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CRITICAL FACTORS INFLUENCING SUSTAINABLE DEVELOPMENT AND THE MODERATING ROLE OF LEGAL FRAMEWORK IN VIETNAM

FATORES CRÍTICOS QUE INFLUENCIAM O DESENVOLVIMENTO SUSTENTÁVEL E O PAPEL MODERADOR DO QUADRO LEGAL NO VIETNÃ

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Abstract
This study investigates the key determinants of sustainable development in Vietnam by employing a mixed-methods approach that integrates qualitative expert discussions with quantitative structural modeling. The qualitative phase involved in-depth consultations with 30 economic and sustainability experts in Ho Chi Minh City to refine the conceptual framework and measurement scales. The quantitative phase consisted of a survey of 700 professionals, including business managers, senior lecturers, economists, and banking experts across five major cities in Vietnam. Using SEM analysis, the results reveal that Economic Factor, Institutional Quality, Public Awareness, Legal Framework, Social Development, and Environmental Condition all exert significant positive effects on sustainable development. Among these, economic factors and public awareness have the most significant impact. Furthermore, Digital Transformation significantly moderates the relationship between Economic Factor and sustainable development, while the Legal Framework strengthens the influence of Public Awareness on sustainable outcomes. The model explains 36% of the variance in sustainable development, confirming the relevance of both structural and contextual determinants. These findings provide substantial theoretical and practical implications for policymakers, emphasizing the need to enhance institutional capacity, promote digital transformation, strengthen legal enforcement, and foster public awareness to advance sustainable development in Vietnam.

Resumo
Este estudo investiga os principais determinantes do desenvolvimento sustentável no Vietnã, empregando uma abordagem de métodos mistos que integra discussões qualitativas com especialistas e modelagem estrutural quantitativa. A fase qualitativa envolveu consultas aprofundadas com 30 especialistas em economia e sustentabilidade na cidade de Ho Chi Minh para refinar a estrutura conceitual e as escalas de mensuração. A fase quantitativa consistiu em uma pesquisa com 700 profissionais, incluindo gestores de negócios, professores universitários, economistas e especialistas bancários em cinco grandes cidades do Vietnã. Utilizando a análise SEM, os resultados revelam que o Fator Econômico, a Qualidade Institucional, a Conscientização Pública, o Marco Legal, o Desenvolvimento Social e a Condição Ambiental exercem efeitos positivos significativos sobre o desenvolvimento sustentável. Dentre esses, os fatores econômicos e a conscientização pública têm o impacto mais significativo. Além disso, a Transformação Digital modera significativamente a relação entre o Fator Econômico e o desenvolvimento sustentável, enquanto o Marco Legal fortalece a influência da Conscientização Pública sobre os resultados sustentáveis. O modelo explica 36% da variância no desenvolvimento sustentável, confirmando a relevância dos determinantes estruturais e contextuais. Essas descobertas oferecem implicações teóricas e práticas substanciais para os formuladores de políticas, enfatizando a necessidade de aprimorar a capacidade institucional, promover a

Keywords: Institutional Quality. Public Awareness. Legal Framework. Sustainable Development.

transformação digital, fortalecer a aplicação da lei e fomentar a conscientização pública para impulsionar o desenvolvimento sustentável no Vietnã.

Palavras-chave: *Qualidade Institucional. Conscientização Pública. Marco Legal. Desenvolvimento Sustentável.*

1 INTRODUCTION

Sustainable development has emerged as a central policy objective for governments, businesses, and international organizations worldwide, particularly amid increasing economic volatility, social inequality, and environmental degradation. For developing economies such as Vietnam, sustainable development is not only a strategic priority but also a prerequisite for long-term competitiveness and societal well-being (Ahn et al., 2023). Over the past decade, Vietnam has achieved remarkable economic growth, poverty reduction, and advancements in social infrastructure. However, these achievements have been accompanied by rising environmental pressures, institutional challenges, and disparities in resource allocation, highlighting the need for an integrated approach to sustainability. As the country aligns its national agenda with the United Nations Sustainable Development Goals (SDGs), understanding the determinants that drive sustainable development becomes increasingly important (Hong & Xiao, 2024).

Existing literature on sustainable development has largely emphasized economic performance, environmental protection, institutional governance, and social equity as core components. While these factors remain fundamental, recent studies suggest that contextual variables, such as digital transformation and legal frameworks, are increasingly shaping sustainability outcomes, especially in rapidly developing economies (Hoss-Golan et al., 2024; Barkemeyer et al., 2014; Manasakis & Taliouris, 2022). Despite growing interest, empirical studies that incorporate these contextual moderators into a comprehensive model remain limited, particularly in Vietnam. Moreover, the interaction between public awareness, digital transformation, and legal enforcement has not been adequately examined, leaving a gap in understanding how societal and institutional mechanisms jointly influence sustainable development.

To address this gap, the present study develops and tests a multidimensional

model that integrates economic, institutional, social, environmental, and awareness-related determinants, along with two moderating factors: digital transformation and the legal framework. The model is validated through a mixed-methods approach, combining qualitative insights from expert discussions with quantitative data collected from professionals across Vietnam's major economic centers. This approach ensures both theoretical rigor and empirical robustness.

The study contributes to the literature in several ways. First, it provides a comprehensive assessment of the determinants of sustainable development in Vietnam by considering both structural and behavioral dimensions. Second, it introduces and empirically tests the moderating roles of digital transformation and legal framework, offering novel insights into how technological and institutional environments influence sustainability outcomes. Third, the findings offer practical implications for policymakers, particularly in enhancing governance capacity, promoting digital innovation, strengthening legal enforcement, and fostering public awareness to advance sustainable development. By addressing these overlooked dimensions, the study adds significant value to the evolving discourse on sustainability within emerging economies.

2 THEORETICAL FRAMEWORK AND HYPOTHESIS DEVELOPMENT

Sustainable development is shaped by the interplay of economic performance, institutional capacity, social progress, environmental resilience, and public awareness (Awan et al., 2023; Ahmed et al., 2022). Drawing on the theoretical framework, this section develops hypotheses explaining how these determinants influence sustainable development (SUS), and the moderating effects of Digital Transformation (DIG) and the Legal Framework (LEG).

2.1 Economic factor (ECO)

Economic growth and investment capacity are widely recognized as foundational drivers of sustainable development. According to endogenous growth theory, a strong economic base provides the necessary resources for environmental protection, technological advancement, and social improvement (Dědeček & Dudzich, 2022; Grossmann et al., 2022). In developing economies such as Vietnam, economic

performance is crucial for financing sustainability initiatives, including green technologies and environmental management systems (Bonnedahl & Caramujo, 2019). Prior studies consistently highlight the positive relationship between economic stability and sustainable development outcomes.

H1: Economic Factor (ECO) positively influences Sustainable Development (SUS).

2.2 Institutional quality (INS)

Institutional theory emphasizes that well-functioning institutions characterized by accountability, transparency, regulatory quality, and effective governance create enabling environments for sustainable development. Strong institutions ensure that policies related to resource management, environmental protection, and social welfare are correctly implemented (Saboori et al., 2024; Abbas et al., 2024). Empirical research confirms that countries with higher institutional quality tend to achieve better sustainability outcomes, driven by efficient public administration and effective policy enforcement (Biggeri et al., 2023; Okere & Fasanya, 2024).

H2: Institutional Quality (INS) positively influences Sustainable Development (SUS).

2.3 Social development (SOC)

The human development perspective asserts that social progress through education, healthcare, equity, and social cohesion is integral to sustainability. Improved social conditions contribute to enhanced human capital, greater participation in community development, and increased support for sustainability-oriented policies (Mensah, 2019; Mousazadeh, 2025). Social development also mitigates inequalities, which is essential for achieving long-term sustainability (Swain & Yang-Wallentin, 2020; Biney, 2023).

H3: Social Development (SOC) positively influences Sustainable Development (SUS).

2.4 Environmental condition (ENV)

Environmental sustainability theory identifies ecological protection, pollution control, and resource conservation as key pillars of sustainable development. A healthier natural environment contributes to public health, economic productivity, and long-term resilience (Menton et al., 2020; Adebayo et al., 2022; Ali et al., 2019). In Vietnam, addressing environmental challenges is critical, as rapid industrialization has intensified pollution and resource depletion. Improvements in environmental conditions are therefore expected to contribute positively to sustainability.

H4: Environmental Condition (ENV) positively influences Sustainable Development (SUS).

2.5 Public awareness (PUB)

Behavioral and psychological theories emphasize the significance of public awareness in shaping environmentally responsible actions and social behaviors that support sustainability (Effah et al., 2023; Halstead et al., 2022). When individuals are well-informed about environmental and social issues, they are more likely to engage in sustainable practices and support sustainability policies. Increasing public awareness enhances collective responsibility and promotes behavioral change at both societal and organizational levels (Henfrey et al., 2022).

H5: Public Awareness (PUB) positively influences Sustainable Development (SUS).

2.6 Legal framework (LEG)

A strong legal framework ensures that sustainability practices are embedded within formal regulations, compliance mechanisms, and enforcement systems. Legal structures provide the backbone for environmental governance, corporate responsibility, and social protections (Azam et al., 2021; Lauwo et al., 2022; Leavesley et al., 2022). In emerging economies, legal enforcement is critical to ensuring sustainability objectives are consistently implemented. A robust legal environment supports policy implementation and enhances accountability, thereby positively shaping sustainability

outcomes.

H6: Legal Framework (LEG) positively influences Sustainable Development (SUS).

2.7 Moderating role of legal framework (LEG)

Public awareness alone may not be sufficient to influence sustainability unless supported by legal mechanisms that reinforce responsible behavior (Nwapi, 2017). The legal framework enhances awareness by establishing regulatory obligations, imposing penalties for non-compliance, and providing institutional support for sustainable actions (Saini et al., 2023; Yee et al., 2024). Thus, the interaction between public awareness and legal enforcement is expected to strengthen sustainability outcomes (Foroudi et al., 2025).

H7: The Legal Framework (LEG) positively moderates the relationship between Public Awareness (PUB) and Sustainable Development (SUS).

2.8 Moderating role of digital transformation (DIG)

Digital transformation enhances efficiency, transparency, and resource optimization through technologies such as data analytics and automation (Quach et al., 2022). Theoretical perspectives on technological innovation suggest that digital advancements strengthen economic systems' capacity to adopt sustainable practices (Verhoef et al., 2021). By improving process efficiency and enabling green innovation, digital transformation heightens the positive effect of economic development on sustainability (Mu et al., 2025; Zhou et al., 2024).

H8: Digital Transformation (DIG) positively moderates the relationship between Economic Factor (ECO) and Sustainable Development (SUS).

Figure 1

A research model for critical factors influencing the sustainable development

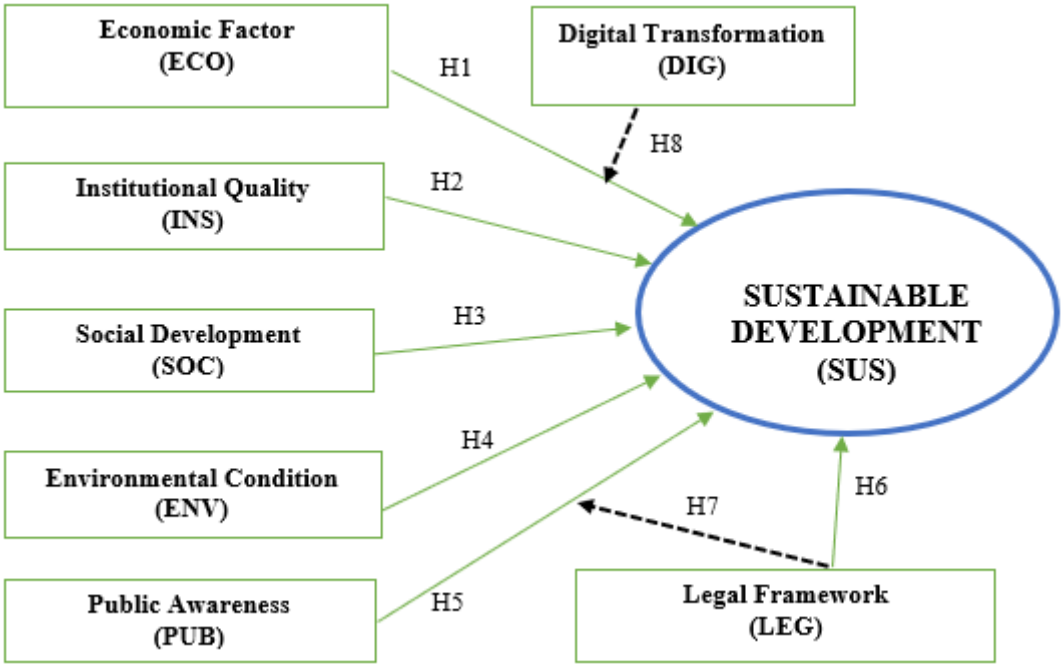

Figure 1 shows the research model empirically tested using Structural Equation Modeling (SEM), which allows the simultaneous examination of direct and moderating effects. The proposed framework provides a comprehensive understanding of how structural, institutional, social, environmental, and behavioral factors interact within a digitally evolving and legally structured context to shape sustainable development in Vietnam. This multidimensional model contributes to the expanding body of literature on sustainability by incorporating both established determinants and emerging contextual moderators, thereby offering a more nuanced perspective on sustainability mechanisms in developing economies.

2.9 Research methods

Research Design: This study employs a mixed-methods design combining qualitative and quantitative approaches to examine the determinants of sustainable development in Vietnam. The mixed-method strategy enhances the robustness of the findings by integrating expert insights with large-scale statistical evidence. The qualitative phase was used to refine the theoretical model and measurement constructs,

while the quantitative phase empirically validated the hypothesized relationships through Structural Equation Modeling (SEM). This approach aligns with contemporary sustainability research, which requires both contextual understanding and empirical rigor to capture multidimensional dynamics of development (Hair et al., 2019).

Qualitative Phase: Expert Consultation: The qualitative component involved in-depth discussions with 30 economic and sustainability experts located in Ho Chi Minh City. These experts included senior economists, policy advisors, corporate managers, and academic researchers with extensive knowledge of sustainable development in Vietnam. A semi-structured interview protocol was employed, enabling flexibility in discussions while ensuring alignment with the study's conceptual framework (Hair et al., 2019).

The qualitative phase pursued three main objectives: Refinement of constructs and indicators: Experts assessed the clarity, relevance, and contextual suitability of the measurement items used to operationalize the constructs in the model. Validation of the conceptual framework: Expert inputs helped confirm that the proposed determinants, economic, institutional, social, environmental, and awareness-related, appropriately reflected Vietnam's sustainability context.

Quantitative Phase: Sampling and data collection - The quantitative phase utilized a structured questionnaire administered to 700 respondents across five major Vietnamese cities: Ho Chi Minh City, Hanoi, Da Nang, Hai Phong, and Can Tho. The sample consisted of: business managers and executives, senior lecturers and researchers, economists and consultants, and banking and finance experts. These respondents were selected for their direct engagement with sustainability issues across the public and private sectors. A purposive sampling strategy was adopted to ensure representation of diverse professional perspectives relevant to sustainable development.

The evaluation of the research model was conducted using a comprehensive set of established indices to ensure both measurement reliability and structural validity. For the measurement model, internal consistency was confirmed through Cronbach's Alpha and Composite Reliability, all exceeding the recommended threshold of 0.70. Convergent validity was supported by Average Variance Extracted (AVE) values greater than 0.50, while discriminant validity was assessed using the Fornell–Larcker criterion and HTMT ratio. To examine the structural model, R^2 and Q^2 values were used to evaluate explanatory and predictive power, respectively, whereas path coefficients, T-statistics, and p-values assessed the significance of hypothesized relationships. Model fit was

further validated using indicators such as SRMR, NFI, and VIF to detect multicollinearity. Altogether, these indices demonstrate that the model meets the required statistical standards and provides robust empirical evidence for analyzing the determinants of sustainable development.

3 RESULTS

3.1 Demographic information of the study sample based on 635 respondents

Results present the demographic characteristics of the 635 survey respondents. The sample distribution reflects a diverse and experienced group of professionals relevant to sustainable development research in Vietnam. In terms of gender, female respondents constitute a larger proportion (58.9%) compared with males (41.1%), indicating strong engagement of women in economic, academic, and managerial roles. Regarding marital status, 61.7% of participants are married, suggesting a relatively stable, mature demographic.

Table 1

Testing of Cronbach's alpha and composite reliability

Factors	Code	Items	Mean	Std. Deviation	Cronbach's alpha	Composite reliability	Average variance extracted
1. Economic Factor	ECO	3	3.421	0.913	0.889	0.931	0.819
2. Institutional Quality	INS	4	3.122	0.918	0.937	0.955	0.841
3. Social Development	SOC	4	3.234	0.942	0.861	0.881	0.660
4. Environmental Condition	ENV	4	3.254	0.922	0.930	0.946	0.815
5. Public Awareness	PUB	4	3.135	0.916	0.908	0.935	0.783
6. Legal Framework	LEG	4	3.412	0.921	0.861	0.902	0.698
7. Digital Transformation	DIG	3	3.502	0.934	0.903	0.934	0.827
8. Sustainable Development	SUS	3	3.142	0.924	0.826	0.895	0.740

Table 1 presents the results of reliability and convergent validity testing for the eight latent constructs used in the study, including Economic Factor (ECO), Institutional Quality (INS), Social Development (SOC), Environmental Condition (ENV), Public Awareness (PUB), Legal Framework (LEG), Digital Transformation (DIG), and Sustainable Development (SUS). Overall, the findings demonstrate strong psychometric properties across all constructs, confirming the robustness of the measurement model. Cronbach’s alpha values range from 0.826 to 0.937, exceeding the recommended

threshold of 0.70, indicating high internal consistency among the items within each construct. Composite reliability (CR) values range from 0.881 to 0.955 and Average Variance Extracted (AVE) values vary from 0.660 to 0.841, all above the accepted.

Table 2

Testing the SEM model for factors influencing the sustainable development

Factors	Original sample	Sample mean	Standard deviation	T statistics	P values
DIG x ECO → SUS	0.100	0.095	0.038	2.612	0.009
ECO → SUS	0.301	0.300	0.041	7.411	0.000
ENV → SUS	0.082	0.086	0.036	2.297	0.022
INS → SUS	0.175	0.173	0.033	5.277	0.000
LEG → SUS	0.129	0.135	0.031	4.154	0.000
LEG x PUB → SUS	0.099	0.095	0.034	2.939	0.003
PUB → SUS	0.239	0.240	0.039	6.145	0.000
SOC → SUS	0.096	0.099	0.040	2.410	0.016

Table 2 presents the results of the Structural Equation Modeling (SEM) analysis examining the factors influencing sustainable development (SUS). The findings demonstrate that all hypothesized relationships in the model are statistically significant, confirming the relevance of economic, institutional, social, environmental, and behavioral dimensions. Among the direct effects, Economic Factor (ECO → SUS) exhibits the most substantial impact ($\beta = 0.301$, $p = 0.000$), indicating that economic performance, investment capacity, and resource efficiency play a dominant role in driving sustainability.

Figure 2

Testing the SEM for factors influencing the sustainable development

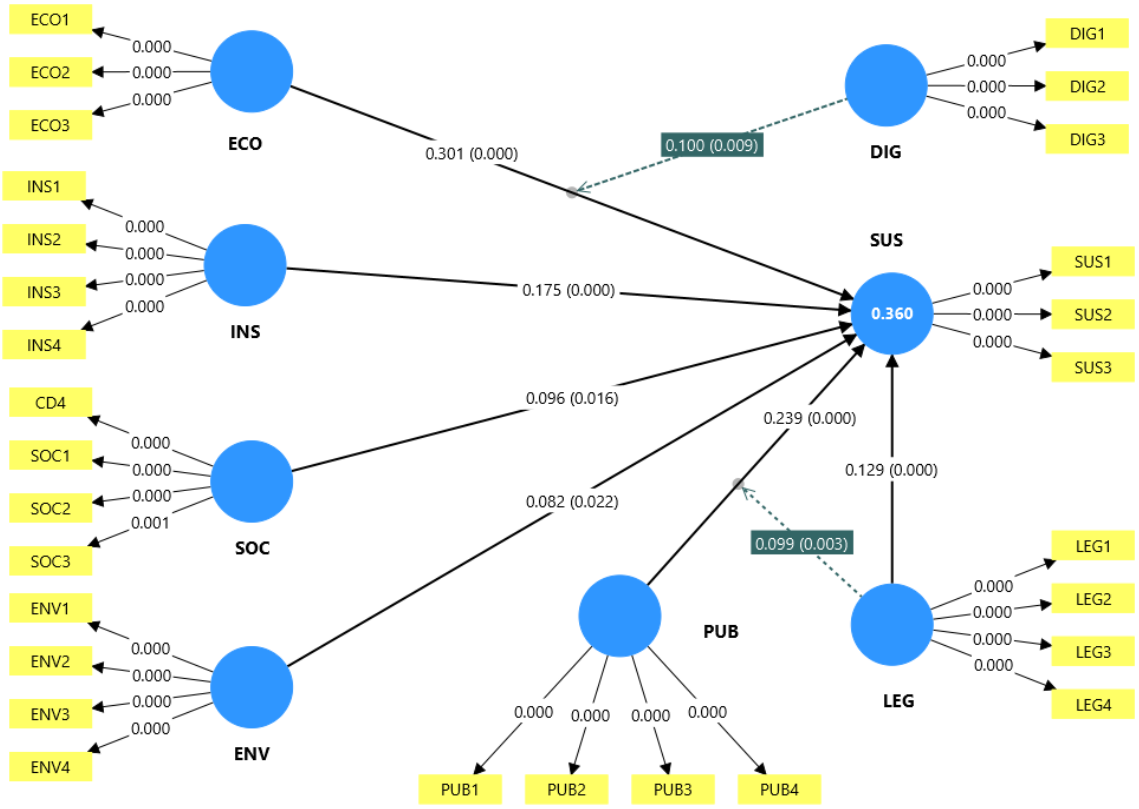

Figure 2 illustrates the structural equation model assessing the determinants of sustainable development (SUS). The results indicate that all five core factors: Economic Factor (ECO), Institutional Quality (INS), Social Development (SOC), Environmental Condition (ENV), and Public Awareness (PUB) exert significant positive effects on sustainable development, with ECO ($\beta = 0.301$, $p = 0.000$) and PUB ($\beta = 0.239$, $p = 0.000$) showing the most substantial impacts. The Legal Framework (LEG) also has a meaningful direct effect on SUS ($\beta = 0.129$, $p = 0.000$), reinforcing the role of regulatory enforcement.

4 DISCUSSION OF FINDINGS

The empirical findings provide important insights into the multidimensional determinants of sustainable development in Vietnam. Consistent with prior studies, the results confirm that economic factors represent the strongest driver of sustainable development. The significant influence of ECO ($\beta = 0.301$, $p = 0.000$) underscores the

central role of economic resources, productivity, and investment capacity in enabling sustainability-oriented initiatives (Reyers & Selig, 2020). In emerging economies, financial capability remains a critical enabler of environmental protection, technological adoption, and social welfare programs. The findings therefore reinforce the theoretical proposition that economic strength forms the foundation upon which sustainability strategies are built.

Public awareness (PUB), identified as the second strongest predictor ($\beta = 0.239$, $p = 0.000$), highlights the importance of behavioral and societal dimensions (Freire-González, 2018). As Vietnam undergoes rapid urbanization and modernization, citizens' perceptions and attitudes toward sustainability become pivotal for shaping consumption patterns, community engagement, and support for environmental policies. This result aligns with behavioral and social psychology theories, suggesting that informed societies are more likely to participate in sustainability initiatives and comply with environmental regulations.

Institutional quality (INS) is another significant contributor ($\beta = 0.175$, $p = 0.000$), demonstrating that governance effectiveness, transparency, and policy implementation remain crucial for achieving sustainable development goals (Cunningham et al., 2022). Vietnam's ongoing institutional reforms, particularly in administrative modernization and regulatory coherence, likely strengthen this relationship. Likewise, the legal framework (LEG) shows a meaningful direct effect ($\beta = 0.129$, $p = 0.000$), supporting governance theories that emphasize the importance of vigorous legal enforcement for ensuring compliance and accountability in sustainability efforts.

The relatively minor yet significant effects of social development (SOC) and environmental condition (ENV) reflect Vietnam's transitional stage (Lee et al., 2018). While social progress has improved, disparities and pressure on public services persist. Similarly, environmental degradation and climate risks continue to challenge sustainable development, explaining the modest contribution of ENV ($\beta = 0.082$, $p = 0.022$). Two moderating effects further enrich the findings. Digital transformation enhances the positive impact of economic factors on sustainability ($\beta = 0.100$, $p = 0.009$), emphasizing the role of technology in improving efficiency, enabling green innovation, and promoting data-driven governance (Maclure, 2023).

5 CONCLUSIONS AND POLICY RECOMMENDATIONS

5.1 Conclusions

This study provides a comprehensive analysis of the determinants of sustainable development in Vietnam by integrating economic, institutional, social, environmental, and behavioral dimensions, along with two contextual moderators: digital transformation and the legal framework. The mixed-method approach, involving expert consultations and a large-scale quantitative survey, enables a nuanced understanding of the structural foundations and enabling conditions that shape sustainability outcomes. The findings confirm that economic factors and public awareness are the most influential drivers of sustainable development, highlighting the importance of financial capacity and community engagement in achieving sustainability goals. Institutional quality and the legal framework also demonstrate strong positive effects, underscoring the role of governance effectiveness, regulatory enforcement, and policy consistency. While social and environmental factors contribute positively, their relatively minor effects reflect the ongoing challenges Vietnam faces in addressing social disparities and environmental pressures. The moderating effects of digital transformation and the legal framework further underscore the importance of technological advancement and institutional enforcement in strengthening key sustainability relationships. Digital transformation enhances the impact of economic development by improving efficiency and innovation, whereas the legal framework amplifies the influence of public awareness by ensuring compliance and accountability.

5.2 Policy recommendations

Based on the SEM results, the following policy recommendations are organized by priority, using standardized Beta coefficients and mean values. Policy recommendations are prioritized accordingly:

(1) Economic Factor ($\beta = 0.301$; Mean = 3.421): Economic development remains the strongest determinant of sustainable development, underscoring the need to prioritize high-quality growth and a transition toward a green and knowledge-based economy. Policymakers should accelerate economic restructuring by enhancing labor productivity,

increasing the technological content of production, and expanding green and digital industries. Attracting high-quality foreign direct investment (FDI) that adheres to strict environmental standards is essential, as is promoting innovation within domestic enterprises. Fiscal and monetary policies should be designed to support firms in adopting ESG practices through tax incentives, green credit, and sustainability-linked financing mechanisms.

(2) Public Awareness (β = 0.239; Mean = 3.135): Public awareness plays a critical role in shaping sustainable behaviors and generating social momentum for sustainability initiatives. Large-scale communication campaigns should be launched to promote responsible consumption, energy conservation, waste classification, and environmental protection. Multi-platform communication spanning social media, television, schools, and community organizations can significantly increase public understanding of sustainability and its relevance to daily life. Education systems should integrate sustainability topics across all levels, using experiential learning and community-based projects to foster sustainable thinking from an early age.

(3) Institutional Quality (β = 0.175; Mean = 3.122): Institutional quality is fundamental for ensuring policy coherence, practical implementation, and accountability in sustainability governance. Vietnam should prioritize administrative reforms to streamline procedures, improve transparency, and reduce compliance costs for businesses. Expanding the use of digital government platforms in licensing, monitoring, and reporting can significantly enhance efficiency and limit corruption. Strengthening institutional capacity through training programs for public officials, especially those involved in environmental management, planning, and ESG implementation, is essential. Developing a national sustainability data platform would support evidence-based policymaking and enable better monitoring of progress toward sustainability goals.

(4) Legal Framework (β = 0.129; Mean = 3.412): A strong legal framework is necessary to ensure compliance with sustainability standards and drive behavioral change across society. Vietnam should strengthen laws related to environmental protection, climate change mitigation, renewable energy, circular economy development, and extended producer responsibility (EPR). Updating emission standards and imposing stricter penalties for violations will enhance deterrence and promote greater compliance. Improving enforcement capacity through specialized environmental inspectors, real-time monitoring technology, and transparent reporting systems is also crucial. Establishing

dedicated legal mechanisms, such as environmental courts or specialized arbitration procedures, can improve the resolution of sustainability- and resource-management-related disputes.

(5) Social Development (β = 0.096; Mean = 3.234): Social development is essential to ensuring equity, resilience, and human well-being within the sustainability agenda. Policymakers should continue investing in education, healthcare, and social welfare systems to enhance human capabilities and foster inclusive growth. Expanding access to high-quality education and green skills training will prepare the workforce for new labor market demands in the digital and green economies. Social protection programs should prioritize vulnerable groups to ensure that no one is left behind in the development process. Community participation should be strengthened through inclusive forums, local consultations, and collaborative planning initiatives.

(6) Environmental Condition (β = 0.082; Mean = 3.254): Although ENV has the most negligible effect among the determinants, environmental protection remains indispensable for sustainable development. Vietnam must intensify efforts to reduce pollution, manage natural resources effectively, and strengthen climate resilience. Key priorities include accelerating the transition to renewable energy, reducing dependence on coal, and increasing investment in wind, solar, and biomass. Improving waste management through expanded recycling programs, stricter industrial emission controls, and automated environmental monitoring can help address urban and industrial pollution. Conservation activities such as reforestation, biodiversity protection, and ecosystem restoration should also be prioritized.

Limitations and future research: Despite providing valuable insights into the determinants of sustainable development in Vietnam, this study has limitations. First, the use of cross-sectional data restricts the ability to capture dynamic changes in sustainability-related behaviors and policy impacts over time. Longitudinal studies would enable researchers to examine causal relationships more accurately and assess how shifts in economic, institutional, and environmental conditions influence sustainable development trajectories. Second, although the sample is large and diverse, it is limited to professionals in major urban centers. While this group is highly knowledgeable, their perspectives may differ from those of rural populations, small enterprises, or informal sectors. Future research should incorporate broader, more inclusive samples to enhance generalizability across diverse demographic and socio-economic groups.

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Authors' Contribution

All authors contributed equally to the development of this article.

Data availability

All datasets relevant to this study's findings are fully available within the article.

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