSR are likely to show improvements in their green performance due to the integration of long-term goals and compliance with environmental regulations. On the other hand, companies that engage in CSR merely for image-building purposes (greenwashing) will not be able to achieve optimal green performance.

Numerous studies have shown that companies with well-integrated CSR policies can gain a competitive advantage in the market, both in terms of reputation and operational costs (e.g., energy savings or resource usage efficiency). Kolk and Van Tulder [25] noted that companies aligning their CSR activities with ES goals show improvements in long-term financial performance, as they are better able to adapt to evolving environmental regulations. CSR has a significant influence on ES and a company's green performance. Through CSR focused on sustainability, companies not only enhance their image but also contribute to long-term ES. A company's green performance improves as it integrates sustainability principles into its CSR policies and practices. Based on the above arguments, the proposed hypothesis is as follows:

H2a: Is there influence between CSR on CGP?

H2b: Is there influence between CSR on ES?

2.4 The effect of ES and CGP

ES and CGP are two interconnected concepts within the context of responsible environmental business management. ES refers to efforts to maintain ecosystem balance and minimize the negative impact of human activities on nature, while CGP refers to the implementation of environmentally friendly practices in a company’s operations to enhance resource efficiency and reduce its ecological footprint. Analyzing the relationship between these two concepts involves understanding how environmental sustainability strategies can influence a company's green performance.

ES involves integrating ecological principles into business operations to ensure that natural resources are used efficiently, emissions are reduced, and waste is managed in an environmentally responsible way. Companies committed to environmental sustainability tend to implement eco-friendly technologies, optimize production processes to reduce energy and resource consumption, and comply with stringent environmental regulations and standards. According to research by Hofer et al. [26], environmental sustainability integrated into a company's strategy can drive improved green performance, as companies are encouraged to adopt more efficient and environmentally friendly technological innovations. This includes the use of renewable energy, carbon emission reduction, and better waste management.

CGP encompasses achievements in reducing negative environmental impacts through various initiatives, such as reducing fossil fuel consumption, water management, greenhouse gas emission reductions, and improving operational efficiency. Consistent application of environmental sustainability will enhance a company’s green performance, as companies focus on practices that minimize environmental harm and optimize resource usage. Porter and Van der Linde [27], in their study, stated that companies focusing on sustainability and resource efficiency can gain significant competitive advantages, such as reduced operational costs through energy efficiency and waste reduction. Furthermore, companies that demonstrate good green performance tend to gain reputational advantages in a market that increasingly prioritizes sustainability.

Technological innovation plays a crucial role in the relationship between ES and CGP. The development of eco-friendly technologies, such as renewable energy technologies, more efficient recycling systems, and emission reduction technologies, allows companies to significantly improve their green performance. Fosu et al. [28] found that companies implementing technological innovations that support ES can achieve better green performance. These innovations not only enhance operational efficiency but also enable companies to comply with increasingly stringent environmental regulations and meet the growing expectations of consumers who are more concerned about environmental issues.

Companies that successfully integrate ES into their business models often demonstrate better financial performance. Cost savings derived from energy efficiency, waste reduction, and improvements in eco-friendly production processes can enhance long-term profitability. Additionally, companies focusing on green performance are often better able to attract investors who are interested in sustainability-oriented companies. Hart and Ahuja [29] showed that companies with good green performance, driven by a commitment to ES, have a greater chance of achieving long-term competitive advantages through reduced operational costs and enhanced reputation among consumers and investors.

ES has a significant impact on a company's green performance. By integrating sustainability principles into their operations, companies can improve energy efficiency, reduce waste, and minimize negative environmental impacts, which in turn enhances their green performance. Furthermore, companies focused on ES are more likely to gain competitive advantages, cost savings, and a better reputation in the market, contributing to their long-term success. Based on the above arguments, the proposed hypothesis is as follows:

H3: Is there influence between ES on CGP?

3. METHODOLOGY

This research uses a quantitative approach based on questionnaires. The primary source of data used in this study is the responses to the research questionnaire from a sample of Banten and Jawa Barat in Indonesia. The data was gathered via a G-Form sent over WhatsApp Group. Tracing research objects or respondents, disseminating surveys, and gathering further data comprise the second step. Sampling is identifying respondents for data collection from the target population. The type of sampling used in this study is probability sampling with purposive sampling. Data collection was through a survey questionnaire, measured on a Likert scale of 1-7 points, where 1: Strongly disagree, 2: Disagree, 3: Slightly disagree, 4: Neutral, 5: Slightly agree, 6: Agree and 7: Strongly agree. The method for determining the study's probability sampling is used here. Just 150 people who attended the activity agreed to participate as responders. According to the data collection, 40 respondents needed to complete the questionnaire questions, which prevented data processing from being completed. Finally, 110 respondents completed the questionnaire and returned it to us; based on field observations, we can analyze up to 110 responses from research participants. The standard limit needed for samples in the processing of statistical tests in research that may be employed is at least 30 sample data, as indicated by Sekaran and Bougie [30]. Table 1 shows the variable measurements in the study.

The final step is data analysis, which uses SPSS and SEM PLS to ascertain how TQM, ES, CSR, and GCP relate to MSMEs in Indonesia. A construct with a Cronbach Alpha value of at <0.60 is considered dependable [30, 31]. A validity test is used to assess a questionnaire's reliability. A bivariate correlation between each total construct indicator score is used to assess for validity. The next stage involves data analysis, which includes testing data analysis using the SEM-PLS approach. SEM-PLS is a SEM technique based on component or variance-based methods. PLS is an alternative approach that shifts from covariance-based SEM to a variance-based framework. Covariance-based SEM generally tests causality or theory [30, 31]. SEM-PLS is a powerful analysis method [30, 31] because it does not rely on many assumptions. For instance, the data does not need to follow a normal distribution, and the sample size does not have to be large. In addition to being used to confirm theories, PLS can also be used to explain the presence or absence of relationships between latent variables. PLS can simultaneously analyze constructs formed with both reflective and formative indicators. This cannot be done by covariance-based SEM, as it would result in an unidentified model.

Table 1. Measurement variables and indicators

Variables	Indicators
CGP [4, 9, 17, 22, 32, 33]	Green Management, Green Products, Green Process
TQM [17, 22, 34-36]	Leadership, Strategic Planning, Customer Focus, Process Management, Human Resource Management, Information and Analysis
CSR [37-39]	CSR To the Community, CSR To Customers, CSR To Employees
ES [40-47]	Green Innovation Product

Based on Table 2, the loading factor values for the CGP, TQM, CSR, and ES construct are represented by its respective indicators. For validity testing, a loading factor value >0.70 is considered acceptable for confirmatory research, while a value >0.60 is still acceptable for exploratory research [31]. In this study, loading factor values <0.60 are considered invalid and thus removed from the indicators of the construct or latent variable. For the CGP, TQM, CSR, and ES constructs, no indicators were found to be invalid with loading factor values <0.60, as all indicators met the criteria for convergent validity with average loading values >0.60 and p-values <0.05.

Table 2 shows that the composite reliability values of the constructs studied are above the recommended threshold, with composite reliability values greater than 0.6 (>0.6), as follows: TQM at 0.900, CSR at 0.843, ES at 0.882, and CGP at 0.902. The Cronbach's alpha coefficients for each construct are also above the recommended threshold, with values greater than 0.6 (>0.6), namely: TQM at 0.876, CSR at 0.766, ES at 0.832, and CGP at 0.877. The Average Variance Extracted (AVE) values for each construct are above the recommended threshold, with AVE values greater than 0.5 (>0.5), as follows: TQM at 0.578, CSR at 0.523, ES at 0.602, and CGP at 0.584. Based on the composite reliability, Cronbach's alpha coefficients, and AVE values of the TQM, CSR, ES, and CGP constructs, which are all above the recommended thresholds, it can be concluded that all constructs meet the composite reliability requirements.

Table 2. Validity and reliability test

Variable		Indicator	Loading Factor	Result	Composite Reliability Coefficients	Cronbach Coefficients Alpha	Average Extracted Variance	Result
CGP	CGP1	Green Management	0.766	Valid	0.902	0.877	0.584	Reliable
	CGP2		0.632	Valid				
	CGP3		0.775	Valid				
	CGP4	Green Products	0.633	Valid				
	CGP5		0.692	Valid				
	CGP6		0.655	Valid				
	CGP7	Green Process	0.711	Valid				
	CGP8		0.614	Valid				
	CGP9		0.777	Valid				
	CGP10		0.829	Valid				
TQM	TQM1	Leadership	0.705	Valid	0.900	0.876	0.578	Reliable
	TQM 2		0.640	Valid				
	TQM 3	Strategic Planning	0.691	Valid				
	TQM 4	Customer Focus	0.689	Valid				
	TQM 5	Process	0.836	Valid				
	TQM 6	Management	0.698	Valid				
	TQM 7	Human Resource	0.721	Valid				
	TQM 8	Management	0.738	Valid				
	TQM 9	Information and Analysis	0.630	Valid				
	TQM 10		0.619	Valid				
CSR	CSR1	The Community	0.769	Valid	0.843	0.766	0.523	Reliable
	CSR2	The Customers	0.693	Valid				
	CSR3		0.646	Valid				
	CSR4	The Employees	0.765	Valid				
	CSR5		0.812	Valid				
ES	ES1	Green Innovation Product	0.674	Valid	0.882	0.832	0.602	Reliable
	ES2		0.823	Valid				
	ES3		0.833	Valid				
	ES4		0.790	Valid				
	ES5		0.747	Valid				

Note: primary data reprocessed with WarpPLS 7.0 (2024)

4. RESULT AND DISCUSSION

Based on Table 3, the TQM variable has a theoretical range with a weight between 10 and 50, with an average of 25. In the actual range, the TQM variable has response weights between 27 and 50, with a mean of 43.40 and a standard deviation of 4.652. The average response score of the respondents for the TQM construct items in the actual range is above the average of the theoretical range; thus, it can be concluded that the implementation of TQM among the respondents is very high and good.

Table 3. Descriptive statistic

Variable	Theory		Real		
	Estimated	Mean	Estimated	Mean	SD
CGP	10-50	25	29-50	41.86	4.385
TQM	10-50	25	27-50	43.40	4.652
CSR	5-25	12.5	17-25	21.28	2.042
ES	5-25	12.5	17-25	21.68	2.221

Note: output WarpPLS 7.0 (2024)

The organizational culture variable, along with CSR, has a theoretical range of response weights between 5 and 25, with an average of 12.5. In the actual range, the responses have weights between 17 and 25, with an average response of 21.28 and a standard deviation of 2.042. The actual average response (21.28) is higher than the theoretical average (12.5), with a standard deviation of 2.042, indicating that the respondents' answers exhibit a high level of variation and that they tend to have a strong CSR orientation.

The theoretical range for the ES construct is between 5 and 25, with an average of 12.5. The respondents' answers in the actual range are between 17 and 25, with a mean of 21.68 and a standard deviation of 2.221. The actual average response for the ES construct is higher than the theoretical average, reflecting that the respondents report having a strong and positive relationship with ES.

The CGP variable has a theoretical range of response weights between 10 and 50, with an average of 25. In the actual range, the response weights are between 29 and 50, with a mean of 41.68 and a standard deviation of 4.385. This indicates that the respondents' answers exhibit a high level of variation, and they tend to have a good CGP.

Based on Table 4, it can be seen that the R-squared (R^2) and Adjusted R-squared (Adj. R^2) values of the model in this study are moderate, as they are above 0.25%. Full Collinearity VIF is used to check for potential multicollinearity issues, both vertically and laterally [31]. The criterion for a model free from vertical and lateral multicollinearity issues is that the Full Collinearity VIF value must be below 3.3. However, values ≤5 are still considered acceptable [31]. Based on Table 4, it can be seen that the model used in this study is free from both vertical and lateral multicollinearity issues, as all the Full Collinearity VIF values are below 5.

Q-Squared (commonly referred to as the Stone-Geisser Coefficient or Q^2) is analogous to R^2 but can only be obtained through resampling. The Q^2-Stone-Geisser coefficient is used to assess predictive validity or the relevance of predictor latent

variable blocks to the criterion latent variable. A coefficient value greater than 0 is considered acceptable [31]. Based on Table 4, it can be seen that the model used in this study has predictive relevance, as all Q^2 values are greater than 0.

Table 4. R-Squared, Adj R-Square, Full Collin VIF and Q Squared

	TQM	CSR	ES	CGP
R-squared		0.597	0.936	1.062
Adjusted R-squared		0.589	0.933	1.066
Full Collin VIF	2.470	14.841	18.598	2.471
Q-Squared		0.593	0.936	0.645

Note: output WarpPLS 7.0 (2024)

Using WarpPLS 7.0 for SEM Analysis, the bootstrapping strategy of the research model produced the following results:

Table 5. Effect size full model

Connection	Estimate	Effect Size	P-Value
TQM→CSR	0.001	0.597	(<0.01)*
TQM→ES	0.239	0.072	(0.01)
CSR→CGP	0.006	0.207	(<0.01)*
ES→CGP	0.001	0.711	(<0.01)*
TQM→CGP	0.049	0.144	(<0.05)**
CSR→ES	0.001	0.864	(<0.01)*

Note: primary data reprocessed with WarpPLS 7.0 (2024)
*P-value <0.01, ** P-value <0.05, *** P-value <0.10

The Effect Size (0.597): This relationship between TQM and CSR has a moderate to large effect. It indicates that TQM practices have a meaningful impact on CSR, which aligns with green theory. Given the P value (<0.01), this suggests that the relationship is both statistically significant and practically impactful, showing that TQM can positively influence CSR within MSMEs (Table 5). The results of hypothesis 1 are in line with the green theory, which implies that there is Leadership in MSMEs in Indonesia that sets organizational goals and objectives and develops strategies to achieve goals, as well as Focus on customers, which indicates the organization's efforts to know customer demand and market trends. There is also a management process related to the clear division of processes, ownership, and responsibilities. This is corroborated by researchers [22, 48-50] who claimed that TQM and environmental management are linked as TQM strives for resource efficiency, particularly regarding natural resources, which is the primary goal of CSR. By taking into account how organizational actions affect the environment and organizational performance over an extended period, TQM also has a long-term emphasis.

The Effect Size (0.072): The relationship between TQM and ES has a very small effect size. Although statistically significant (P<0.01), the effect is weak, meaning TQM alone may not significantly influence ES within MSMEs. Additional factors, such as enhanced training and monitoring, may be necessary to strengthen this relationship. The results of hypothesis 2 are not in line with the green theory, which implies that there is leadership in MSMEs in Indonesia that sets organizational goals and objectives and develops strategies to achieve goals, as well as focuses on customers, which indicates the organization's efforts to know customer demand and market trends. This is corroborated by Muchlish and Tjahyono [51], who claimed that it is unclear why Indonesian MSMEs do not consider integrating staff members to grow TQM operations. Therefore, this demonstrates that the management of MSMEs does not emphasize long-term operational activities, thorough training, and suitable monitoring to raise employee responsibility.

The Effect Size (0.207): This relationship has a small to moderate effect size. While CSR positively influences CGP, the impact is moderate. The P value (<0.01) indicates statistical significance, but the practical effect is not overwhelming. More research could examine how CSR can be further leveraged to improve CGP in MSMEs. The results of hypothesis 3 are in line with the green theory, which implies that CSR activities implemented by MSMEs in Indonesia are based on four groups, namely CSR to stakeholders, CSR to employees, CSR to customers/consumers and CSR to the government, can improve existing products in a way that not only meets customer expectations about quality but also can produce improved environmental performance such as Green Product practices, Green Process and Green Management to reduce environmental damage caused by production activities can increase. This is corroborated by Cahyaningtyas et al. [52], who explained that CSR can help companies build a positive public image, attract investors, and strengthen relationships with stakeholders. In addition to companies that integrate CSR and ESG in their business strategies will be better prepared to face future challenges.

The Effect Size (0.711): This relationship has a large effect size, indicating a strong influence of Job Satisfaction (JS) on CGP. Given the P value (<0.01), this suggests that satisfied employees significantly contribute to environmental performance. This is an important finding, indicating that employee engagement and satisfaction are crucial for improving CGP in MSMEs. The results of hypothesis 4 are in line with the green theory, which implies that the concept of eco-innovation that can help MSMEs in Indonesia contribute to the environmental performance of an organization and indirectly contribute to its positive effects on the economic performance of MSMEs in Indonesia, because the company's environmental performance is based on the environmentally friendly practices it adopts so that it can improve products in Indonesian MSMEs in a way that not only meets the customer expectations about quality but also able to produce improved environmental performance such as Green Product, Green Process and Green Management practices to reduce environmental damage caused by production activities can improve. This is corroborated by Ani [53] and Yanti [54], who explained that ES is a beneficial relationship to the success of the company's performance, in addition to that with the company concentrating on ES can provide a competitive advantage for the company's organization.

The Effect Size (0.144): The effect size of 0.144 indicates a small relationship between TQM and Internal Stakeholder Knowledge and Behavior (ISKB). Although statistically significant (P <0.05), the practical impact is minor, suggesting that TQM's influence on internal stakeholders may be limited without complementary efforts such as additional training or incentive programs. The results of hypothesis 5 are in line with the green theory, which implies that there is leadership in MSMEs in Indonesia that sets organizational goals and objectives and develops strategies to achieve goals, as well as focuses on customers, which indicates the organization's efforts to find out customer demand and market trends. This is corroborated by Abbas and Sağsan [17] and Samsinar [55], who explained that with managing scarce and expensive raw materials, CGP can reduce acquisition costs through the use of recycling. A company is more likely to succeed in Green

Performance if it invests more in quality, social, and environmental factors.

Effect Size (0.864): This relationship has a very large effect size, indicating that CSR activities have a profound influence on internal stakeholders, particularly in contributing to ES. The strong effect size, combined with the significant P value (<0.01), underscores the importance of CSR in driving internal engagement and sustainability efforts in MSMEs. The results of hypothesis 6 are in line with the green theory, which implies that CSR activities implemented by MSMEs based on four groups, namely CSR to stakeholders, CSR to employees, CSR to customers/consumers and CSR to the government, can improve products in Indonesian MSMEs in a way that not only meets customer expectations about quality but also can increase the contribution to the environmental performance of an MSME in Indonesia and in a does not directly contribute to its positive effect on the economic performance of MSMEs in Indonesia. This is corroborated by Efria et al. [56], Santoso and Raharjo [57], Tarjo et al. [58], and Uyun et al. [59], who explained that Awareness of ES is essential for all business sectors, industries, organizations, and SMEs. Companies must balance their image in society by complying with ES requirements and having a competitive advantage over others.

5. CONCLUSIONS

Building TQM, CSR, and good ES is how local MSMEs have the potential to appear green in Indonesia as a corporation to compete nationally and internationally based on the products they sell. The following are the findings taken from the testing and discussion in the previous chapter: ES has not been increased considerably by TQM, but ES benefits significantly from CSR. CSR benefits significantly from TQM. CGP has significantly increased CSR, ES, and TQM. There are three findings in this study. Second, CSR activities carried out by MSMEs in Indonesia not only improve products but also meet customer expectations about quality by maximizing environmental performance, hoping that the practice of Green Products, Green Processes and Green Management can reduce the ecological damage caused by increased production activities. Third, eco-innovation can help MSMEs in Indonesia contribute to environmental performance because it is based on environmentally friendly practices.

In the future, this study still has to be improved by using more respondents as research samples, since the more respondents, the more responders there will be. Additionally, a question instrument item on ES that is better tailored to TQM has to be developed for this study. As follows: Question 1: Do TQM practices, especially strategic planning, positively affect green performance in quality service? Question 2: Whether TQM practices, especially human resource management planning, positively affect green performance in quality service? Question 3: Does strategic planning contribute positively to CSR? Question 4: Does human resource management planning also contribute positively to CSR? Question 5: Is management involved when implementing TQM? Question 6: Are employees involved when implementing TQM?

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