

The Impact of Environmental, Social, and Governance (ESG) Practices on Service Quality and Business Reputation in the Restaurant Industry

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ABSTRACT

The food service industry plays a key role in the economy of a country. The research examined the impact of Environmental, Social, and Governance (ESG) practices on the service quality and reputation of *tteokbokki* restaurants in Korea and Indonesia. The research employed a quantitative and verification approach, utilizing a cross-sectional method that involved surveys and interviews with 30 respondents, including restaurant customers, business owners, and culinary industry professionals. The results show that ESG significantly improves service quality in both countries. However, the direct impact of ESG on reputation is only significant in Indonesia, while in Korea, service quality acts as the main mediator that influences reputation. This difference is due to regulatory and cultural factors, where Korean consumers prioritize service quality over ESG initiatives, while Indonesian consumers are more responsive to sustainability practices. These findings emphasize the importance of tailoring ESG strategies to local market expectations to maximize their impact. The research provides theoretical contributions by strengthening the relationship between ESG, service quality, and reputation and offers practical implications for industry players and policymakers. Moving forward, further research is needed to explore additional moderating factors, such as governance structure and consumer awareness levels, to deepen the understanding of the role of ESG in building business reputation across markets.

Keywords: Environmental, Social, and Governance (ESG), service quality, business reputation, restaurant industry

INTRODUCTION

The food service industry, which is responsible for half of the nation's food, plays a crucial role in the economy through value creation, employment, and support for domestic agriculture. It contributes to farmers' income and food security. However, challenges include a high number of small restaurants, frequent openings and closures, low survival rates, and an increasing reliance on delivery services.

In 2019, the industry's sales growth was 6.7%, but profitability remained low at 2.5%. Additionally, domestic food costs have declined from 93.1% in 2016 to 81.8% in 2020. Previous researchers have identified

stable growth, fair opportunities, and sustainability as key values for the industry, calling for policies to create a better ecosystem. The costs of restaurant closures are estimated at KRW 6.092 trillion, with a shorter initial preparation period of 8.4 months correlated to lower survival rates (In-Seon, 2015).

The research examines the influence of the environmental and social dimensions of Environmental, Social, and Governance (ESG) on brand trust and Word of Mouth (WOM), particularly in the food and beverage sector. It provides valuable insights into consumer behavior and marketing strategies (Bae et al., 2023). ESG management focuses on sustainable development through transparent management while

creating social value in an environmentally friendly way. ESG has become a crucial criterion for evaluating corporate sustainability (Friede et al., 2015).

Previously, a company's value is primarily determined by short-term quantitative indicators such as financial statements. However, ESG now encompasses key aspects of sustainability and ethical business practices. The environmental component focuses on waste management, resource utilization, emissions, and climate impact. The social dimension involves relationships with employees, suppliers, customers, and communities, ensuring fair labor practices and consumer well-being. Governance pertains to corporate leadership, ethical standards, compliance with regulations, and overall accountability to stakeholders (Camilleri, 2025).

Management now requires not only fair recruitment procedures and improved interviewer quality but also work-related social activities to cultivate local talent (Korea Research Institute of Ships & Ocean Engineering, 2022). Previous research has revealed that the social and governance aspects of ESG significantly influence consumer perceptions, thereby enhancing brand credibility, brand image, and perceived quality. The findings underscore the pivotal role of ESG in shaping consumer behavior and enhancing brand reputation (Koh et al., 2022).

The company's ESG management approach is strongly influenced by value-driven consumption behavior. These consumers accustomed to prioritizing eco-friendly and ethical choices, seek out companies that actively engage in social issues. This shift is why major Korean companies are changing their recruitment practices to align with ESG management, aiming to attract young talent (Korea Research Institute of Ships & Ocean Engineering, 2022).

A major food supplier known for its *tteokbokki* products earned an A+ ESG rating from the Korea Corporate Governance Service (KCGS) in 2021 (Panjaitan & Lupiana, 2023). The company excels in environmental management, having standardized systems and reduced greenhouse gas emissions. By 2019, it introduced eco-friendly packaging and aims for 100% recyclable packaging by this year. It also scores well on human rights and fair trade.

The research underscores the profound influence of ESG management on enhancing trust and reputation, which directly contributes to improved business performance. It provides an applicable framework for diverse sectors beyond food service (Lee et al., 2023). Implementing effective ESG strategies not only enhances restaurant operations but also significantly boosts their reputation among consumers (Abdou et al., 2023). ESG considers a company's environmental impact, relationships with stakeholders, and governance structures, ensuring transparency and ethical decision-making. A popular *tteokbokki* franchise with numerous overseas branches uses a self-service buffet system, minimizing staffing needs and appealing to global consumers.

In the competitive food service industry,

sustainability now includes not only financial performance but also social and environmental responsibility. While ESG practices are growing in many industry segments, the ways in which these factors influence service quality and brand reputation in the restaurant sector remain underexplored. Many businesses adopt ESG strategies in a corporate responsibility framework, but the actual influence of ESG on consumer perceptions and service experiences is not well understood. The challenge lies in assessing whether the adoption of ESG leads to tangible improvements in service delivery and whether these improvements translate into a stronger brand reputation. Additionally, there is a gap in understanding how the different elements of ESG—environmental sustainability, social responsibility, and governance practices—separately and collectively influence customer trust and business performance in the food service industry. Without empirical evidence of these relationships, it is difficult for restaurant managers to justify ESG investments beyond regulatory compliance or corporate image improvement. Despite the growing emphasis on sustainability in the restaurant industry, there remains a lack of clarity on how ESG initiatives directly impact service quality and reputation. While many businesses integrate ESG strategies into their corporate responsibility frameworks, it remains unclear whether these efforts lead to measurable improvements in customer service and consumer perception.

Therefore, the research presents a valuable contribution to restaurant managers and policymakers examining the integration of ESG into business practices. Consequently, the research illustrates that ESG adoption is capable of influencing not only environmental and social aspects but also customer satisfaction and business reputation. Thus, the findings are expected to present pragmatic suggestions to industry players on boosting appealing responsible business practices to contemporary consumers who crave ethical and sustainable dining experiences.

Sustainability is the practice of meeting present needs without compromising the ability of future generations to meet their own. It integrates environmental, social, and economic dimensions, ensuring long-term balance and resilience in business and society (Etuk et al., 2022). Sustainable practices benefit organizations strategically, offering new ways to manage business while promoting long-term success. Sustainable human capital management benefits employees while improving organizational outcomes. It includes fostering a diverse and inclusive work environment, providing career opportunities, and promoting employee health, which in turn boosts job satisfaction and productivity (Strielkowski et al., 2023). Additionally, sustainable business practices, such as efficient supply chain management and the use of durable, reusable materials, help to reduce operational costs and enhance long-term profitability (Prajuritno & Achmad, 2024). Green accounting and responsible resource management contribute to cost

savings by optimizing energy use and reducing waste disposal expenses (Halim et al., 2024). Companies that integrate sustainability into their core strategies can also mitigate risks associated with environmental regulations and market volatility. Sustainability-driven innovation fosters competitive advantages and long-term financial performance (Hendrawan et al., 2024).

ESG factors gain importance as corporate sustainability becomes a priority. ESG ratings enable comparisons of companies based on their sustainable practices, and awareness of ESG-based investments continues to grow (Kartika et al., 2023). ESG serves as a critical parameter in achieving Sustainable Development Goals (SDGs). It provides insight into a company's environmental and social impact and plays a core role in sustainable finance (Postiglione et al., 2024).

ESG is a key factor in corporate survival and sustainable growth. It reflects a company's social and environmental responsibility while influencing its financial value and long-term performance (Jeong & Choi, 2023). The disclosure of ESG performance strengthens sustainability and business performance (Ahmad et al., 2024). Over 120 countries, including South Korea, the U.S., and China, have pledged to become carbon neutral by 2050. More than 170 international agreements address climate change, biodiversity, and sustainability. As consumer awareness grows, people increasingly support eco-friendly businesses that prioritize social responsibility and ethical labor practices. Research shows that ESG performance significantly improves innovation and sustainability in the manufacturing industry (Zhou et al., 2023). Higher ESG performance correlates with greater innovation and sustainability outcomes, confirming that corporate innovation mediates the relationship between ESG initiatives and sustainability success.

The research highlights the importance of ESG strategies in enhancing service quality and brand reputation, providing practical insights for restaurant

managers and policymakers in the food service industry. It aims to address these gaps by examining the direct and indirect effects of ESG practices on service quality and reputation, with a focus on *tteokbokki* restaurants. The findings will provide practical implications for both practitioners and academics. Figure 1 shows the research framework.

METHODS

The research employs a quantitative research method, which is designed to systematically measure data and generalize findings from a sample to a broader population, thereby enabling an objective understanding of various perspectives. This method involves structured data collection, rigorous statistical analysis, and logical interpretation of quantitative data to test hypotheses within a defined study framework. The foundation of quantitative research lies in structured methodologies and data-driven insights, with an emphasis on empirical validation and statistical reasoning. This approach aligns with the principles of empiricism and positivism, which emphasize the validation of theoretical constructs through observable and measurable phenomena (Ghanad, 2023).

The type of research used is verification research, which aims to test the validity of existing knowledge or concepts through the process of data collection and analysis. Verification research enables researchers to test hypotheses derived from existing theories (Rachman et al., 2024). In the research, a cross-sectional approach is employed, in which data are collected at a single point in time. According to Sekaran and Bougie (2016), this approach provides a comprehensive picture of the relationships between variables at a specific point in time, making it suitable for observing social phenomena within a particular context.

Specifically, the research aims to examine the relationship between the ESG constructs, customer quality, and the reputation of *tteokbokki* restaurants in

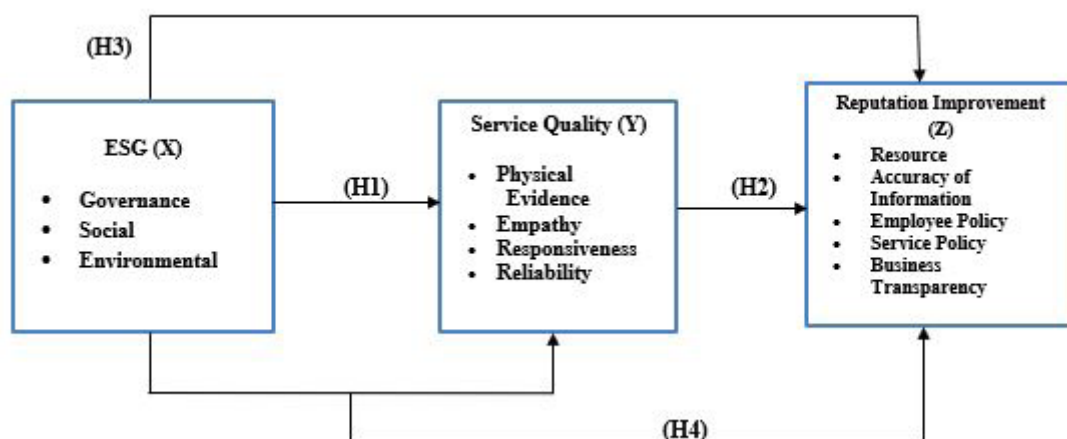


Figure 1 Research Framework

Indonesia. The quantitative approach is used to describe population characteristics and assess the impact of ESG principle implementation on consumer trust and loyalty within the food and beverage industry. Data are collected through structured questionnaires distributed to 30 respondents from diverse backgrounds, including restaurant customers, food business owners, and professionals in the culinary industry. The questionnaire items are designed to measure respondents' understanding of ESG, sustainable consumption preferences, and their perceptions of the brand reputation of restaurants that adopt ESG principles. The data collected are then analyzed using Statistical Package for the Social Sciences (SPSS) software to conduct descriptive and inferential statistical analyses. It allows for the systematic testing of the relationships between variables and the empirical verification of the proposed hypotheses. The research is guided by several hypotheses derived from the theoretical framework and prior literature. These hypotheses are tested using regression and path analysis to determine both direct and indirect effects, providing empirical support for the conceptual model proposed in the research framework. The hypotheses are as follows:

- H1: ESG practices (X) have a significant positive effect on service quality (Y),
- H2: ESG practices (X) have a direct impact on reputation improvement (Z),
- H3: Service quality (Y) significantly influences reputation improvement (Z),
- H4: ESG practices (X) have an indirect effect on reputation (Z) through service quality (Y).

RESULTS AND DISCUSSION

Validity testing aims to assess whether each statement item accurately measures the intended construct using Pearson's product-moment correlation. An item is considered valid if the *r*-calculated value is greater than the *r*-table value. Otherwise, it is deemed invalid (Khanal & Chhetri, 2024). Meanwhile, reliability testing evaluates the consistency of respondents' answers across items representing each variable using Cronbach's alpha. A variable is considered reliable if Cronbach's alpha is bigger than 0.60 (Khanal & Chhetri, 2024). Based on Table 1, it is found that the results of the validity test on the statement of ESG, service quality, and reputation improvement

Table 1 Results of Validity Test for Indonesian Consumers

Item	R	R-Table	Decisions
Environmental, Social, and Governance (ESG)			
X1 = Compliance with Rules Environment	0.545	0.36	Valid
X2 = Usage Resources	0.575	0.36	Valid
X3 = Policies for Employees	0.754	0.36	Valid
X4 = Policies for Customer	0.819	0.36	Valid
X5 = Policies for Managing the Company	0.795	0.36	Valid
X6 = Practices for Corporate Governance	0.713	0.36	Valid
X7 = Customer Feedback Management	0.682	0.36	Valid
Service Quality			
Y1 = Accuracy	0.875	0.36	Valid
Y2 = Consistency	0.743	0.36	Valid
Y3 = Fast Availability Service	0.788	0.36	Valid
Y4 = Care	0.835	0.36	Valid
Y5 = Quality Physical Facilities	0.846	0.36	Valid
Y6 = Value for Money	0.448	0.36	Valid
Y7 = Responsive Customer Service	0.721	0.36	Valid
Reputation Improvement			
Z1 = Information Transparency	0.875	0.36	Valid
Z2 = Efficient and Effective Service Process	0.743	0.36	Valid
Z3 = Consistency in Information Delivery	0.788	0.36	Valid
Z4 = Utilization of Supportive Systems	0.835	0.36	Valid
Z5 = Optimization of Resource Utilization	0.846	0.36	Valid
Z6 = Positive Public Perception	0.448	0.36	Valid
Z7 = Brand Image Strength	0.721	0.36	Valid

are greater than the r-table (0.36). Therefore, it can be concluded that all statements are valid for Indonesian consumers. Similarly, in Table 2, the results show that Cronbach's alpha value for each variable has a value greater than 0.6. Therefore, it can be concluded that each variable can be declared reliable for Indonesian consumers.

Next, a multicollinearity test is carried out to ensure that there is no high correlation between the independent variables in the regression model. Multicollinearity can cause distortion in the estimation of regression coefficients, disrupting the validity of hypothesis testing. Therefore, it is important to ensure that the independent variables are independent of each other. Testing can be carried out with two indicators: (1) a tolerance value ≥ 0.1 indicating that multicollinearity does not occur, while < 0.1 indicating multicollinearity; and (2) a Variance Inflation Factor (VIF) value < 10 stating multicollinearity does not occur, while a VIF ≥ 10 for the presence of multicollinearity (Effiyaldi et al., 2022). Based on the SPSS output, the tolerance values for ESG and service quality are 0.575, which is greater than 0.1. They are supported by the VIF values of 1.739, which are less than 10. Therefore, it can be concluded that multicollinearity does not occur.

The results can be seen in Table 3 for Indonesian consumers.

Then, the heteroscedasticity test aims to detect whether there is a variance inequality of the residuals in the regression model. In the research, the test is conducted using the Spearman test by examining the correlation between the residuals and the independent variables. If a significant correlation is found, it indicates the presence of heteroscedasticity. The decision rule is as follows: if it is a significance value (Sig.) $\geq \alpha$ (e.g., 0.05), heteroscedasticity does not occur. However, if it is Sig. $< \alpha$, heteroscedasticity is present (Effiyaldi et al., 2022). Based on the SPSS output, the significance values for ESG and service quality are 0.550 and 0.976, respectively, which are greater than the alpha value of 0.05. Therefore, it can be concluded that heteroscedasticity does not occur. The results are in Table 4 for Indonesian consumers.

Moreover, in path analysis, the model is divided into two Sub-Structure analyses: sub-structure 1 and Sub-Structure 2. Sub-Structure 1 analyzes the influence of ESG (X) on service quality (Y). Sub-Structure 2 examines the impact of ESG (X) on reputation improvement (Z), as well as the effect of service quality (Y) on reputation improvement (Z). The

Table 2 Results of Reliability Test for Indonesian Consumers

Variables	Cronbach's Alpha	Cut Off	Results
Environmental, Social, and Governance (ESG)	0.890	0.6	Reliable
Service Quality	0.918	0.6	Reliable
Reputation Improvement	0.939	0.6	Reliable

Table 3 Results of Multicollinearity Test for Indonesian Consumers

Model	Collinearity Tolerance	Statistics of Variance Inflation Factor (VIF)
Environmental, Social, and Governance (ESG)	0.575	1.739
Service Quality	0.575	1.739

Table 4 Results of Heteroscedasticity Test for Indonesian Consumers

		Environmental, Social, and Governance (ESG)	Service Quality	Residuals
Environmental, Social, and Governance (ESG)	Correlation coefficient	1.000	443	0.114
	Sig. (2-tailed)		0.14	0.550
	N	30	30	30
Service Quality	Correlation coefficient	443	1.000	-0.006
	Sig. (2-tailed)	0.14		0.976
	N	30	30	30
Unstandardized Residual	Correlation coefficient	0.114	-0.006	1.000
	Sig. (2-tailed)	0.550	0.976	
	N	30	30	30

structural equations for the path analysis are seen in Equations (1) and (2). They are also shown in Figure 2. The ρ_{YX} denotes the path coefficient from ESG practices to service quality. It represents the direct effect of ESG practices on service quality. The $\rho_{Y\epsilon1}$ is the error coefficient in Sub-Structure 1. It captures the variance in service quality that is not explained by ESG. It is calculated as $\sqrt{(1 - R^2)}$ from the first regression equation. The ρ_{ZX} is the path coefficient from ESG to reputation improvement. It measures the direct effect of ESG on business reputation. The ρ_{ZY} is the path coefficient from service quality to reputation improvement. It shows the direct effect of service quality on enhancing reputation. The $\rho_{Z\epsilon2}$ is the error coefficient in Sub-Structure 2. It reflects the proportion of variance in reputation improvement not explained by ESG and service quality, also calculated as $\sqrt{(1 - R^2)}$ for the second regression model.

$$Y = \rho_{YX} + \rho_{Y\epsilon1}, \quad (1)$$

$$Z = \rho_{ZX} + \rho_{ZY} + \rho_{Z\epsilon2}. \quad (2)$$

The analysis of the influence of ESG on service quality is depicted in Sub-Structure 1. To determine whether H_0 and H_a are rejected or accepted, the t-count is compared with the t-value at a significance level of 5% ($\alpha = 0.05$) and degree of freedom (df) of 28 (30–2). Therefore, the t-table value at the 5% significance level ($\alpha = 0.05$) is 2.05. There is a significant influence between ESG and service quality.

Next, the research utilizes R-squared to assess the magnitude of ESG's influence on service quality. Based on the SPSS output results, an R-squared value of 0.425 is obtained, indicating that 42.5% of ESG has a significant impact on service quality. Meanwhile, the remaining 57.5% is influenced by other variables not

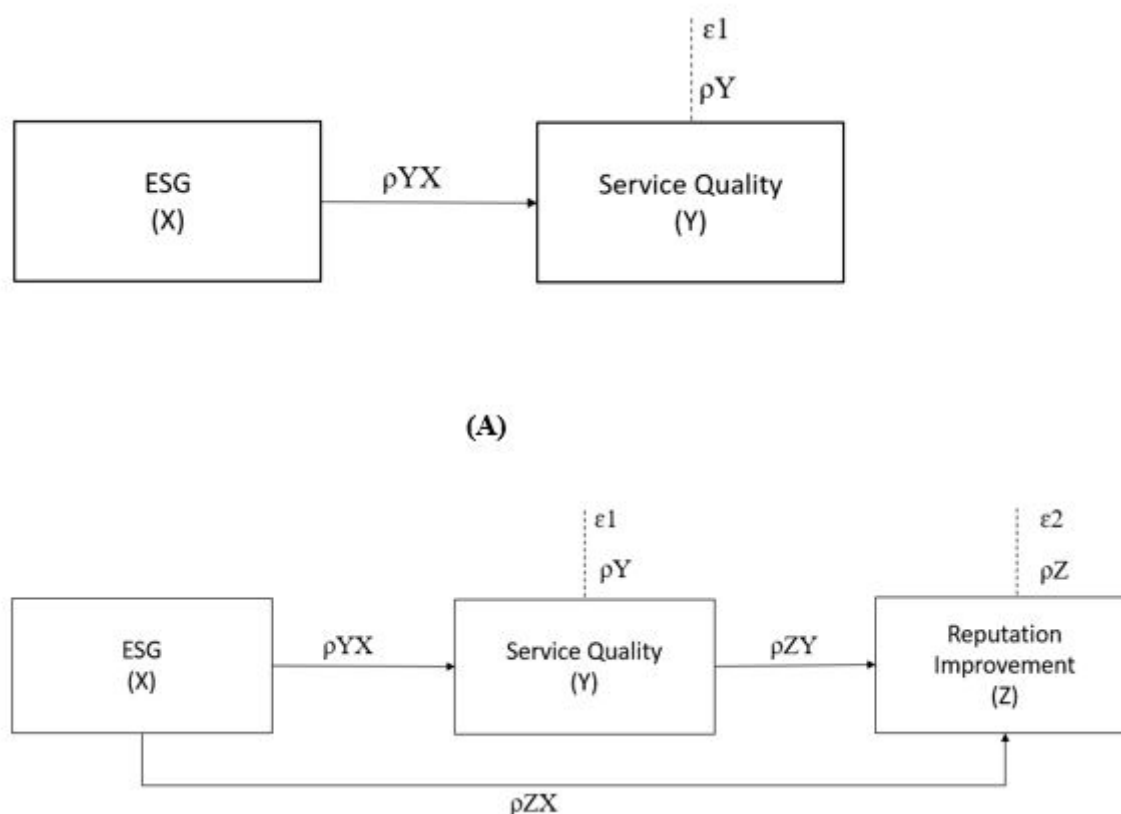


Figure 2 Structure of the Influence of Environmental, Social, and Governance (ESG), Service Quality, and Reputation Improvement

Table 5 R-Squared Test Results for Environmental, Social, and Governance (ESG) on Service Quality for Indonesian Consumers

Model	R	R-Squared	Adjusted R-Squared	Std. Error of the Estimate
1	0.642	0.425	0.405	4.02804

included in the research. The result is in Table 5 for Indonesian consumers.

Table 6 and Figure 3 present the summary of Sub-Structure 1. It analyzes the influence of ESG on service quality. The Sub-Structure 1 equation is obtained ($Y = 0.652X + 0.758\epsilon_1$, where R-squared = 0.425). For every one-unit increase in ESG, service quality will also increase by 0.652. Conversely, for every one-unit decrease in ESG, service quality will decrease by 0.652 units. The path coefficient value of 0.758 indicates the extent of influence from other factors outside the ESG on service quality. This value is derived from the square root of one minus the R-squared value, representing the contribution of unobserved variables not included in the model. In other words, 75.8% of the variance in service quality that cannot be explained by ESG is attributed to other factors. It suggests that while ESG has a significant impact, external variables also play a crucial role in shaping perceptions of service quality.

Table 7 presents the results of the ANOVA test for Indonesian consumers to assess the simultaneous influence of ESG and service quality on reputation improvement. The F-calculated value is 75.825, which exceeds the F-table critical value of 3.35 at a 5% significance level ($\alpha = 0.05$), with degrees of freedom $df_1 = 2$ and $df_2 = 27$. Additionally, the significance value

of 0.000 is well below 0.05. These findings indicate that the regression model is statistically significant, and the null hypothesis (H_0), which states that ESG and service quality have no simultaneous effect on reputation improvement, is rejected. In other words, ESG and service quality jointly have a significant positive impact on the enhancement of corporate reputation among Indonesian consumers.

Furthermore, partial tests are conducted to evaluate the individual contributions of each variable. The ESG variable yields a significance value of 0.016 and a t-calculated value of 2.570. The values are greater than the t-table value of 2.05, suggesting that ESG independently has a statistically significant effect on reputation improvement. Likewise, service quality exhibits a significance value of 0.000 and a t-calculated value of 7.456, confirming its strong individual influence. Therefore, both variables are found to contribute significantly—both simultaneously and partially—to reputation improvement, supporting the robustness of the model.

Based on the SPSS output, the R-squared value obtained is 0.849 for Indonesian consumers (see Table 8), indicating that 84.9% of the variance in reputation improvement is significantly influenced by ESG and service quality. The remaining 15.1% is attributed to other variables not included in this study.

Table 6 Summary of Path Coefficient Results for Sub-Structure 1 for Indonesian Consumers

Inter-Influence Variable	Coefficient Path (Beta)	Sig.	Hypothesis Test	R-Squared	Coefficient Other Variables
Environmental, Social, and Governance (ESG) on Service Quality	0.652	0.000	H0 is rejected	0.425	0.758

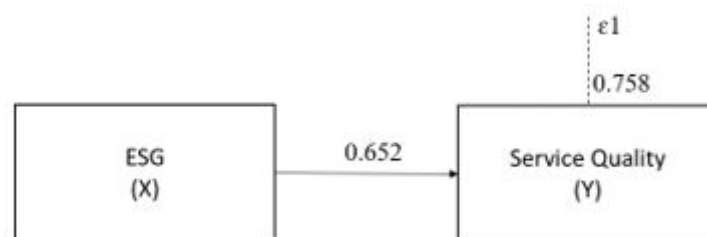


Figure 3 Sub-Structure 1 Along with Path Coefficients for Indonesian consumers. It has Environmental, Social, and Governance (ESG).

Table 7 ANOVA Sub-Structure 2 for Indonesian Consumers

	Sum of Squares	df	Mean of squares	F	Sig
Regression	670.152	2	335.076	75.825	0.000
Residual	119.315	27	4.419		
Total	789.467	28			

Table 9 presents a summary of Sub-Structure 2 for Indonesian consumers, which analyzes the overall influence of ESG and service quality on reputation improvement. Specifically, for every one-unit increase in ESG, reputation improvement increases by 0.254. Conversely, a one-unit decrease in ESG results in a 0.254 decrease in reputation improvement. Likewise, a one-unit increase in service quality results in a 0.736-point increase in reputation improvement, while a one-unit decrease in service quality leads to a 0.736-point decline in reputation improvement.

After all path coefficients have been determined, the results can be summarized in Table 10 for Indonesian consumers. Based on the results of Sub-Structure 1, it is evident that the ESG has a significant influence on service quality. Then, based on the results of Sub-Structure 2, it is shown that, simultaneously, there is a significant influence of ESG and service quality on reputation improvement. Partially, both the path coefficients from ESG to reputation improvement and from service quality to reputation improvement are statistically significant.

The analysis reveals that ESG has a direct and significant effect on service quality, with a path coefficient of 0.652. This value also represents the total effect of ESG on service quality, indicating that

ESG practices play a substantial role in enhancing the quality of service provided. Furthermore, ESG exerts a direct influence on reputation improvement with a coefficient of 0.254. In addition to this direct relationship, there is an indirect effect of 0.48 mediated through service quality, resulting in a total effect of 0.734. Lastly, service quality has a strong and direct effect on reputation improvement, with a total path coefficient of 0.736, underscoring its critical role as a mediator in linking ESG practices to improved business reputation.

Based on Table 11 for Korean consumers, all items for variables show correlation values exceeding the critical r-value (0.36). This result indicates that all items are considered valid and are appropriate for use in measuring each research variable. Based on Table 12, the results show that the Cronbach's Alpha values for each variable are greater than 0.6. Therefore, it can be concluded that all variables are considered reliable for Korean consumers.

Based on the SPSS output presented in Table 13, both ESG and service quality show a tolerance value of 0.626 and a VIF of 1.598 for Korean consumers. These values meet the required thresholds. It can be concluded that there is no multicollinearity among the independent variables in this model.

Table 8 R-Squared Test Results Environmental, Social, and Governance (ESG) and Service Quality on Reputation Improvement for Indonesian Consumers

Model	R	R-Squared	Adjusted R-Squared	Std. Error of the Estimate
1	0.921	0.849	0.838	2.10216

Table 9 Summary of Path Coefficient Results for Sub-Structure 2 for Indonesian Consumers

Influence Between Variables	Path Coefficient (Beta)	Sig	Hypothesis Testing	R-Squared	Coefficient of Other Variables
Environmental, Social, and Governance (ESG) (X) → Reputation Improvement (Z)	0.254	0.016	H ₀ is rejected	0.849	0.389
Service Quality (Y) → Reputation Improvement (Z)	0.736	0.000	H ₀ is rejected		

Table 10 Overall Model Summary for Indonesian Consumers

Variable Relationship	Path Coefficient	Effect		
		Direct	Indirect	Total
Environmental, Social, and Governance (ESG) (X) → Service Quality (Y)	0.652	0.652	-	0.652
Environmental, Social, and Governance (ESG) (X) → Reputation (Z)	0.254	0.254	0.652 x 0.736 = 0.48	0.734
Service Quality (Y) → Reputation (Z)	0.736	0.736	-	0.736

Based on the SPSS output, the significance values (Sig.) for ESG and service quality are 0.754 and 0.357, respectively. The values are greater than the alpha level of 0.05. Therefore, it can be concluded that heteroscedasticity is not present in the model. The results are in Table 14 for Korean consumers.

To examine the influence of ESG on service quality, the researchers use the R-squared. As shown in Table 15, the SPSS output indicates an R-squared value of 0.374 for Korean consumers, meaning that ESG can

explain 37.4% of the variation in service quality. In comparison, the remaining 62.6% is influenced by other variables not included in the research.

Table 16 for Sub-Structure 1 presents the overall analysis of the effect of ESG on service quality. This sub-structure highlights the direct and significant influence of ESG on service quality based on the calculated R-squared and path coefficient values. Based on Sub-Structure 1, it can be interpreted that service quality is influenced by ESG by 37.4%.

Table 11 Results of Validity Test for Korean Consumers

Environmental, Social, and Governance (ESG)	R	R-Table	Decisions
X1			
X1	0.696	0.36	Valid
X2	0.696	0.36	Valid
X3	0.706	0.36	Valid
X4	0.384	0.36	Valid
X5	0.721	0.36	Valid
Service Quality	0.637	0.36	Valid
Y1	0.622	0.36	Valid
Y2	0.534	0.36	Valid
Y3	0.533	0.36	Valid
Y4	0.603	0.36	Valid
Y5	0.402	0.36	Valid
Y6	0.623	0.36	Valid
Y7			
Reputation Improvement	0.465	0.36	Valid
Z1	0.726	0.36	Valid
Z2	0.657	0.36	Valid
Z3	0.438	0.36	Valid
Z4	0.775	0.36	Valid
Z5	0.595	0.36	Valid
Z6	0.677	0.36	Valid
Z7	0.677	0.36	Valid

Table 12 Results of Reliability Test for Korean Consumers

Variables	Cronbach's Alpha	Cut-Off	Results
Environmental, Social, and Governance (ESG)	0.826	0.6	Reliable
Service Quality	0.817	0.6	Reliable
Reputation Improvement	0.851	0.6	Reliable

Table 13 Results of Multicollinearity Test for Korean Consumers

Model	Collinearity Tolerance	Statistics of Variance Inflation Factor (VIF)
Environmental, Social, and Governance (ESG)	0.626	1.598
Service Quality	0.626	1.598

Furthermore, for every one-unit increase in ESG, service quality increases by 0.612. Conversely, a one-unit decrease in ESG will result in a 0.612 decrease in service quality for Korean consumers.

Based on the results of the ANOVA analysis (see Table 17), the regression model demonstrates strong statistical significance ($F = 7.584$, $p = 0.003$). It indicates that the two independent variables collectively contribute significantly to the dependent variable in the context of Korean consumers. This finding suggests that the model possesses good predictive capability and is appropriate for further analysis through partial regression coefficient testing (t-test).

Furthermore, to determine the extent of the influence of ESG on service quality, the R-squared is used as an indicator of explanatory power. Based on the SPSS output, the R-squared value obtained is 0.921. The result in Table 18 indicates that 92.1% of the variation in reputation improvement can be explained by service quality. The remaining 7.9% is influenced by other factors not examined for Korean consumers.

Table 19 presents the summary of Sub-Structure 2. It provides an overall analysis of the relationship between service quality and reputation improvement. This sub-structure highlights the significant contribution of service quality to enhancing

Table 14 Results of Heteroscedasticity Test for Korean Consumers

		Environmental, Social, and Governance (ESG)	Service Quality	Residuals
Environmental, Social, and Governance (ESG)	Correlation coefficient	1.000	540	-0.60
	Sig. (2-tailed)		0.02	0.754
	N	30	30	30
Service Quality	Correlation coefficient	540	1.000	-0.60
	Sig. (2-tailed)	0.02		0.357
	N	30	30	30
Unstandardized Residual	Correlation coefficient	-0.60	0.174	1.000
	Sig. (2-tailed)	0.754	0.357	
	N	30	30	30

Table 15 R-Squared Test Results for Environmental, Social, and Governance (ESG) on the Service Quality for Korean Consumers

Model	R	R-Squared	Adjusted R-Squared	Std. Error of the Estimate
1	0.612	0.374	0.352	3.04032

Table 16 Summary of Path Coefficient Results for Sub-Structure 1 for Korean Consumers

Inter-Influence Variable	Coefficient Path (Beta)	Sig.	Hypothesis Test	R-Squared	Coefficient Other Variables
Environmental, Social, and Governance (ESG) on Service Quality	0.612	0.000	H0 is rejected	0.374	0.791

Table 17 ANOVA Sub-Structure 2 for Korean Consumers

	Sum of Squares	df	Mean of squares	F	Sig
Regression	213.802	2	106.901	7.584	0.003
Residual	386.998	27	14.333		
Total	600.800	29			

organizational reputation based on the regression results. For every one-unit increase in service quality, reputation improvement increases by 0.960. Conversely, a one-unit decrease in service quality will lead to a 0.960 decrease in reputation improvement.

After all the path coefficients have been identified, the results can be summarized in Table 20, which presents the direct effects among the variables analyzed. The analysis yields several objective conclusions. In Sub-Structure 1, ESG is found to have a significant influence on service quality, as indicated by a statistically significant path coefficient. In Sub-Structure 2, ESG and service quality jointly exert a significant effect on reputation improvement. However, when examined separately, only service quality demonstrates a significant direct effect on reputation improvement, whereas ESG does not. Regarding the magnitude of effects, the direct effect of ESG on service quality is 0.612, which also constitutes its total effect. The influence of ESG on reputation improvement is primarily indirect, mediated by service quality, with an indirect effect value of 0.588. Meanwhile, service quality has a strong direct effect on reputation improvement, with a coefficient of 0.960, representing its total contribution to the dependent variable.

Validity and reliability tests confirm that the Indonesian data are both valid and reliable. However, in the Korean dataset, two items (X3 and X4) are invalid and excluded from further analysis. These items address labor law aspects that are strictly regulated in South Korea, such as limits on working hours and the classification of waiting time under the employer's supervision as paid work. Given South Korea's smaller population and heightened sensitivity to social issues, maintaining a positive corporate image is essential, and any perceived noncompliance with labor standards may negatively affect public perception. Despite this, both Indonesian and Korean datasets pass the classical assumption tests.

Regression analyses show that ESG practices significantly influence service quality in both countries. Simultaneously, ESG and service quality have a significant combined effect on reputation improvement in both contexts. However, partial regression analysis reveals differences. In Indonesia, both ESG and service quality have significant direct effects on reputation. Meanwhile, in Korea, only service quality has a significant effect, and the direct impact of ESG is not statistically significant. These findings suggest that while ESG consistently contributes to improved service quality, its influence on reputation is more

Table 18 R-Squared Test Results for Service Quality on Reputation Improvement for Korean Consumers

Model	R	R-Squared	Adjusted R-Squared	Std. Error of the Estimate
1	0.960	0.921	0.918	1.12020

Table 19 Summary of Sub-Structure Path Coefficient Results 2 for Korean Consumers

Influence Between Variables	Path Coefficient (Beta)	Sig.	Hypothesis Testing	R-Squared	Coefficients Other Variables
Environmental, Social, and Governance (ESG) (X) → Service Quality (Y)	0.960	0.000	H ₀ is rejected	0.921	0.281

Table 20 Overall Model Summary for Korean Consumers

Variable Relationship	Path Coefficient	Effect		
		Direct	Indirect	Total
Environmental, Social, and Governance (ESG) (X) → Service Quality (Y)	0.612	0.612	-	0.612
Environmental, Social, and Governance (ESG) (X) → Reputation (Z)	-	-	0.652 x 0.736 = 0.588	0.588
Service Quality (Y) → Reputation (Z)	0.960	0.960	-	0.960

context-dependent, shaped by cultural norms, legal frameworks, and consumer expectations. The results can be seen in Table 21.

The findings partially align with previous research regarding the relationship between ESG practices, service quality, and reputation. Consistent with Koh et al. (2022) and Lee et al. (2023), the researchers confirm that ESG practices significantly enhance corporate reputation, especially when mediated by service quality. It is evident in the Indonesian context, where ESG has both direct and indirect effects on reputation. The current results also reinforce earlier studies by Camilleri (2025) that ESG initiatives improve consumer perception through ethical governance and social engagement. Thus, the research supports the view that ESG integration is essential not only for regulatory compliance but also for cultivating positive brand equity in the food service sector.

However, the research also reveals unique insights that diverge from earlier studies. While ESG significantly influences service quality and reputation in Indonesia, its direct impact on reputation in Korea is less prominent, supporting findings by Cuong (2020), emphasizing service quality as a more decisive factor in high-income economies. This cultural and economic distinction suggests that ESG strategies must be locally adapted to reflect market expectations. Unlike previous studies that treat ESG as uniformly impactful across contexts (Orlitzky et al., 2003), the research demonstrates that the effectiveness of ESG depends on its interaction with service quality and local consumer behavior. Therefore, these findings extend the current literature by emphasizing the importance of contextualization in ESG implementation for global restaurant brands.

CONCLUSIONS

The research is conducted to analyze the impact of ESG formulation on service quality and its influence on reputation improvement in *tteokbokki* restaurants. Based on findings from empirical research conducted in Korea and Indonesia, several key conclusions can be drawn. ESG practices have a significant influence on service quality in both countries. Then, ESG and service quality also have a significant on reputation

improvement in both countries. However, in Indonesia, ESG and service quality have significant effects on reputation. Meanwhile, in Korea, only service quality affects reputation significantly.

In light of the findings, the following recommendations are proposed to strengthen ESG implementation and improve overall service quality and brand reputation in *tteokbokki* restaurants. First, the restaurants should strengthen their ESG frameworks by placing greater emphasis on sustainable environmental practices, proactive social engagement, and transparent corporate governance. Integrating these principles into daily operations is essential to gain long-term reputational benefits. Second, comprehensive education and training programs on ESG principles should be developed for employees. Enhancing staff awareness and responsibility regarding ESG can lead to improved service delivery and alignment with sustainability goals. Third, restaurants must improve communication with consumers regarding their ESG initiatives. Clear and accessible information should be disseminated through social media platforms, in-store promotional materials, and official websites to increase transparency and consumer trust. Last, establishing mechanisms for regular assessment of the impact of ESG activities on service quality and reputation is crucial. Through continuous feedback and data-driven evaluation, restaurants can adapt and refine their strategies to better align with consumer expectations and market dynamics. By adopting these recommendations, *tteokbokki* restaurants are expected to achieve enhanced service quality and brand reputation through effective ESG utilization. Ultimately, it will lead to increased consumer preference and loyalty, particularly among ethically conscious and sustainability-driven customer segments.

The research has several limitations despite its contributions. First, the sample is restricted to Indonesian and Korean *tteokbokki* restaurants, potentially constraining the generalizability of findings to other geography or other cuisine. Second, self-reported survey data are utilized, which are likely to be biased on consumer perception. Third, external factors, such as economic factors, government, and media effects on ESG awareness, are not particularly explored. It will affect the research outcomes.

Table 21 Comparison of the Influence in Indonesia and Korea

Variable	The Results of Influence	
	Indonesia	Korea
Environmental, Social, and Governance (ESG) (X) → Service Quality (Y)	Significant (0.652)	Significant (0.612)
ESG (X) → Reputation (Z)	Significant (0.254)	Not Significant
Service Quality (Y) → Reputation (Z)	Significant (0.736)	Significant (0.960)
Environmental, Social, and Governance (ESG) (X) → Reputation (Z) → Service Quality (Y)	Significant (0.734)	Significant (0.588)

Future research can also broaden the scope to include more restaurant types and geographic locations to see if the findings are transferable to varied cultural and business environments. Longitudinal research can also be capable of offering deeper insights into the long-term impact of ESG implementation on service quality and reputation. Additionally, qualitative methods such as in-depth interviews with restaurant managers and owners can provide a deeper insight into the challenges and motivations of implementing ESG. Lastly, future research can investigate how technology-enabled ESG solutions and digital transformation can further improve the sustainability of restaurants and customer engagement. By overcoming these limitations and pushing new boundaries, future researchers can further refine the understanding of ESG's role in the restaurant industry as well as provide more actionable insights for policymakers and companies.

AUTHOR CONTRIBUTIONS

Conceived and designed the analysis, H. S.; Collected the data, H. S. and J. J. H.; Contributed data or analysis tools, H. S. and J. J. H.; Performed the analysis, I. S.; Wrote the paper, I. S. and J. J. H.; Supervised, validated, and wrote – original draft preparation, H. S.; and Used software, validated, visualized, wrote – review, I. S.

DATA AVAILABILITY

The data that support the findings of the research are openly available in Zenodo at <https://doi.org/10.5281/zenodo.15703382>.

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