

How to Cite

Duc, L. M. (2026). The influence of ESG information and digital communication on Vietnamese consumers' building material choices. *International Journal of Business, Economics and Management*, 9(3), 222-227.
<https://doi.org/10.21744/ijbem.v9n3.2522>

The influence of ESG information and digital communication on Vietnamese consumers' building material choices

Luong Minh Duc

Applicant for the Doctoral Program, Phenikaa University, Vietnam

Corresponding author email: duclm0110@gmail.com

Abstract---This study examines the influence of environmental, social, and governance (ESG) information and digital communication on Vietnamese consumers' building material choices. A quantitative research design was employed using survey data from 326 consumers who had purchased, considered purchasing, or participated in decisions related to building materials. The measurement scales were assessed using Cronbach's alpha and exploratory factor analysis, followed by multiple linear regression to test the proposed hypotheses. The results indicate that both ESG information and digital communication have positive and statistically significant effects on consumers' building material choices. ESG information has a stronger influence ($\beta = 0.421$) than digital communication ($\beta = 0.286$), while the model explains 37.5% of the variance in consumer choice. The findings extend ESG-oriented consumer research to the building-material sector and highlight the importance of providing credible sustainability information through effective digital channels. The study provides practical implications for manufacturers, distributors, and marketers seeking to promote sustainable building-material consumption in Vietnam.

Keywords---ESG information, digital communication, building materials, consumer choice, sustainable consumption, Vietnam.

Introduction

Environmental, social, and governance (ESG) considerations are increasingly influencing not only corporate strategies and investment decisions but also consumer behavior. Consumers are paying greater attention to the environmental and social impacts of products and to the responsibility of the companies that produce them. Previous studies have shown that ESG perceptions can influence brand credibility, perceived quality, trust, engagement, and consumer choice (Koh et al., 2022; Tripopsakul & Puriwat, 2022; Boufounou et al., 2023). Recent evidence further suggests that ESG-related factors contribute to sustainable consumption intentions and purchasing behavior (Ahmed et al., 2024; Hasan et al., 2024).

These issues are particularly relevant to the building-material sector, where purchasing decisions may have long-term environmental, economic, and social consequences. As sustainable construction and green buildings gain importance, consumers may consider not only price, quality, and technical characteristics but also information concerning environmental responsibility, social practices, and corporate governance. Ghazali et al. (2026) link construction ESG with green buildings and whole-life value, while Wu et al. (2026) indicate that ESG perceptions can influence consumers' intentions to purchase green housing. These findings suggest that ESG information may also play an important role in building-material choices.

At the same time, digital communication has transformed how consumers obtain and evaluate product information. Websites, social media, e-commerce platforms, online advertising, and other digital channels enable businesses to communicate ESG commitments and sustainability attributes directly to consumers. Digital channels can therefore increase the accessibility and visibility of ESG information and potentially affect purchasing decisions. Previous research has highlighted the importance of digital transformation and integrated digital channels in

consumer-firm interactions (Nambisan et al., 2019; Hossain et al., 2020), while Hasan et al. (2024) demonstrate the relevance of ESG practices to consumer behavior in the context of digital transformation.

Despite these developments, research integrating ESG information, digital communication, and consumer choice remains limited, particularly in the building-material sector. Existing studies have largely focused on brands, fashion, food and beverage, investment, or general green consumption, while relatively little is known about how ESG information and digital communication jointly influence consumers' building-material decisions. Evidence from emerging markets such as Vietnam is also limited.

Literature Review and Hypotheses Development

Theoretical Foundation

This study draws on the Theory of Planned Behavior (TPB), which explains behavioral intention and behavior through attitudes, subjective norms, and perceived behavioral control (Ajzen, 1991). In sustainable consumption, consumers' evaluations and choices may also be shaped by information concerning environmental and social responsibility, product value, and corporate practices. Previous research indicates that perceived value and sustainability-related attributes are important considerations in consumer decision-making (Sweeney & Soutar, 2001; Kumar & Ghodeswar, 2015). Accordingly, ESG information and digital communication can be viewed as informational factors that contribute to consumers' evaluations and subsequent building-material choices.

ESG Information and Building Material Choice

ESG information reflects how businesses communicate their environmental responsibility, social practices, and governance commitments to stakeholders. From a consumer perspective, such information can provide additional signals for evaluating firms and products. Studies have found significant relationships between perceived ESG practices and brand credibility, perceived quality, trust, engagement, and consumer choice (Koh et al., 2022; Tripopsakul & Puriwat, 2022; Lee & Rhee, 2023).

In the context of sustainable consumption, ESG considerations may become particularly important when consumers evaluate products with long-term environmental impacts. Boufounou et al. (2023) provide empirical evidence of the relationship between ESG and customer choice, while Ahmed et al. (2024) demonstrate the relevance of ESG drivers to sustainable consumption intentions. More specifically, recent studies connect ESG with green buildings and green housing decisions (Ghazali et al., 2026; Wu et al., 2026). Therefore, consumers who perceive ESG information more positively are expected to show a stronger preference for building materials associated with sustainable and responsible practices.

H1: ESG information has a positive influence on Vietnamese consumers' building material choices.

Digital Communication and Building Material Choice

Digital communication enables consumers to access product information through websites, social media, e-commerce platforms, online advertising, and other digital channels. Such channels can reduce information barriers and facilitate comparison among products and suppliers. Hossain et al. (2020) emphasize the importance of integrated channels in contemporary marketing, while Nambisan et al. (2019) highlight the broader transformation of information exchange associated with digitalization.

Digital communication is also increasingly relevant to the communication of corporate sustainability and ESG practices. Hasan et al. (2024) show that digital transformation provides an important context for understanding the relationship between ESG practices and customer behavior. For building materials, effective digital communication may help consumers understand product characteristics, sustainability attributes, and ESG commitments, thereby supporting their purchasing decisions.

H2: Digital communication has a positive influence on Vietnamese consumers' building material choices.

Research Methodology

Research Design and Sample

This study employed a quantitative, cross-sectional research design to examine the effects of ESG information and digital communication on Vietnamese consumers' building material choices. Data were collected using a structured questionnaire administered to consumers who had purchased, considered purchasing, or participated in decisions related to building materials. Convenience sampling was employed, with questionnaires distributed through both online and direct channels to reach respondents with relevant experience. After data screening, 326 valid responses were retained for the final analysis.

The questionnaire consisted of two sections. The first section collected demographic information, including gender and age. The second section contained 16 measurement items covering three constructs: ESG information (6 items), digital communication (5 items), and building material choice (5 items). All items were measured using a five-point Likert scale ranging from 1 (“strongly disagree”) to 5 (“strongly agree”).

Measurement

The measurement items were adapted from established studies and modified to fit the building-material context. ESG information was measured using six items reflecting consumers’ perceptions of information concerning firms’ environmental responsibility, social responsibility, and governance practices. The scale was developed with reference to previous studies on ESG perceptions and consumer responses (Koh et al., 2022; Lee & Rhee, 2023; Hasan et al., 2024).

Digital communication was measured using five items addressing the accessibility, usefulness, clarity, and influence of building-material and sustainability information communicated through digital channels. The items were adapted with reference to Hossain et al. (2020) and Hasan et al. (2024).

Building material choice was measured using five items reflecting consumers’ preferences and intentions when evaluating and selecting building materials. The scale was adapted from previous studies on green purchasing and consumer choice (Kumar & Ghodeswar, 2015; Boufounou et al., 2023; Wu et al., 2026).

Data Analysis

The 326 valid responses were screened and analyzed using statistical software. Descriptive statistics were first employed to summarize the demographic characteristics of the respondents. The internal consistency of the three measurement scales was then assessed using Cronbach’s alpha, with a coefficient of 0.70 or higher considered acceptable.

Exploratory factor analysis (EFA) was conducted to examine the underlying factor structure of the measurement items. Sampling adequacy and the suitability of the data for factor analysis were evaluated using the Kaiser-Meyer-Olkin (KMO) measure and Bartlett’s test of sphericity. Items with factor loadings above 0.50 were considered acceptable for interpretation.

Finally, multiple linear regression analysis was performed to test the two proposed hypotheses and determine the effects of ESG information and digital communication on building material choice. Model explanatory power was assessed using R^2 and adjusted R^2 , while the overall significance of the regression model was evaluated using the F-test. Standardized regression coefficients (β) and t-statistics were used to assess the direction, relative strength, and statistical significance of each predictor. Statistical significance was evaluated at the 5% level ($p < 0.05$).

Results

Sample Characteristics

A total of 326 valid questionnaires were included in the analysis. Of the respondents, 56.4% were male, and 43.6% were female. The largest age group was 31-40 years (38.0%), followed by 21-30 years (29.4%), 41-50 years (22.1%), and over 50 years (10.5%). All respondents had purchased, considered purchasing, or participated in decisions related to building materials.

Table 1
Characteristics of the Respondents

Characteristic	Category	n	%
Gender	Male	184	56.4
	Female	142	43.6
Age	21-30	96	29.4
	31-40	124	38.0
	41-50	72	22.1
	Over 50	34	10.5
	Total	326	100.0

Reliability and Factor Analysis

The measurement scales demonstrated satisfactory internal consistency. Cronbach's alpha coefficients were 0.887 for ESG information, 0.864 for digital communication, and 0.851 for building material choice. All coefficients exceeded the recommended threshold of 0.70.

Exploratory factor analysis indicated that the data were suitable for factor extraction. The KMO value was 0.891, while Bartlett's test of sphericity was statistically significant ($p < 0.001$). Three factors were retained: ESG information, digital communication, and building material choice. All retained items had factor loadings greater than 0.60.

Table 2
Reliability of the Measurement Scales

Construct	Number of items	Cronbach's alpha
ESG information	6	0.887
Digital communication	5	0.864
Building material choice	5	0.851

Regression Analysis and Hypothesis Testing

Multiple linear regression was conducted to examine the effects of ESG information and digital communication on consumers' building material choices. The regression model was statistically significant, $F(2, 323) = 96.90$, $p < 0.001$. The model produced an R^2 of 0.375 and an adjusted R^2 of 0.371, indicating that ESG information and digital communication jointly explained 37.5% of the variance in consumers' building material choices.

Both predictors had positive and statistically significant effects. ESG information had the stronger standardized effect ($\beta = 0.421$, $t = 8.12$, $p < 0.001$), while digital communication also showed a significant positive effect ($\beta = 0.286$, $t = 5.52$, $p < 0.001$). Therefore, both H1 and H2 were supported.

Table 3
Multiple Regression Results

Hypothesis	Relationship	Standardized β	t	p	Result
H1	ESG information $\rightarrow$ Building material choice	0.421	8.12	< 0.001	Supported
H2	Digital communication $\rightarrow$ Building material choice	0.286	5.52	< 0.001	Supported

Model statistics: $R^2 = 0.375$; Adjusted $R^2 = 0.371$; $F(2, 323) = 96.90$; $p < 0.001$.

The results indicate that both ESG information and digital communication significantly influence Vietnamese consumers' building material choices. ESG information exhibits a stronger effect, suggesting that consumers place considerable importance on information concerning firms' environmental, social, and governance practices when evaluating building materials. Digital communication also plays a meaningful role by facilitating consumers' access to and evaluation of product- and sustainability-related information.

Discussion

The findings confirm that both ESG information and digital communication have significant positive effects on Vietnamese consumers' building material choices. Among the two predictors, ESG information shows the stronger influence, indicating that sustainability-related information has become an important consideration alongside conventional attributes such as price, quality, and technical performance (Wang & Esperança, 2023).

The positive effect of ESG information supports previous studies showing that consumers respond favorably to firms' environmental, social, and governance practices. Koh et al. (2022) found that perceived ESG influences consumer responses through brand credibility, brand image, and perceived quality, while Lee & Rhee (2023) demonstrated that corporate ESG management affects consumers' brand choice. The present findings are also consistent with Boufounou et al. (2023), who reported empirical evidence linking ESG to customer choice, and Hasan et al. (2024), who identified a relationship between ESG practices and customer behavior. In the construction context, the result is particularly relevant to the arguments of Ghazali et al. (2026) concerning ESG and whole-life

value in green buildings and to Wu et al. (2026), who linked ESG perceptions with consumers' intentions to purchase green housing.

Digital communication also has a significant positive influence on building material choice. This finding suggests that digital channels are not merely communication tools but important sources through which consumers obtain, compare, and evaluate information before making purchasing decisions. The result is consistent with Hossain et al. (2020), who emphasized the importance of integrated marketing channels, and with Hasan et al. (2024), who highlighted the relevance of digital transformation to the relationship between ESG practices and customer behavior.

The stronger effect of ESG information compared with digital communication also has an important implication. Digital channels can facilitate information access, but the substantive value and credibility of ESG information appear to be more important in shaping consumer choice. Therefore, building-material firms should not focus solely on expanding their digital presence. They should provide clear, credible, and verifiable information concerning environmental impacts, social responsibility, governance practices, product sustainability, and long-term value.

Overall, the findings extend previous ESG and consumer-behavior research to the building-material market in Vietnam. They suggest that combining credible ESG information with effective digital communication can support more informed and sustainability-oriented consumer choices.

Conclusion

This study examined the influence of ESG information and digital communication on Vietnamese consumers' building material choices. The findings indicate that both factors have positive and statistically significant effects on consumer choice. ESG information shows a stronger influence than digital communication, suggesting that consumers increasingly consider firms' environmental, social, and governance practices when evaluating building materials. Digital communication also plays an important role by facilitating access to product and sustainability-related information.

The study contributes to the literature by extending ESG-related consumer research to the building-material sector and by analyzing ESG information and digital communication within a single analytical framework. The findings also provide practical implications for building-material manufacturers, distributors, and marketers. Firms should provide clear, credible, and verifiable ESG information and communicate it effectively through websites, social media, e-commerce platforms, and other digital channels. Digital communication should therefore be used not only to promote products but also to improve transparency and help consumers evaluate the sustainability and long-term value of building materials.

The study has several limitations. The use of a cross-sectional survey limits the ability to establish causal relationships, while the sample may not fully represent all Vietnamese consumers. In addition, the model focuses on two main predictors and does not incorporate other factors such as price, product quality, environmental awareness, brand trust, or perceived value. Future studies could employ larger and more representative samples, compare different consumer groups or geographical areas, and examine mediating or moderating mechanisms to provide a more comprehensive understanding of sustainable building-material choices.

References

- Ahmed, B., El-Gohary, H., Khan, R., Gul, M. A., Hussain, A., & Shah, S. M. A. (2024). The influence of behavioral and ESG drivers on consumer intentions for online fashion renting: A pathway toward sustainable consumption in China's fashion industry. *Sustainability*, 16(22), 9723.
- Ajzen, I. (1991). The theory of planned behavior. *Organizational behavior and human decision processes*, 50(2), 179-211. [https://doi.org/10.1016/0749-5978\(91\)90020-T](https://doi.org/10.1016/0749-5978(91)90020-T)
- Boufounou, P., Moustairas, I., Toudas, K., & Malesios, C. (2023). ESGs and customer choice: Some empirical evidence. *Circular Economy and Sustainability*, 3(4), 1841-1874.
- Ghazali, E. M., Mutum, D. S., Ewe, S. Y., & Khan, G. (2026). Construction ESG, Green Buildings, and Marketing Whole-Life Value. In *Sustainability and ESG in Marketing: SDG-Aligned Industry Case Studies* (pp. 41-61). Cham: Springer Nature Switzerland.
- Hasan, M. B., Verma, R., Sharma, D., Moghalles, S. A. M., & Hasan, S. A. S. (2024). The impact of environmental, social, and governance (ESG) practices on customer behavior towards the brand in light of digital transformation: Perceptions of university students. *Cogent Business & Management*, 11(1), 2371063.
- Hossain, T. M. T., Akter, S., Kattiyapornpong, U., & Dwivedi, Y. (2020). Reconceptualizing integration quality dynamics for omnichannel marketing. *Industrial Marketing Management*, 87, 225-241. <https://doi.org/10.1016/j.indmarman.2019.12.006>

- Koh, H.-K., Burnasheva, R., & Suh, Y. G. (2022). Perceived ESG (Environmental, Social, Governance) and consumers' responses: The mediating role of brand credibility, brand image, and perceived quality. *Sustainability*, 14(8), 4515.
- Kumar, P., & Ghodeswar, B. M. (2015). Factors affecting consumers' green product purchase decisions. *Marketing Intelligence & Planning*, 33(3), 330-347.
- Lee, H. J., & Rhee, T.-H. (2023). How does corporate ESG management affect consumers' brand choice? *Sustainability*, 15(8), 6795.
- Nambisan, S., Wright, M., & Feldman, M. (2019). The digital transformation of innovation and entrepreneurship: Progress, challenges and key themes. *Research Policy*, 48(8), 103773. <https://doi.org/10.1016/j.respol.2019.03.018>
- Shevchenko, T., Saidani, M., Ranjbari, M., Kronenberg, J., Danko, Y., & Laitala, K. (2023). Consumer behavior in the circular economy: Developing a product-centric framework. *Journal of Cleaner Production*, 384, 135568. <https://doi.org/10.1016/j.jclepro.2022.135568>
- Sweeney, J. C., & Soutar, G. N. (2001). Consumer perceived value: The development of a multiple item scale. *Journal of Retailing*, 77(2), 203-220. [https://doi.org/10.1016/S0022-4359\(01\)00041-0](https://doi.org/10.1016/S0022-4359(01)00041-0)
- Tripopsakul, S., & Puriwat, W. (2022). Understanding the impact of ESG on brand trust and customer engagement. *Journal of Human, Earth, and Future*, 3(4), 430-440.
- Wang, S., & Esperança, J. P. (2023). Can digital transformation improve market and ESG performance? Evidence from Chinese SMEs. *Journal of Cleaner Production*, 419, 137980. <https://doi.org/10.1016/j.jclepro.2023.137980>
- Wu, Y. L., Yeh, W. C., Chen, S. C., & Lee, C. C. (2026). The impact of ESG perceptions on consumers' intentions to purchase green housing. *Journal of the Knowledge Economy*, 1-30.