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Brand trust: Exploring the roles of environmental, social, and governance and digital transformation

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Abstract: Currently, in times of digital transformation, there has been a growing attention paid to sustainability and corporate responsibility, so ESG practices play a pivotal role in shaping brand trust, which is essential for long-term consumer loyalty and engagement. The objective of the research is to understand how ESG has impacted the brand trust of consumers under the moderating effect of digital transformation. Accordingly, using a quantitative research design, primary data was collected from 302 dairy consumers located in Vietnam through a survey and analyzed using SmartPLS software through Partial Least Squares-Structural Equation Modeling. The results indicate that the implementation of ESG practices has a positive and direct relationship with consumers' brand trust in dairy products. Specifically, the social factor has the most notably positive effect on brand trust, followed by environmental and governance factors, respectively. The results also emphasize the moderating impact of digital transformation in boosting the positive influence of environmental and governance factors on brand trust, while the relationship between the social factor and brand trust is not significantly moderated.
Keywords: *Brand trust, Digital transformation, Environmental, Social, and governance (ESG).*

1. Introduction

The concept of Environmental, Social, and Governance (ESG) has become significantly vital in shaping business strategies worldwide [1, 2]. ESG focuses on non-financial aspects like environmental responsibility, social contributions, and corporate governance, highlighting the demand for businesses to align their operations with rising societal and environmental awareness [3]. This framework goes beyond financial factors, emphasizing sustainability as a critical part of business success [4]. Sustainable development, which involves fulfilling current needs without harming the capacity of succeeding generations to satisfy their own demand, has become a priority for businesses, governments, and academics globally [5]. As part of this trend, ESG practices have emerged as essential tools for building trust and fostering long-term relationships with consumers Tripopsakul and Puriwat [6]. Zhu and Wang [7] encouraged enterprises to improve ESG performance by enhancing social values and norms in daily life to strengthen social trust in the community.

ESG initiatives include actions to improve the non-financial performance of a firm in terms of environmental and social impacts and governance activities that contribute to creating economic value [8, 9]. Even though shareholders of environmentally sensitive industries pay more attention to environmental practices, it was found that unexpected information related to social and governance aspects generates added value greater than expected [10]. This underlines the multidimensional influence that ESG initiatives have in shaping both financial and non-financial performance particularly in trust [11, 12]. Although there have been many previous studies on the application of ESG in different industries, those research often focus on the relationship between ESG and corporate financial performance such as El Khoury, et al. [13] and Weston and Nnadi [14]. ESG to investment decisions, and perspectives on ESG management and marketing, namely [6, 15].

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Nowadays, digital transformation has been an inestimable factor of innovative progress or a factor of competitive advantage, with artificial intelligence, big data, blockchain, and virtual reality as its main "helpers" [16, 17]. It is a transformative and supportive change that opens up opportunities for organizations to reshape their operations towards high-quality growth and adapt to rapidly changing business models [18, 19]. Academic interest in digital transformation has surged, with research highlighting strategies for successful implementation, including starting with incremental changes, leveraging brand recognition, ensuring ethical data management, and fostering organization-wide commitment [20]. Digital technologies provide not only the tools to streamline processes related to ESG but also new opportunities for scaling up their positive impacts [21, 22]. In particular, the dairy supply chain is also embracing digital innovations, however, due to its unique characteristics, the process is gradual and targeted [23]. Retailers may pay attention to data related to milk quality, including the environmental impact of the product, because if this information is communicated to consumers, it may increase the value of the product [24]. Despite its potential, the role of digital transformation in moderating the relationship between ESG practices and brand trust remain underexplored. Digital innovation plays an important role in communicating ESG practices to consumers more effectively [25]. Through digital tools and platforms, businesses can be transparent about information, quickly interact with customers, and create personalized experiences, thereby contributing to building and strengthening brand trust [26].

Most of the previous studies that mainly concentrated on the relationship between ESG activities and financial performance [13] there are a few studies between ESG and brand trust [6]. However, this relationship is not diverse in terms of the number of research articles. There is limited exclusive research on the relationship between ESG practices and brand trust particularly in the light of digital transformation. Therefore, this research focuses on how ESG practices affect brand trust. Then, it examines the impact of digital transformation as a factor moderating this relationship, which has been largely overlooked in previous studies.

The remainder of the paper is organized as follows: Section 2 covers the literature review and hypothesis development. Sections 3 and 4 present the research methodology and the results, respectively. Section 5 focuses on the discussion of the results. Section 6 provides implication and conclusion. Finally, section 7 provides limitations and suggestions for further research.

2. Literature Review and Hypotheses Development

2.1. Underpinning Theory

2.1.1. Stakeholder Theory

Stakeholder theory, proposed by Freeman [27] is among many that have addressed business ethics and organizational management [28]. It states that the sustainable success of an organization is based on the ability to balance the interests of all shareholders, employees, consumers, communities, suppliers, and governments rather than solely of its shareholders [29, 30]. Moreover, the theory emphasizes that an organization should create value for all those stakeholders who have the capability to affect and may be affected by it Freeman [27].

Stakeholders, especially consumers, have become important considerations in all aspects of decision-making in an organization [31]. Based on the theory, sustainable business activities, including environmental, social, and governance (ESG) practices, can positively affect consumers' attitudes and behaviors toward a brand [32]. It has become particularly significant in the digital transformation era, where an organization's digital capabilities play a significant role in effectively communicating information and meeting stakeholder expectations, especially those of consumers [33]. Within this context, the stakeholder theory increasingly demonstrates its relevance in guiding organizations to establish strategic relationships with stakeholders through digital tools and platforms [34]. Therefore, each organization should try to develop and implement diverse strategies to effectively engage consumers [35, 36]. Businesses must share information about their sustainability efforts with key stakeholders, especially consumers [37, 38].

Accordingly, our research identifies stakeholder theory as an appropriate underpinning theory that investigates the impact role of ESG practices and the moderating role of digital transformation in building brand trust.

2.1.2. Signaling Theory

Previous studies have confirmed the importance of market signals in influencing customer behavior and attitudes, especially when customers have to integrate multiple signals from different information sources in the market [39]. However, these signals may be inconsistent or even contradictory, which leaves customers facing a complex cognitive task [40]. Accordingly, signaling theory points out the important role of external information signal disclosure in reducing information asymmetry between different parties. This is an important theoretical framework that emphasizes the role of applying digital transformation tools in communicating information about an organization's ESG practices to consumers [41].

Digital transformation contributes significantly to improving the effectiveness of communicating transparency and sustainable development responsibilities, because it makes information within enterprises smoother [42, 43]. Therefore, corporate information tends to be more transparent, and reduce information asymmetry between consumers and enterprises [44]. Moreover, transparent disclosure of ESG information following digital transformation regulations is considered a strong signal, helping to increase customer trust and improve the quality of relationships with the brand [45]. Therefore, when enterprises make the most of digital tools to make ESG practices clear and obvious, they will receive greater recognition from consumers [46].

In summary, signaling theory provides a fundamental theory to explain how business organizations can leverage digital transformation as a tool to communicate ESG information in a transparent and trustworthy manner [22]. When ESG signals are effectively communicated, it not only helps reduce information asymmetry but also enhances brand trust.

2.2. ESG and Brand Trust

ESG was first mentioned in the report “Who Cares Wins - Connecting Financial Markets to a Changing World” initiated by the United Nations Global Compact in 2004. Accordingly, the combination of Environmental, Social and Governance factors in ESG can contribute to sustainable development, minimizing risks more effectively and maintaining long-term value for companies as well as investors. Therefore, many industries have focused more on ESG management because it is an important criterion for ethical standards [47]. Furthermore, the International Organization for Standardization (ISO) has developed the standard “ISO 26000:2010 - Guidance on social responsibility” and utilized ESG management as an international standard for social responsibility [48].

ESG includes three pillars: environment, society and governance. First, the environmental pillar refers to reducing CO_2, recycling and disposing of other waste effectively, using renewable energy, promoting biodiversity and implementing ISO14001 [49]. In addition, Bae, et al. [15] emphasized that environmental factors include activities that benefit the surrounding natural ecosystem. Second, the social pillar focuses on information relating to discrimination and diversity, enhancing the value of human resources, safety and health in the workplace, relationships with consumers and local communities, and supporting community development [48]. According to Mo, et al. [50] this fundamental pillar underscores the equilibrium between individual interests and the collective demands of society at large. Third, the governance pillar pertains to a wide array of concerns, including the code of conduct [3]. Furthermore, it encompasses a synthesis of both internal and societal governance, incorporating internal performance metrics such as ownership structures, compensation schemes, risk management oversight, and the diversity of board management [51].

ESG practices, including environmental protection activities, social responsibility, and transparent governance, not only help businesses build a positive image toward customers, investors, and the community, but also contribute to strengthening brand trust and consumer loyalty [3].

Based on the study of Bae, et al. [15] environmental factors have a strongly positive impact on consumer trust in brands. According to Shafiei and Maleksaeidi [52] environmental awareness is closely related to environmental protection behavior. When consumers are aware of environmental issues, they tend to support brands that demonstrate a strong commitment to the environment, thereby contributing to strengthening brand trust [53]. Environmental awareness helps build an environmentally friendly brand image, and at the same time has a positive influence on the process of building brand trust [54]. Furthermore, consumers with environmental values tend to favor brands that satisfy their environmental concerns [55, 56]. Therefore, this study hypothesizes that:

H_1: Environmental factors positively influence brand trust.

In today's competitive international market, brands face great pressure to build and maintain consistent images. According to Cho, et al. [57] a strong brand image is considered a valuable asset, an indispensable factor in strengthening customer trust, helping the brand gain a long-lasting competitive advantage. Therefore, organizations with a high level of public disclosure of environmental protection information and responsibility to the community often receive greater trust from consumers [58]. This trust is not only reflected in brand transparency but also comes from the social and ethical commitments that businesses need to implement [59].

Corporate social initiatives play a vital role in building trust. Community-oriented, sustainable, and socially responsible activities increase consumer trust. Gulati and Wohlgezogen [60] asserts that ethical compliance in strategic decisions not only boosts trust but also enhances stakeholder relationships. From the above studies, it can be seen that social factors, including corporate social responsibility activities and ethical commitments, have a profound influence on consumer trust in brands. These findings lead to the following hypothesis:

H_2: Social factors positively influence brand trust.

According to stakeholder theory, high-quality corporate governance practices are able to build and maintain relationships that create value for all stakeholders including customers toward brand [61, 62]. With the multi-dimensional impacts of good corporate governance from the inside out in a company's operations, businesses should consider governance disclosure as a powerful tool in their brand communication strategy [25]. This will help build trust and increase confidence from customers [63]. Transparent and sustainable governance systems not only build consumer trust but also strengthen brand reputation [64]. In summary, good corporate governance is essential for the long-term success and sustainability of a company [65]. From the above, we suggest the following hypothesis:

H_3: Governance factors positively influence brand trust.

2.3. Moderate Role of Digital Transformation

In recent years, digital transformation has become an important tool for businesses to improve operational efficiency and build customer value [66]. Digital transformation is a process aiming to enhance an organization by creating considerable changes to its features through integration of information technology, computers, and connectivity [67]. According to ElMassah and Mohieldin [68] digital transformation facilitates sustainable performances of a brand both economically and environmentally. Especially with those milk brands, there is an increasing consumer expectation that processing technologies are sustainable, ethical production without compromising food safety [69] and emerging technology certainly has substantial potential to improve the quality and safety of milk [70]. Some researchers have also assumed a positive connection between leveraging digital technologies in business systems and practices related to ESG and sustainability [71, 72]. In addition, digitalization promotes more transparent and accountable governance, active consumers' participation, and accessible justice through the digital platform according to Clark, et al. [73]. With the rising awareness and appreciation for those responsible commitments, especially when consumers are increasingly affected by information from digital tools, ESG practices have become more crucial in empowering customers to make decisions proactively aligning with their values [74] thus shaping brand trust and boosting their communication in the long run.

H_4: Digital transformation moderates the relationship between environmental factors and brand trust.
H_5: Digital transformation moderates the relationship between social factors and brand trust.
H_6: Digital transformation moderates the relationship between governance factors and brand trust.

3. Methodology

3.1. Sample and Data Collection

To achieve objectives of this research, the quantitative approach has been applied and data are collected from a broad sample of dairy consumers, ranging in age, occupation, income, and gender, who had purchased dairy products within the last six months. This study examines consumers using dairy products from various backgrounds. Consumers using dairy products were chosen to be the main survey targets due to the rapid growth of the dairy industry in Vietnam together with the increase in consumers' awareness and concern about ESG issues of the products they purchase. Consumers gradually have the tendency to support those brands consistent with sustainable development goals, especially in the context of digital transformation.

Researchers distributed surveys within 1.5 months, with the data collection approach involving both an online survey and direct survey carried out in some supermarkets, retail stores, shopping centres around Vietnam. Moreover, the purposive sampling technique was employed to determine sample for this study, which is a way used to collect samples with certain criteria or requirements and provide complete data information in the research. Applying that technique, researchers set the criteria for consumers using dairy products from some identified brands over the last six months and a total of 347 responses were successfully obtained.

Overall, the survey collected a total of 347 respondents. Out of these, 302 people provided complete and usable data which is a reasonable sample size for performing PLS-SEM analysis [75]. With the sample size of 302 respondents, it has satisfied the established standard that in PLS-SEM analysis, the minimum sample size must be at least 10 times the maximum number of formative indicators and at least 10 times the biggest number of structural paths leading to a certain construct. These ensure the reliability and precision of the results of analysis for the stability and statistical significance of the model estimation. Table 1 provides a summary of sample characteristics.

Table 1.
Sample characteristics.

Demographic	Categories	Percent
Gender	Male	29.2
	Female	70.8
Age	18 - 30	61.3
	31 - 40	24.1
	41 - 50	11.2
	More than 50 years olds	3.4
Current job	Student	20.7
	Officer	33.0
	Worker	3.5
	Freelancer	31.1
	Homemaker	7.3
	Others	4.4
Monthly income	Less than 10 million VND	50.2
	10 - 20 million VND	36.5
	20 - 30 million VND	9.7
	More than 30 million VND	3.6

3.2. Measures

Before the collection of data was undertaken, measurement procedures were implemented to reduce potential biases of the data and enhance the reliability and accuracy of the measurement scale. Initially, a

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group of five researchers conducted a thorough review of the survey questionnaire, offering detailed comments and recommendations to improve the relevance and accuracy of the questions. Following that, a pilot test was conducted with five participants from the targeted population as a sample in order to assess their understanding of each question, so that the survey instructions were consistent with the study objectives. This procedure not only ensured the scientific accuracy of the survey tool but also contributed to improving the quality of the collected data.

The questionnaire included three sections: the first section showed a screening question "Which dairy brand have you used regularly in the last 6 months?", which assisted the participants in selecting the appropriate brand for the survey while the second section contained items measuring the variables of the research evaluated by utilizing a five-point Likert scale (1 = strongly disagree to 5 = strongly agree) and the last one covered information on participants' demographic.

The measurements for the variables were adopted from previous studies. First, ESG was measured with ten items that reflected its three main dimensions namely environmental, social, and governance, adjusted and adapted from the works of Hasan, et al. [76]. Second, brand trust was measured using a set of three items, adapted from Habibi, et al. [77]. Finally, by adopting the scale of Hasan, et al. [76] digital transformation was assessed with three items.

3.3. Common Method Bias

Harman's single-factor which tests the presence of common method bias (CMB), was conducted before examining the hypotheses. Podsakoff, et al. [78] explained that the CMB will occur if one of the following two cases appears: either when factor analysis extracts only a single factor, or when a general factor accounts for the majority of the covariance among the measures. In short, if the extracted factor accounts for more than 50% of the variance of the observed variables, we conclude the existence of CMB. If the extracted variance is below 50%, we conclude that it does not exist CMB [79]. The results show that only 25.9 % of single factors explain the variance, which is lower than the threshold of 50%, so concluding that CMB does not appear in the data.

4. Data Analysis and Results

The present investigation scrutinized the research framework utilizing the Partial Least Squares Structural Equation Modeling (PLS-SEM) technique within the SmartPLS 4 software environment. The pervasive application of PLS-SEM in the domain of management research can be attributed to its multitude of advantages, as underscored by the works of Magno, et al. [80] and Legate, et al. [81]. This methodological approach is particularly efficacious for analyses involving limited sample sizes [82] and studies that prioritize predictive precision. PLS-SEM exhibits enhanced statistical efficacy relative to covariance-based Structural Equation Modeling (CB-SEM), particularly in the context of intricate models characterized by small sample populations. Generally, the PLS-SEM analytical procedure entails a bifurcated methodology that encompasses both the measurement model and the structural model, aimed at evaluating the interrelations among the constructs and testing the underlying hypotheses.

4.1. Measurement Model

The measurement model was evaluated by considering indicator reliability, internal consistency reliability, convergent and discriminant validity [83]. First, Cronbach's alpha (α) and composite reliability (CR) were calculated to test the internal consistency of the items in the scale and determine their reliability. However, CR serves as a more fitting measure of reliability for SEM-based studies. If α and CR exceed the threshold of 0.70, the scale is reliable. In our research, the Cronbach's alpha ranged from 0.716 to 0.890 (environmental: 0.785; social: 0.716; governance: 0.766; brand trust: 0.748; digital transformation: 0.890). CR (rho_c) ranged from 0.841 to 0.932 (environmental: 0.858; social: 0.841; governance: 0.865; brand trust: 0.854; digital transformation: 0.932), as shown in Table 2. These evaluations ensured reliability and internal consistency among these items in our scale.

Table 2.
Reliability and convergent validity.

Construct	Code	Loading	α	CR	AVE
Environmental (E)	E1	0.724	0.785	0.858	0.603
	E2	0.826			
	E3	0.718			
	E4	0.830			
Social (S)	S1	0.773	0.716	0.841	0.638
	S2	0.792			
	S3	0.831			
Governance (G)	G1	0.833	0.766	0.865	0.681
	G2	0.833			
	G3	0.808			
Digital transformation (DT)	DT1	0.916	0.890	0.932	0.820
	DT2	0.928			
	DT3	0.872			
Brand trust (BT)	BT1	0.802	0.748	0.854	0.661
	BT2	0.833			
	BT3	0.803			

Second, Hair, et al. [75] conducted a related study to establish these factors through testing 'convergent validity' and 'discriminant validity' to assess the construct validity. The convergent validity highlights the internal consistency among indicators that measure the same construct while discriminant validity ensures that different factors have clear theoretical differences. To confirm convergent validity, the average variance extracted (AVE) for each construct should not be lower than 0.5. In our research, the AVE values of the constructs were higher than the required level of 0.50, ranging from 0.603 to 0.820, as depicted in Table 2. These assessments validify the convergence of the measurement the indicator reliability was demonstrated by the values of the outer loadings.

Moreover, According to Hair Jr, et al. [83] items with outer loadings exceeding 0.70 were reliable and statistically significant. As presented in Table 2, the outer loadings of all of the items in our research were higher than 0.70, therefore, they achieve the convergence of the measurement.

Furthermore, Henseler, et al. [82] employed the "Heterotrait–Monotrait (HTMT)" method to assess and confirm discriminant validity. The values within the HTMT matrix should not exceed 0.85, especially for the concepts. In our study, as illustrated in Table 3, none of the values exceeded this threshold and this is a good sign for the data's discriminant validity.

Table 3.
Discriminant validity - HTMT matrix.

Construct	E	S	G	DT	BT
E					
S	0.345				
G	0.344	0.505			
DT	0.167	0.084	0.084		
BT	0.432	0.441	0.386	0.199	

In summary, all the criteria concerning factor loadings, reliability, discriminant validity and convergent validity of the measurement model have been met, thereby confirming the validity of the measurement models.

4.2. Structural Model

Testing for multicollinearity among independent variables is mandatory before confirming the research hypotheses. In case of collinearity or multicollinearity, the regression coefficients and p-values associated with the effects may be distorted. Generally, a VIF value below 3 is considered acceptable, indicating no severe multicollinearity. All VIF values in this study fall within the acceptable range, with the highest value being 1.400 and the lowest at 1.099. Therefore, it can be inferred that multicollinearity problems are unlikely to occur.

The model's hypothesized relations were investigated, as shown in Table 4, the results support hypothesis H1, H2, and H3 by showing that the paths (E→BT) ($\beta = 0.221$, $p < 0.05$), (S→BT) ($\beta = 0.231$, $p < 0.05$), and (G→BT) ($\beta = 0.139$, $p < 0.05$) showed positive and statistically significant relationships.

Besides looking at the linear pathways of our suggested model, researchers also investigated the moderating effect of DT. The results show that the path from E x DT and G x DT to BT are positively and statistically significantly moderated by DT ($\beta = 0.207$, $p < 0.05$), (G x DT→BT) ($\beta = 0.240$, $p < 0.05$) respectively. Consequently, hypotheses H4 and H6 are supported by the evidence shown in Table 5. Conversely, it was determined that the paths (S x DT→BT) ($\beta = -0.076$, $p > 0.05$) were not statistically involved. Consequently, there is no support for hypothesis H5.

Table 4.
The results of testing the significance level of the path coefficients.

Hypothesis		Coefficient	Standard error	t_value	p_value	Result
H1	E → BT	0.221	0.059	3.732	0.000	Supported
H2	S → BT	0.231	0.056	4.103	0.000	Supported
H3	G → BT	0.139	0.057	2.427	0.015	Supported
H4	E x DT→ BT	0.207	0.059	3.529	0.000	Supported
H5	S x DT→ BT	-0.076	0.068	1.108	0.268	Not supported
H6	G x DT→ BT	0.240	0.065	3.705	0.000	Supported

In addition, the structural model testing included assessing the R^2, effect magnitude, and the predictive significance of the model. At the same time, the bootstrapping method was applied to verify the research hypotheses. To determine the validity of the hypothesis and evaluate the suitability of the proposed model, the coefficient of determination (R^2) was calculated at the general level. This index represents the predictive ability of the model, with values of 0.67 indicating high predictive ability, 0.33 for medium predictive ability, and 0.10 for low predictive ability.

The results of the study demonstrated that the variables E, S, G, and DT contributed 33% to the explanation of the variance of BT, corresponding to the average prediction level as shown in Table 5.

Table 5.
R^2, f^2, and effect sizes.

Construct	R^2	f^2	Effect size
BT	0.330	-	-
E	-	0.062	Small
S	-	0.064	Small
G	-	0.024	Small
DT x E -> BT	-	0.056	Small
DT x S -> BT	-	0.006	No effect
DT x G -> BT	-	0.065	Small

Lastly, the influence of the latent variables on the dependent variable was analyzed through the f index, which plays a complementary role to the R^2 coefficient, as illustrated in Table 5. Cohen [84] used the f values (0.35, 0.15, and 0.02) to show the strength of the impact size of the predictive factors as large, medium and small. Consequently, the variables E, S, G, DT x E, DT x G show small effect sizes

(0. 062, 0.064, 0.024, 0.056, and 0.065) on BT. However, it is noteworthy that the variable DT x S demonstrates no effect (0.006) on BT.

5. Discussion

5.1. The direct effect of ESG on brand trust

First, environmental practices have a positive impact on brand trust. This aligns with major previous research articles, such as Tripopsakul and Puriwat [6]. The authors can conclude that environmentally friendly activities also contribute to creating consumer trust through the way businesses communicate, customers tend to trust brands that have positive activities to minimize negative impacts on the environment such as using environmentally friendly materials, actively participating in waste reduction activities and optimizing fuel sources. Nowadays, consumers' environmental awareness is increasingly enhanced and has become one of the factors affecting brand trust and their response to brands and sustainable consumption behaviors [85, 86]. However, this factor has not been leveraged effectively and is sometimes overlooked in brand trust because consumers have no thorough understanding of businesses' efforts to protect the environment, primarily due to information asymmetry. The result is a barrier between customers and the company, restricting the flow of information from customers and creating challenges for businesses to cultivate trust among customers.

Second, society pillar has the largest positive impact on brand trust. In other words, businesses that focus on implementing social practices will build stronger trust with customers. Specifically, these practices include promoting the protection of the rights and interests of stakeholders, especially consumers, contributing to development and welfare through charitable and sustainable activities, and complying with ethical standards. Our research results are similar to previous studies, namely Koh et al. [3] which concluded social practices contribute to strengthening brand trust and consumer loyalty. These outcomes also figured out that the social practices had the strongest impact among three dimensions. In addition, Tripopsakul and Puriwat [6] mentioned that the social practices in ESG have the largest impact on customers' brand trust. Moreover, consumers' trust in the brand will be increased significantly if the business focuses on social activities [15]. Indeed, it can be emphasized that social responsibility practices contribute to the formation and strengthening of customer brand trust.

Third, our findings indicate that effective governance practices positively influence brand trust, which is consistent with the finding of Tripopsakul and Puriwat [6]. When companies show strong governance, customers are more likely to develop higher levels of engagement and trust. However, our results are contrary to those of Bae, et al. [15] who stated that governance had no significant impact on brand trust. This difference may result from variation in the research's context. In Vietnam, where consumers are increasingly placing more importance on ethical practices, governance becomes a part of shaping brand perception. Additionally, the results further support the applicability of existing literature that suggests well-managed governance principles strengthen consumers' trust in different brands [59]. In short, this study underscores the importance of effective governance in building brand trust, thereby highlighting the necessity for businesses to not only implement ethical practices but also to communicate transparently to consumers about their virtues.

5.2. The Moderating Effect of Digital Transformation

In general, the factor of digital transformation positively influences the relationship between ESG practices and brand trust. Previous studies have shown that digital transformation strengthens the effect of environmental factors on customer behavior [76] or digital transformation has a beneficial effect on customer behavior [87]. However, our study shows that digital transformation helps strengthen the impact of environmental and governance pillars on brand trust among consumers, except for the social pillar. The findings emphasize the moderating impact of digital transformation in boosting the positive influence of environmental and governance factors on brand trust. In short, businesses that pay more attention to ESG practices with the help of digital technology will generate strong positive impacts, thereby enhancing brand trust among consumers.

6. Implication and Conclusion

6.1. Implication for Theory

Theoretically, our study has provided empirical results to strengthen the relationship among ESG practices and brand trust. The analysis result reveals the three dimensions including environmental, social, and governance have varying degrees of influence on brand trust. Moreover, our study also underscores the pivotal support of digital transformation as a moderating factor in enhancing this relationship. The discovery contributes to theoretical advancements and practical applications, specifically in the integration of digital transformation to optimize the impact of ESG on consumer trust.

6.2. Implications for Managers

Our research results provide valuable insights for marketers who are studying how to convey their businesses' ESG-related information to stakeholders, especially consumers. These days, ESG practices have been increasingly popular and play an important role in the business strategy. Specifically, social activities have the strongest impact on consumer awareness and trust, followed by environmental and governance factors, respectively. Therefore, managers should strengthen the promotion of ESG sustainability practices. Furthermore, policymakers should carefully consider attractive regulations and incentives to encourage companies to effectively adopt ESG practices. Last but not least, companies could consistently evaluate results and facilitate rapid improvemnet to increase customer trust and loyalty.

The study also emphasizes the critical role of digital transformation in moderating the relationship between governance practices and brand trust, as well as environmental dimension. For ensuring that governance practices are visible and credible to consumers, managers should adopt digital tools with the purpose of brands to improve the transparency, accountability, and stakeholder engagement. With the benefits of enhancing reporting, enabling real-time monitoring of compliance and promoting ethical conduct that digital platforms bring to businesses, policymakers should support this transformation by applying incentives that encourage companies to adopt digital technologies. This approach fosters better governance as well as creates clear instructions to ensure digital tools are effectively used thus enhancing transparency and signal ethical standards. Regarding environmental practices, managers of brands should collaborate with policymakers to provide possible subsidies or grants for the adoption of green technologies, industry collaboration and promoting data-driven environmental decision-making. Moreover, businesses should increasingly integrate digital tools in communicating their corporate environmental responsibility activities to customers.

6.3. Conclusion

The findings verified a positive relationship among ESG elements, brand trust and the moderating factor of digital transformation. Through these dimensions, the impact of the ESG practices varies significantly within Vietnam, with the social pillar exerting the strongest influence on brand trust, followed by the environmental and governance pillars. This finding highlights that diverse ESG efforts have varying effects on customer trust. However, with regard to the moderating role of digital transformation, governance and environmental factors have significant impacts respectively while the social pillar shows no impact. Therefore, understanding the relationships of those factors helps companies have deeper insights and consider the unique impacts of each ESG practices when implementing their strategies to customers.

7. Limitations and Suggestions for Future Research

Despite the contributions mentioned earlier, our research has some remaining limitations, hence requiring further research. Firstly, this study investigates only the positive influence of ESG on brand trust with the moderator of digital transformation without thoroughly investigating its impact on the purchase behaviors of customers. Ultimately, one of the largest concerns for a business is grasping consumer buying behaviors as it directly determines profitability. In this regard, perhaps future studies can examine the role of brand trust as a mediating variable in the relationship between ESG and consumer buying behavior combining digital transformation as the moderator. Secondly, it only researches the moderating effect of digital transformation as a possible moderating factor; so future research may consider additional moderating variables such as those involving cultural influences, because customer behavior relating to ESG issues is bound to be heavily influenced by cultural factors. Finally, our study is limited in research scope, since it only focuses on Vietnam. Therefore, future contributions can be expanded to other countries to obtain more comprehensive results.

Transparency:

The authors confirm that the manuscript is an honest, accurate, and transparent account of the study; that no vital features of the study have been omitted; and that any discrepancies from the study as planned have been explained. This study followed all ethical practices during writing.

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References

[1] P. C. Jiang, G. F. Feng, H. J. Wang, and C. P. Chang, "CSR from different perspectives: The global ESG indexes updated," *Corporate Social Responsibility and Environmental Management*, vol. 31, no. 5, pp. 4694-4714, 2024.

[2] L. Liu, Z. Ma, Y. Zhou, M. Fan, and M. Han, "Trust in ESG reporting: The intelligent Veri-green solution for incentivized verification," *Blockchain: Research and Applications*, vol. 5, no. 2, p. 100189, 2024.

[3] H.-K. Koh, R. Burnasheva, and Y. G. Suh, "Perceived ESG (environmental, social, governance) and consumers' responses: The mediating role of brand credibility, Brand Image, and perceived quality," *Sustainability*, vol. 14, no. 8, p. 4515, 2022.

[4] Y. Tan and Z. Zhu, "The effect of ESG rating events on corporate green innovation in China: The mediating role of financial constraints and managers' environmental awareness," *Technology in Society*, vol. 68, p. 101906, 2022.

[5] Y. Wen and S. Zhang, "Assessing the impact of resource efficiency on sustainable development: Policies to cope with resource scarcity in Chinese provinces," *Resources Policy*, vol. 90, p. 104754, 2024.

[6] S. Tripopsakul and W. Puriwat, "Understanding the impact of ESG on brand trust and customer engagement," *Journal of Human, Earth, and Future*, vol. 3, no. 4, pp. 430-440, 2022.

[7] B. Zhu and Y. Wang, "Does social trust affect firms' ESG performance?," *International Review of Financial Analysis*, vol. 93, p. 103153, 2024.

[8] Y.-L. Chou, C.-Y. Chen, T.-H. Lin, Y.-W. Zhou, and Y.-F. Lee, "The role of ESG participation in sports sponsorship: Enhancing consumer purchase intention through electronic word of mouth (eWOM)," *Sustainability*, vol. 16, no. 23, p. 10744, 2024.

[9] W. Myung, "Conceptualization of ESG management values of professional sports clubs: From consumers' perspective," *Sustainability*, vol. 16, no. 17, p. 7257, 2024.

[10] M. M. Miralles-Quirós, J. L. Miralles-Quirós, and L. M. Valente Gonçalves, "The value relevance of environmental, social, and governance performance: The Brazilian case," *Sustainability*, vol. 10, no. 3, p. 574, 2018.

[11] Y. Liu, C. Y. Kim, E. H. Lee, and J. W. Yoo, "Relationship between sustainable management activities and financial performance: Mediating effects of non-financial performance and moderating effects of institutional environment," *Sustainability*, vol. 14, no. 3, p. 1168, 2022.

[12] B. Miranda, C. Delgado, and M. C. Branco, "Board characteristics, social trust and ESG performance in the European banking sector," *Journal of Risk and Financial Management*, vol. 16, no. 4, p. 244, 2023.

[13] R. El Khoury, N. Nasrallah, and B. Alareeni, "ESG and financial performance of banks in the MENAT region: concavity–convexity patterns," *Journal of Sustainable Finance & Investment*, vol. 13, no. 1, pp. 406-430, 2023.

[14] P. Weston and M. Nnadi, "Evaluation of strategic and financial variables of corporate sustainability and ESG policies on corporate finance performance," *Journal of Sustainable Finance & Investment*, vol. 13, no. 2, pp. 1058-1074, 2023.

[15] G.-K. Bae, S.-M. Lee, and B.-K. Luan, "The impact of ESG on brand trust and word of mouth in food and beverage companies: Focusing on Jeju Island tourists," *Sustainability*, vol. 15, no. 3, p. 2348, 2023.

[16] J. M. M. Guerra, I. Danvila-del-Valle, and M. Méndez-Suárez, "The impact of digital transformation on talent management," *Technological Forecasting and Social Change*, vol. 188, p. 122291, 2023.

[17] S. Wang and J. P. Esperança, "Can digital transformation improve market and ESG performance? Evidence from Chinese SMEs," *Journal of Cleaner Production*, vol. 419, p. 137980, 2023.

[18] L. Wang and H. Yang, "Digital technology innovation and corporate ESG performance: evidence from China," *Economic Change and Restructuring*, vol. 57, no. 6, p. 207, 2024.

[19] X. Ding, Z. Sheng, A. Appolloni, M. Shahzad, and S. Han, "Digital transformation, ESG practice, and total factor productivity," *Business Strategy and the Environment*, vol. 33, no. 5, pp. 4547-4561, 2024.

[20] J. Paul *et al.*, "Digital transformation: A multidisciplinary perspective and future research agenda," *International Journal of Consumer Studies*, vol. 48, no. 2, p. e13015, 2024.

[21] L. Zhang, Y. Ye, Z. Meng, N. Ma, and C.-H. Wu, "Enterprise digital transformation, dynamic capabilities, and ESG performance: Based on data from listed Chinese companies," *Journal of Global Information Management*, vol. 32, no. 1, pp. 1-20, 2024.

[22] M. Asif, C. Searcy, and P. Castka, "ESG and industry 5.0: The role of technologies in enhancing ESG disclosure," *Technological Forecasting and Social Change*, vol. 195, p. 122806, 2023.

[23] M. T. Okano, O. Vendrametto, and C. Langhi, "Digital transformation in the milk production chain," presented at the In IFIP International Conference on Advances in Production Management Systems (pp. 83-91). Cham: Springer Nature Switzerland, 2022.

[24] B. Ridoutt and D. Hodges, "From ISO14046 to water footprint labeling: A case study of indicators applied to milk production in south-eastern Australia," *Science of the Total Environment*, vol. 599, pp. 14-19, 2017.

[25] C. Sun, G. Jiang, and J. Zhang, "An Analysis of Hotspots, Subject Structure, and Emerging Trends in Digital Governance Research," *SAGE Open*, vol. 14, no. 3, p. 21582440241268756, 2024.

[26] L. D. Hollebeek and K. Macky, "Digital content marketing's role in fostering consumer engagement, trust, and value: Framework, fundamental propositions, and implications," *Journal of interactive marketing*, vol. 45, no. 1, pp. 27-41, 2019.

[27] R. E. Freeman, *Strategic management: A stakeholder approach*. Cambridge: Cambridge University Press, 2010.

[28] V. Valentinov and S. Roth, "Stakeholder theory: Exploring systems-theoretic and process-philosophic connections," *Systems Research and Behavioral Science*, vol. 41, no. 2, pp. 301-315, 2024.

[29] G. Talan, G. D. Sharma, V. Pereira, and G. W. Muschert, "From ESG to holistic value addition: Rethinking sustainable investment from the lens of stakeholder theory," *International Review of Economics & Finance*, vol. 96, p. 103530, 2024.

[30] T. Alshukri, O. Seun Ojekemi, T. Öz, and A. Alzubi, "The interplay of corporate social responsibility, innovation capability, organizational learning, and sustainable value creation: does stakeholder engagement matter?," *Sustainability*, vol. 16, no. 13, p. 5511, 2024.

[31] Y. Ibrahim, M. M. Ahmed, and M. T. Nayel, "The impact of corporate social responsibility practices on employees' engagement: The mediating role of organizational identification," *Global Business and Organizational Excellence*, vol. 43, no. 2, pp. 43-60, 2024.

[32] D. P. Nugroho, Y. Hsu, C. Hartauer, and A. Hartauer, "Investigating the interconnection between environmental, social, and governance (ESG), and corporate social responsibility (CSR) strategies: An examination of the influence on consumer behavior," *Sustainability*, vol. 16, no. 2, p. 614, 2024.

[33] N. Nguyen, T. Dang-Van, T. Vo-Thanh, H.-N. Do, and S. Pervan, "Digitalization strategy adoption: The roles of key stakeholders, big data organizational culture, and leader commitment," *International Journal of Hospitality Management*, vol. 117, p. 103643, 2024.

[34] R. Martínez-Peláez *et al.*, "Role of digital transformation for achieving sustainability: mediated role of stakeholders, key capabilities, and technology," *Sustainability*, vol. 15, no. 14, p. 11221, 2023.

[35] I. S. K. Acquah, C. Baah, Y. Agyabeng-Mensah, and E. Afum, "Green procurement and green innovation for green organizational legitimacy and access to green finance: The mediating role of total quality management," *Global Business and Organizational Excellence*, vol. 42, no. 3, pp. 24-41, 2023.

[36] S. Bansal, I. Garg, and S. Singh, "Corporate social responsibility: insights from COVID-19 and stakeholder theory," *Global Business and Organizational Excellence*, vol. 42, no. 6, pp. 154-169, 2023.

[37] A. Tsang, T. Frost, and H. Cao, "Environmental, social, and governance (ESG) disclosure: A literature review," *The British Accounting Review*, vol. 55, no. 1, p. 101149, 2023.

[38] N. Darnall, H. Ji, K. Iwata, and T. H. Arimura, "Do ESG reporting guidelines and verifications enhance firms' information disclosure?," *Corporate Social Responsibility and Environmental Management*, vol. 29, no. 5, pp. 1214-1230, 2022.

[39] D. A. Schweidel *et al.*, "How consumer digital signals are reshaping the customer journey," *Journal of the Academy of Marketing Science*, vol. 50, no. 6, pp. 1257-1276, 2022.

[40] B. L. Connelly, S. T. Certo, C. R. Reutzel, M. R. DesJardine, and Y. S. Zhou, "Signaling theory: state of the theory and its future," *Journal of management*, vol. 51, no. 1, pp. 24-61, 2025.

[41] D. Wang and X. Xia, "The impact of digital transformation on firms' value: Examining the role of ESG performance and the effect of information interaction," *Business Process Management Journal*, vol. 30, no. 4, pp. 1236-1265, 2024.

[42] M. Alojail and S. B. Khan, "Impact of digital transformation toward sustainable development," *Sustainability*, vol. 15, no. 20, p. 14697, 2023.

[43] L. Ma, X. Zhang, and L. Dong, "Enhancing sustainable performance: the innovative strategy of digital transformation leading green collaborative management," *Sustainability*, vol. 15, no. 17, p. 13085, 2023.

[44] L. Han and Z. Zhang, "Impact of digital finance on enterprise green innovation: From the perspective of information asymmetry, consumer demand and factor market distortions," *Plos One*, vol. 18, no. 12, p. e0295809, 2023.

[45] H. K. Pong and F. L. C. Man, "The influence of environmental, social, and governance (esg) perception on investor trust and brand relationship quality: a study among retail investors in Hong Kong," *Journal of Risk and Financial Management*, vol. 17, no. 10, p. 455, 2024.

[46] W. Puriwat and S. Tripopsakul, "From ESG to DESG: The impact of DESG (digital environmental, social, and governance) on customer attitudes and brand equity," *Sustainability*, vol. 14, no. 17, p. 10480, 2022.

[47] A. M. Syed, "Environment, social, and governance (ESG) criteria and preference of managers," *Cogent Business & Management*, vol. 4, no. 1, p. 1340820, 2017.

[48] L. Becchetti, E. Bobbio, F. Prizia, and L. Semplici, "Going deeper into the S of ESG: a relational approach to the definition of social responsibility," *Sustainability*, vol. 14, no. 15, p. 9668, 2022.

[49] S. Arvidsson and J. Dumay, "Corporate ESG reporting quantity, quality and performance: Where to now for environmental policy and practice?," *Business strategy and the environment*, vol. 31, no. 3, pp. 1091-1110, 2022.

[50] Z. Mo, Y. Liu, C. Lu, and J. Yu, "Influences of industrial internet platform firms' ESG performance and digital leadership on user firms' innovation performance: The mediating role of inter-firm trust," *Journal of Digital Economy*, vol. 2, pp. 204-220, 2023.

[51] C. Yang, R. Yang, Y. Zhou, and Z. Liu, "E, S, and G, not ESG: Heterogeneous effects of environmental, social, and governance disclosure on green innovation," *Corporate Social Responsibility and Environmental Management*, vol. 31, no. 2, pp. 1220-1238, 2024.

[52] A. Shafiei and H. Maleksaeidi, "Pro-environmental behavior of university students: Application of protection motivation theory," *Global Ecology and Conservation*, vol. 22, p. e00908, 2020.

[53] J. Guerreiro and M. Pacheco, "How green trust, consumer brand engagement and green word-of-mouth mediate purchasing intentions," *Sustainability*, vol. 13, no. 14, p. 7877, 2021.

[54] M. U. Majeed, S. Aslam, S. A. Murtaza, S. Attila, and E. Molnár, "Green marketing approaches and their impact on green purchase intentions: Mediating role of green brand image and consumer beliefs towards the environment," *Sustainability*, vol. 14, no. 18, p. 11703, 2022.

[55] I. Rizomyliotis, A. Poulis, K. Konstantoulaki, and A. Giovanis, "Sustaining brand loyalty: The moderating role of green consumption values," *Business Strategy and the Environment*, vol. 30, no. 7, pp. 3025-3039, 2021.

[56] J. Vera-Martínez, A. Alvarado-Herrera, and R. Currás-Pérez, "Do consumers really care about aspects of corporate social responsibility when developing attitudes toward a brand?," *Journal of Global Marketing*, vol. 35, no. 3, pp. 193-207, 2022.

[57] M. Cho, M. A. Bonn, and H. S. Jung, "What drives restaurant competitive productivity (CP): a comprehensive examination at meso-micro levels," *International Journal of Contemporary Hospitality Management*, vol. 33, no. 9, pp. 3065-3090, 2021.

[58] Y. Zhao, M. Abbas, M. Samma, T. Ozkut, M. Munir, and S. F. Rasool, "Exploring the relationship between corporate social responsibility, trust, corporate reputation, and brand equity," *Frontiers in Psychology*, vol. 12, p. 766422, 2021.

[59] E. E. Agu, T. V. Iyelolu, C. Idemudia, and T. I. Ijomah, "Exploring the relationship between sustainable business practices and increased brand loyalty," *International Journal of Management & Entrepreneurship Research*, vol. 6, no. 8, pp. 2463-2475, 2024.

[60] R. Gulati and F. Wohlgezogen, "Can purpose foster stakeholder trust in corporations?," *Strategy Science*, vol. 8, no. 2, pp. 270-287, 2023.

[61] M. Ltifi and A. Hichri, "The effects of corporate governance on the customer's recommendations: a study of the banking sector at the time of COVID-19," *Journal of Knowledge Management*, vol. 26, no. 1, pp. 165-191, 2022.

[62] J. Chouaibi, S. Belhouchet, R. Almallah, and Y. Chouaibi, "Do board directors and good corporate governance improve integrated reporting quality? The moderating effect of CSR: an empirical analysis," *EuroMed Journal of Business*, vol. 17, no. 4, pp. 593-618, 2022.

[63] J. M. Modise and P. S. Modise, "Improved public trust, integrity and good governance with respect to corruption," *International Journal of Innovative Science and Research Technology*, vol. 8, no. 3, pp. 2573-2583, 2023.

[64] O. Olateju, S. U. Okon, O. O. Olaniyi, A. D. Samuel-Okon, and C. U. Asonze, "Exploring the concept of explainable AI and developing information governance standards for enhancing trust and transparency in handling customer data," *Journal of Engineering Research and Reports*, vol. 26, no. 7, pp. 244-268, 2024.

[65] K. Bai, F. Ullah, M. Arif, S. Erfanian, and S. Urooge, "Stakeholder-centered corporate governance and corporate sustainable development: Evidence from CSR practices in the top companies by market capitalization at shanghai stock exchange of China," *Sustainability*, vol. 15, no. 4, p. 2990, 2023.
[66] M. Matarazzo, L. Penco, G. Profumo, and R. Quaglia, "Digital transformation and customer value creation in Made in Italy SMEs: A dynamic capabilities perspective," *Journal of Business research*, vol. 123, pp. 642-656, 2021.
[67] G. Vial, "Understanding digital transformation: A review and a research agenda," *Managing digital transformation*, pp. 13-66, 2021.
[68] S. ElMassah and M. Mohieldin, "Digital transformation and localizing the sustainable development goals (SDGs)," *Ecological Economics*, vol. 169, p. 106490, 2020.
[69] A. Soni, L. M. Samuelsson, S. M. Loveday, and T. B. Gupta, "Applications of novel processing technologies to enhance the safety and bioactivity of milk," *Comprehensive Reviews in Food Science and Food Safety*, vol. 20, no. 5, pp. 4652-4677, 2021.
[70] G. K. Deshwal, S. Tiwari, and S. Kadyan, "Applications of emerging processing technologies for quality and safety enhancement of non-bovine milk and milk products," *Lwt*, vol. 149, p. 111845, 2021.
[71] A. Di Vaio and L. Varriale, "Blockchain technology in supply chain management for sustainable performance: Evidence from the airport industry," *International Journal of Information Management*, vol. 52, p. 102014, 2020.
[72] R. Dubey *et al.*, "Can big data and predictive analytics improve social and environmental sustainability?," *Technological forecasting and social change*, vol. 144, pp. 534-545, 2019.
[73] S. Clark *et al.*, "Including digital connection in the United Nations sustainable development goals: A systems thinking approach for achieving the SDGs," *Sustainability*, vol. 14, no. 3, p. 1883, 2022.
[74] M. Shehadeh, "Digital transformation: A catalyst for sustainable business practices." Bingley, UK: Emerald Publishing Limited, 2024, pp. 29-45.
[75] J. F. Hair, B. J. Babin, R. E. Anderson, and W. C. Black, *Multivariate data analysis*, 8th ed. Uttar Pradesh: India: Cengage India, 2018.
[76] M. B. Hasan, R. Verma, D. Sharma, S. A. Moghalles, and S. A. S. Hasan, "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*, vol. 11, no. 1, p. 2371063, 2024.
[77] M. R. Habibi, M. Laroche, and M.-O. Richard, "The roles of brand community and community engagement in building brand trust on social media," *Computers in human behavior*, vol. 37, pp. 152-161, 2014.
[78] P. M. Podsakoff, S. B. MacKenzie, and N. P. Podsakoff, "Sources of method bias in social science research and recommendations on how to control it," *Annual review of psychology*, vol. 63, no. 1, pp. 539-569, 2012.
[79] B. Cooper, N. Eva, F. Z. Fazlelahi, A. Newman, A. Lee, and M. Obschonka, "Addressing common method variance and endogeneity in vocational behavior research: A review of the literature and suggestions for future research," *Journal of vocational behavior*, vol. 121, p. 103472, 2020.
[80] F. Magno, F. Cassia, and C. M. Ringle, "A brief review of partial least squares structural equation modeling (PLS-SEM) use in quality management studies," *The TQM Journal*, vol. 36, no. 5, pp. 1242-1251, 2024.
[81] A. E. Legate, J. F. Hair Jr, J. L. Chretien, and J. J. Risher, "PLS-SEM: Prediction-oriented solutions for HRD researchers," *Human Resource Development Quarterly*, vol. 34, no. 1, pp. 91-109, 2023.
[82] J. Henseler, C. M. Ringle, and R. R. Sinkovics, "The use of partial least squares path modeling in international marketing." Bingley, UK: Emerald Group Publishing Limited, 2009, pp. 277-319.
[83] J. F. Hair Jr, G. T. M. Hult, C. M. Ringle, M. Sarstedt, N. P. Danks, and S. Ray, "Partial least squares structural equation modeling (PLS-SEM) using R: A workbook." Cham, Switzerland: Springer Nature, 2021, p. 197.
[84] J. Cohen, *Statistical power analysis for the behavioral sciences*. Routledge. https://doi.org/10.4324/9780203771587, 2013.
[85] A. Rustam, Y. Wang, and H. Zameer, "Environmental awareness, firm sustainability exposure and green consumption behaviors," *Journal of Cleaner Production*, vol. 268, p. 122016, 2020.
[86] G. Lazaroiu, M. Andronie, C. Uţă, and I. Hurloiu, "Trust management in organic agriculture: Sustainable consumption behavior, environmentally conscious purchase intention, and healthy food choices," *Frontiers in Public Health*, vol. 7, p. 340, 2019.
[87] G. P. Uribe-Linares, C. A. Ríos-Lama, and J. A. Vargas-Merino, "Is there an impact of digital transformation on consumer behaviour? An empirical study in the financial sector," *Economies*, vol. 11, no. 5, p. 132, 2023.