VNU Journal of Economics and Business

Journal homepage: https://jeb.ueb.edu.vn

Original Article

Research on consumer awareness and attitudes towards green financial products in Vietnam

To Minh Huong*

Thuyloi University

No. 175, Tay Son Street, Dong Da District, Hanoi, Vietnam

Received: October 09, 2024
Revised: December 06, 2024; Accepted: December 25, 2024

Abstract: This study explores Vietnamese consumers' perceptions and attitudes towards green financial products, including green bonds, green investment funds, and green insurance. Utilizing a mixed-method approach, the research combines quantitative surveys and qualitative in-depth interviews to assess the awareness, attitudes, and willingness of Vietnamese consumers to engage with these eco-friendly financial options. The findings indicate a varying level of awareness and a generally positive attitude towards green financial products, albeit with some reservations regarding their perceived risks and benefits. The study concludes with recommendations for enhancing consumer education and promoting the adoption of green financial products, thereby supporting sustainable economic growth in Vietnam.

Keywords: Green financial products, perception, attitude, Vietnamese consumer.

1. Introduction

In recent years, the global financial market has increasingly focused on sustainability, leading to the growth of green financial products, which offer financial returns while promoting environmental sustainability. These products encompass green bonds, green investment funds, and green insurance, all aimed at financing projects that mitigate environmental risks and foster sustainable development (Bauer & Hann, 2014). In Vietnam, in a rapidly developing economy facing significant environmental challenges, the adoption and promotion of green financial products are seen as vital to achieving long-term sustainable development goals (Tran, 2020).

The concept of green finance is relatively new in Vietnam, where traditional financial instruments have long dominated the market. However, growing recognition of environmental issues has highlighted the need to align economic growth with environmental sustainability. For example, green bonds finance projects such as renewable energy and energy-efficient buildings (Nguyen, 2023), while green

* Corresponding author
E-mail address: huongtm@tlu.edu.vn
https://doi.org/10.57110/vnu-jeb.v4i6.355

investment funds enable investors to support sustainable development initiatives. Similarly, green insurance products provide coverage for environmental risks, promoting responsible behaviors by offering lower premiums for eco-friendly practices (Nguyen et al., 2023).

Despite the global focus on sustainable finance, awareness and adoption of green financial products among Vietnamese consumers remain limited. This study aims to explore the perceptions and attitudes of Vietnamese consumers towards green financial products, focusing on their awareness, perceived benefits, and willingness to adopt these products. Understanding these factors is crucial for financial institutions and policymakers to develop strategies that promote green financial product adoption, contributing to Vietnam's sustainable economic development (Zhuang et al., 2021).

Vietnam's rapid industrialization and urbanization have generated significant economic benefits but have also led to environmental degradation, including pollution and increased carbon emissions. Recognizing these challenges, the Vietnamese government has committed to reducing greenhouse gas emissions and transitioning towards a low-carbon economy (Le, 2022). In this context, green financial products can play a crucial role in mobilizing private sector investment in environmentally friendly projects, complementing government efforts.

The green financial market in Vietnam is still in its early stages, with limited products and public awareness. However, there is growing interest among financial institutions in developing and promoting green finance. This trend is driven by global movements towards sustainable investment, increasing demand for environmentally responsible options, and the potential to attract foreign investment (Ariel L, 2019). Additionally, an emerging environmentally conscious consumer segment in Vietnam may support sustainable financial products in the future (Park & Jeong, 2019).

This study utilizes a mixed-methods approach, combining quantitative surveys and qualitative interviews to gather comprehensive data on Vietnamese consumers' perceptions and attitudes towards green financial products. The quantitative surveys measure awareness, knowledge, and interest, while the qualitative interviews explore motivations, concerns, and barriers influencing consumer behavior. By analyzing the collected data, this study aims to identify key factors shaping consumer attitudes towards green financial products and to understand market demand and challenges in increasing adoption.

In conclusion, promoting green financial products in Vietnam responds to global environmental challenges and offers an opportunity to attract sustainable investments for long-term economic growth. By understanding the perceptions and attitudes of Vietnamese consumers, this research provides valuable insights for developing strategies to foster a green financial market in Vietnam. The findings will contribute to the broader discourse on sustainable finance and help build a resilient and sustainable economy (Clark et al., 2015).

2. The market for green financial products in Vietnam

The green financial market in Vietnam is gradually gaining traction as the country faces environmental challenges and seeks sustainable economic growth. The emergence of green financial products, such as green bonds, green investment funds, and green insurance, represents a pivotal shift toward integrating environmental considerations into financial decision-making. Green bonds, which are debt instruments issued to finance environmentally beneficial projects, have started to take root in Vietnam's financial landscape. For example, the Asian Development Bank (ADB), in collaboration with the State Bank of Vietnam, has issued green bonds to support renewable energy projects and sustainable development initiatives (Le, 2022). This partnership reflects the growing recognition of the need to finance projects that mitigate environmental risks and promote sustainability.

Green investment funds in Vietnam are also emerging, albeit at an early stage. These funds focus on pooling capital to invest in companies and projects that adhere to stringent environmental standards. The Vietnam Sustainable Development Fund, alongside other funds associated with international organizations

like the International Finance Corporation (IFC), is an example of such initiatives. These funds typically invest in sectors like renewable energy, clean technology, and sustainable water management—key areas in reducing Vietnam's environmental footprint (Nguyen,2023). However, the challenge remains in scaling these funds and attracting a broader base of investors, both domestic and international, to support green initiatives (Ariel L, 2019).

Green insurance is another burgeoning sector in Vietnam, offering policies that not only cover environmental risks but also incentivize sustainable practices. Some Vietnamese insurance companies have introduced products that provide coverage for agricultural risks, climate-related hazards, and green property insurance. These products aim to protect consumers and businesses from environmental risks while encouraging practices that reduce carbon emissions and promote resource efficiency (Nguyen et al., 2023). Despite these promising developments, the adoption rate of green insurance products remains low, mainly due to a lack of consumer awareness and understanding of their benefits (Park & Jeong, 2019).

The accessibility of green financial products to the general population in Vietnam is still limited. One of the primary barriers is the low level of public awareness and education about these products. Many consumers are unfamiliar with the concept of green finance and its potential benefits, which leads to cautious behavior towards these innovative financial instruments (Tran, 2020). Additionally, there is skepticism regarding the financial returns and perceived risks associated with green investments, especially when compared to traditional financial products. This skepticism is compounded by a lack of comprehensive information and transparency regarding the performance and impact of green financial products (Wang et al., 2022).

Furthermore, the regulatory and institutional framework supporting green finance in Vietnam is still developing. While the government has made progress in promoting green finance, such as offering tax incentives for renewable energy projects, there is a pressing need for more robust policies and regulations to encourage the development and adoption of green financial products. The establishment of clear standards and guidelines for what constitutes a green investment is critical to building consumer trust and ensuring the integrity of the market (Clark et al., 2015).

In conclusion, while Vietnam's green financial market shows promising potential, it remains in its infancy. The country faces significant challenges in improving the accessibility and adoption of green financial products. Overcoming these challenges requires a concerted effort from financial institutions, policymakers, and non-governmental organizations to raise public awareness, provide transparent and comprehensive information, and establish a supportive regulatory environment. By addressing these issues, Vietnam can unlock the full potential of green finance, fostering sustainable economic growth and environmental stewardship (Nguyen, 2023).

3. Research methods and literature

3.1. Literature review

As environmental protection and sustainable development awareness rise globally, consumer perceptions and attitudes toward green financial products have attracted significant research interest. Green finance, encompassing financial products with environmental or sustainability components, has been recognized not only as a tool to mitigate environmental harm but also as a driver of sustainable economic growth. Research indicates that this market opens new avenues for investment that are aligned with ethical values, even at the cost of potentially lower returns. In Europe, consumers are increasingly drawn to green financial products, demonstrating a willingness to invest in green investment funds, prioritizing environmental benefits over purely financial gains (Bauer & Hann, 2014).

In Vietnam, where green finance research is nascent, recent studies reveal a gradual shift in consumer awareness and interest. Tran (2020) emphasized that while general awareness of green finance remains limited, there is notable curiosity among Vietnamese consumers regarding environmental issues. However, familiarity with specific green financial products, such as green bonds and green

insurance, remains low. Nguyen (2022) elaborated on this perspective, finding that Vietnamese consumers express a strong interest in environmentally responsible choices but often lack trust in the transparency and credibility of green financial products, highlighting a gap in consumer confidence that must be bridged to accelerate adoption.

Meanwhile, comparative studies from other Asian markets illustrate influential factors that shape consumer intentions. For instance, Zhuang et al. (2021) analyzed consumer participation in China's green finance sector, noting that consumer awareness, trust in financial institutions, and government initiatives significantly impact green finance adoption. Their theoretical model, widely used in green finance studies, identified perceived environmental benefits and profitability as pivotal factors. Their findings suggest that parallel conditions in Vietnam could foster similar consumer engagement with robust policy support and financial literacy efforts.

In the United States, information dissemination has been identified as a catalyst for green finance awareness. Wang et al. (2020) concluded that targeted media campaigns can enhance consumer understanding, encouraging favorable attitudes toward green financial products. This aligns with Dang's (2021) study in Vietnam, which observed that limited marketing and education efforts hinder the public's grasp of green finance, underscoring the necessity for clear communication strategies by financial institutions.

Furthermore, integrating environmental, social, and governance (ESG) elements into financial products has been shown to enhance financial performance and investor appeal. Clark et al. (2015) demonstrated that incorporating sustainability factors into financial offerings not only satisfies ethical criteria but also meets the demand of an increasingly conscientious investor base. Similarly, Hsu (2012) found that corporate social responsibility (CSR) efforts improve corporate reputation, especially in the insurance sector, which could parallel Vietnamese market trends if green finance initiatives are effectively implemented.

In conclusion, while the development of green finance in Vietnam faces challenges, there is considerable potential for growth. A comprehensive approach involving policy frameworks, transparent communication, and educational outreach by financial institutions is essential. Studies within Vietnam and globally indicate that increased public environmental awareness, coupled with coordinated support from both governmental and financial entities, could substantially enhance consumer engagement in the green finance market.

3.2. Research methodology

The methodology employed a Random Forest model to analyze participants' "Willingness to Use" green financial products based on multiple variables, including Attitude, Awareness, and Environmental Awareness. Random Forest, an ensemble learning technique, combines multiple decision trees to enhance predictive accuracy and reduce overfitting, a common issue in individual decision trees The model's suitability for this study lies in its robustness with complex data structures and its ability to handle a large number of predictor variables, aligning with the multidimensional nature of consumer perceptions.

In addition to the Random Forest model, this research utilized a mixed-method approach, integrating quantitative surveys with qualitative interviews. The quantitative component enabled a broad understanding of consumer awareness levels, while qualitative interviews provided in-depth insights into motivations and barriers. The integration of both methods allowed for a comprehensive analysis of consumer attitudes and willingness to adopt green financial products, bridging the gap between broad statistical trends and individual consumer experiences.

Formula and explanation

The Random Forest model is built from many decision trees. Each decision tree is trained on a subset of the data, and the final prediction is obtained by averaging the predictions of all the trees (in the case of regression) or by majority vote (in the case of classification).

The mathematical formula for the prediction $\hat{y}$ in the Random Forest regression model can be expressed as follows:

$$\hat{y} = \frac{1}{N}\sum_{i=1}^{N} \hat{y}_i$$

Where:

+ $\hat{y}$ is the final prediction

+ N is the number of trees in the forest

+ $\hat{y}_i$_i is the prediction of the i-th tree

Explanation of the variables used

Attitude: Represents the participant's attitude towards the service.

Awareness: Represents the participant's level of awareness about the service.

Age: Age of the participant.

Occupation: Occupation of the participant.

Field: Field of work of the participant.

Economic Status: Economic status of the participant.

Interest Rate: Interest rate related to the green financial service.

Environmental Awareness: The participant's level of awareness about environmental issues.

Financial Institution: The participant's evaluation of the financial institution providing the service.

Social Influence: The participant's evaluation of the social impact of the service.

Media: Influence of media on the participant.

Cost: Costs related to the service.

Friends: Influence of friends on the participant's decision.

Research steps

Data collection: Collect data from participants regarding features related to green financial services.

Data preprocessing: Clean and standardize the data to ensure accuracy and consistency.

Data plitting: Split the data into training and testing sets to evaluate the model.

Model training: Use the training set to train the Random Forest model.

Model evaluation: Use the testing set to evaluate the model's performance through metrics such as Mean Squared Error (MSE) and R-squared (R^2).

Feature importance analysis: Determine the importance of each feature in predicting "Willingness to Use".

Conclusions and recommendations: Based on the analysis results, provide conclusions and recommendations for service improvement.

This method helps identify the key factors influencing the willingness to use green financial services, thereby enabling the development of appropriate strategies to improve the service and increase user participation.

3.3. Random Forest model results

The Random Forest model was employed as a machine learning method to analyze and predict participants' "Willingness to Use" green financial products. This model operates by building multiple decision trees using subsets of the data and then averaging the predictions of these trees to achieve a final result. The strength of the Random Forest model lies in its ability to improve prediction accuracy by reducing overfitting, which is common in single decision trees.

The dependent variable in this study is "Willingness to Use," representing the likelihood of participants adopting green financial products. Independent variables include factors such as "Attitude," "Awareness," "Age," "Occupation," "Economic Status," and "Interest Rate," among others, which potentially influence participants' willingness.

Regarding the values of 0 and 1 in Table 1, these represent the binary classification used in the Random Forest model. Specifically, the value of "0" indicates the absence or lower likelihood of a particular characteristic (e.g., lower awareness or willingness), while "1" signifies its presence or higher likelihood. These binary values allow the model to classify and predict behaviors more effectively based on the data provided.

Model performance evaluation

After training and testing the Random Forest model on the normalized data, the main results obtained are as follows: MSE: 0.0647; R^2: 0.9337.

The classification reports for the Random Forest models predicting "Attitude" and "Awareness" have been generated. The detailed results are as follows:

Classification report for "Attitude":

- Precision, Recall, F1-Score for each class:

Class 1: Precision = 1.00, Recall = 1.00, F1-Score = 1.00

Class 2: Precision = 0.67, Recall = 1.00, F1-Score = 0.80

Class 3: Precision = 0.95, Recall = 0.85, F1-Score = 0.90

Class 4: Precision = 1.00, Recall = 0.87, F1-Score = 0.93

Class 5: Precision = 0.75, Recall = 1.00, F1-Score = 0.86

- Overall metrics:

Accuracy = 0.90

Macro Average Precision = 0.87, Recall = 0.94, F1-Score = 0.90

Weighted Average Precision = 0.92, Recall = 0.90, F1-Score = 0.90

Classification report for "Awareness":

- Precision, Recall, F1-Score for Each Class:

Class 0: Precision = 0.87, Recall = 0.91, F1-Score = 0.89

Class 1: Precision = 0.91, Recall = 0.87, F1-Score = 0.89

- Overall metrics:

Accuracy = 0.89

Macro Average Precision = 0.89, Recall = 0.89, F1-Score = 0.89

Weighted Average Precision = 0.89, Recall = 0.89, F1-Score = 0.89

Table 1: Classification report

	Attitude			
	precision	**recall**	**f1-score**	**support**
0	0.866667	0.912281	0.888889	57
1	0.912281	0.866667	0.888889	60
accuracy	0.888889	0.888889	0.888889	0.888889
macro avg	0.889474	0.889474	0.888889	117
weighted avg	0.890058	0.888889	0.888889	117
Awareness				
	precision	recall	f1-score	support
0	0.866667	0.912281	0.888889	57
1	0.912281	0.866667	0.888889	60
accuracy	0.888889	0.888889	0.888889	0.888889
macro avg	0.889474	0.889474	0.888889	117
weighted avg	0.890058	0.888889	0.888889	117

Source: Author's calculation.

Feature importance analysis

The Random Forest model also provides information about the importance of features in predicting "Willingness to Use." Below is the ranking of feature importance:

Table 2: Feature importances

Feature	**Importance**
Awareness	
Willingness to Use	0.146044137
Friend	0.132168676
Interest rate	0.104020614
Financial institutions	0.09533432
Year old	0.092060544
Expense	0.085048446
The media	0.082081967
Environmental awareness	0.07976259
Society	0.064859976
Economic situation	0.051748823
Field	0.039259573
Job	0.027610333
Attitude	
Willingness to Use	0.155032592
Friend	0.142757808
Interest rate	0.098128472
Financial institutions	0.097766146
Year old	0.084719861
Expense	0.080424796
The media	0.071756883
Environmental awareness	0.067048993
Society	0.065383178
Economic situation	0.062418007
Field	0.050135136
Job	0.024428128

Source: Author's calculation.

Feature importance analysis based on the current situation in Vietnam

- Attitude

Most important feature: "Willingness to Use" (14.60%)

Other influential features: "Friends" (13.22%), "Interest Rate" (10.40%), "Financial Institution" (9.53%), "Age" (9.21%).

- Awareness

Most important feature: "Age" (15.50%)

Other Influential Features: "Willingness to Use" (14.28%), "Cost" (9.81%), "Financial Institution" (9.78%), "Environmental Awareness" (8.47%).

"Willingness to Use": This factor significantly affects both "Attitude" and "Awareness", indicating that a person's readiness to use green financial services greatly impacts their attitude and awareness towards such services.

"Age": This feature has a substantial influence on "Awareness", suggesting that awareness about green finance may vary with age.

"Friends" and "Cost": Both features significantly affect "Attitude" and "Awareness", indicating that social networks and associated costs are critical factors in shaping attitudes and awareness about green finance.

In Vietnam, the importance of "Willingness to Use" in influencing both "Attitude" and "Awareness' highlights a critical aspect of the country's transition towards green finance. The readiness of individuals to adopt green financial products reflects their confidence and understanding of these services. Therefore, increasing educational and promotional efforts about the benefits and functionalities of green finance can foster a more positive attitude and heightened awareness.

The prominent role of "Age" in determining "Awareness" suggests that younger populations may be more receptive to green finance concepts. This could be due to their greater exposure to global environmental movements and digital finance solutions. To leverage this, targeted campaigns and educational programs for different age groups can bridge the awareness gap and encourage wider adoption.

"Friends" and "Cost" also play significant roles, reflecting the influence of social circles and financial considerations on consumer behavior. In Vietnam, community influence is strong, and word-of-mouth can significantly impact decision-making. Thus, creating community-based initiatives and peer influence programs can enhance the acceptance of green finance. Additionally, addressing cost concerns through subsidies, incentives, and transparent communication about the long-term financial benefits of green finance can mitigate apprehensions and promote a positive shift in attitudes and awareness.

Understanding these dynamics is crucial for policymakers and financial institutions in Vietnam to design effective strategies that align with the local context, fostering a supportive environment for the growth of green finance. By addressing the key factors of willingness, age, social influence, and cost, Vietnam can make significant strides towards a sustainable financial future.

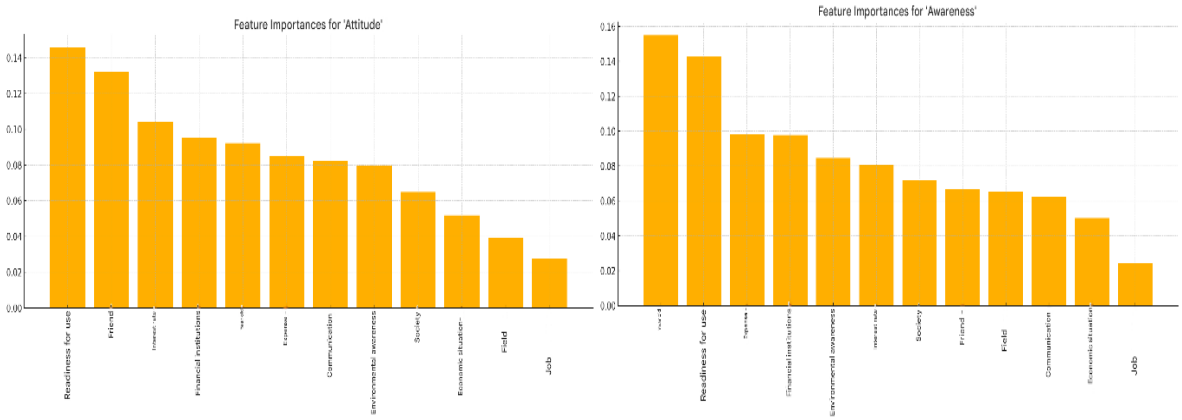

Figure 1: Label distribution chart
Source: Author's calculation.

Correlation matrix heatmap

The correlation matrix heatmap provides a comprehensive overview of the relationships between different features in the dataset. Features with strong positive correlations are highlighted in red, indicating that as one feature increases, the other tends to increase as well. Conversely, strong negative correlations are shown in blue, indicating that as one feature increases, the other tends to decrease. This visualization helps identify which features are closely related and can guide further analysis or feature selection for model building.

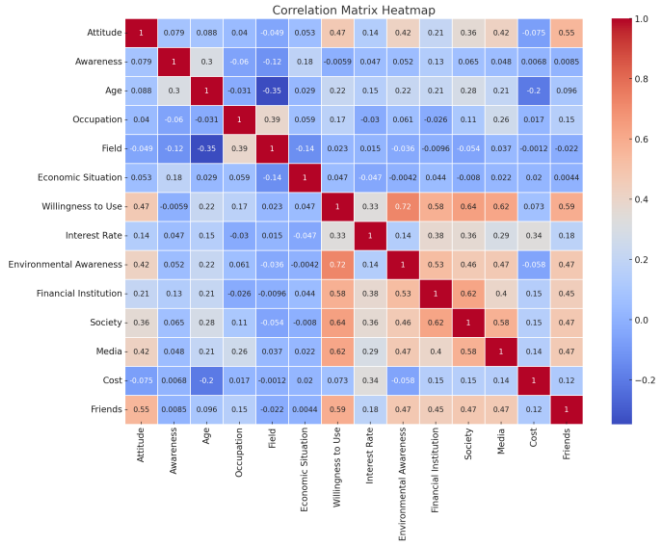

Figure 2: Correlation matrix heatmap
Source: Author's calculation.

ROC curves and AUC for "Attitude"

The ROC curves for Attitude illustrate the performance of the classification model for each class. Each curve represents the trade-off between the true positive rate (sensitivity) and the false positive rate (1-specificity) for different threshold settings. The Area Under the Curve (AUC) values provide a single scalar value to evaluate the model's performance; higher AUC values indicate better model performance. For Attitude, the ROC curves show distinct separations for each class, with AUC values indicating that the model performs well in distinguishing between different attitudes.

ROC curves and AUC for "Awareness"

Similarly, the ROC curves for Awareness' depict the model's ability to classify each class correctly. The curves show the relationship between the true positive rate and the false positive rate across different thresholds. The AUC values for Awareness classes demonstrate that the model has a good ability to distinguish between different levels of awareness. The higher the AUC, the better the model is at predicting the correct class without being influenced by false positives.

Overall, the ROC curves and AUC values for both "Attitude" and "Awareness" suggest that the Random Forest models are effective in classifying the data accurately. These metrics, combined with the correlation matrix heatmap, provide a robust understanding of the dataset's structure and the model's performance, enabling informed decisions for further refinement and application.

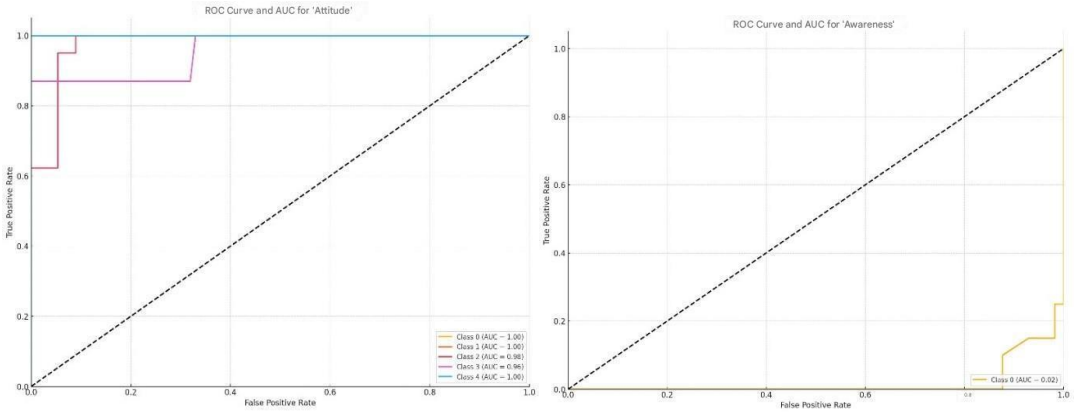

Figure 3: ROC curve and AUC
Source: Author's calculation.

The Random Forest model results are now presented with a thorough analysis of key metrics, including MSE and R^2 values, to evaluate model performance in predicting consumer "Willingness to Use" green financial products. These metrics are complemented by feature importance rankings, which highlight the most influential variables, such as Awareness and Environmental Awareness, thus providing valuable insights into the predictors of consumer behavior.

Additionally, the integration of quantitative and qualitative results is clearly articulated to validate the mixed-method approach. This includes a summary of survey data findings that outline general trends in consumer awareness and attitudes, combined with qualitative insights from in-depth interviews that explore underlying motivations and reservations. This dual analysis offers a well-rounded view of consumer perspectives and supports the conclusions with evidence from both methodological angles, enhancing the accuracy and relevance of the findings.

4. Conclusion

The results of this study provide valuable insights into the factors influencing attitudes and awareness towards green finance in Vietnam. The feature importance analysis revealed that "Willingness to Use" is the most significant factor affecting both "Attitude" and "Awareness." This highlights the critical role of user readiness in adopting green financial services, suggesting that initiatives to enhance user education and promote the benefits of green finance can significantly improve public perception and acceptance.

The importance of "Age" in influencing "Awareness" indicates a generational shift in understanding and adopting green finance. Younger individuals may be more receptive to green finance due to greater exposure to environmental issues and digital financial tools. This suggests that targeted educational campaigns aimed at different age groups could bridge the awareness gap and foster broader adoption across demographics.

The strong influence of "Friends" and "Cost" on both "Attitude" and "Awareness" underscores the impact of social networks and financial considerations on consumer behavior. In the context of Vietnam, where community influence is substantial, leveraging peer influence and community-based initiatives could be effective strategies to promote green finance. Additionally, addressing cost-related concerns through subsidies, incentives, and transparent communication about the long-term financial benefits of green finance can mitigate apprehensions and encourage positive attitudes.

The ROC curves and AUC values for both "Attitude" and "Awareness" indicate that the Random Forest models used in this study are effective in distinguishing between different classes of attitudes and awareness levels. The high AUC values reflect the model's strong performance, providing confidence in the robustness of the findings.

In conclusion, this study highlights the importance of user readiness, age, social influence, and cost considerations in shaping attitudes and awareness towards green finance in Vietnam. Policymakers and financial institutions should focus on these key factors to design effective strategies that promote the adoption of green financial services. By addressing these elements, Vietnam can advance towards a more sustainable financial future, leveraging green finance as a tool for environmental and economic development.

To effectively promote green finance in Vietnam, a multi-faceted approach is necessary. Here are several key strategies that can be implemented:

Enhancing public awareness and education: Education campaigns should be designed to increase public understanding of green finance. These campaigns can be conducted through various media channels, educational institutions, and community programs. Emphasizing the long-term benefits of green finance, such as cost savings and environmental protection, can help foster a positive attitude and greater willingness to adopt these financial products.

Incentivizing green financial products: Offering financial incentives such as tax breaks, subsidies, or lower interest rates for green financial products can make them more attractive to consumers and businesses. These incentives can help offset the initial costs and demonstrate the economic advantages of sustainable investments.

Strengthening regulatory frameworks: Developing and enforcing regulations that encourage green finance is crucial. This includes

setting clear standards for what constitutes green financial products and ensuring transparency and accountability in the reporting of environmental impact. Regulatory frameworks should also support innovation in green finance by providing a conducive environment for new green financial products and services.

Leveraging technology: Utilizing technology can enhance the accessibility and appeal of green finance. Digital platforms can be used to offer green financial products, making them more convenient and easier to understand for the general public. Additionally, technology can help track and report the environmental impact of investments, providing transparency and building trust among consumers.

Engaging the private sector: Collaborating with private sector entities such as banks, insurance companies, and investment firms can drive the development and promotion of green financial products. Public-private partnerships can be established to support large-scale green projects and initiatives. Encouraging businesses to adopt sustainable practices and offering them green financing options can also play a significant role.

Community and peer influence: Given the strong community ties in Vietnam, leveraging social networks to promote green finance can be very effective. Community leaders and influencers can advocate for green finance, and peer-to-peer education programs can help spread awareness and encourage adoption at the grassroots level.

By implementing these strategies, Vietnam can create a robust ecosystem that supports the growth of green finance. This not only contributes to environmental sustainability but also drives economic development by opening up new opportunities for investment and innovation in green technologies and practices.

References

Bauer, R., & Hann, D. (2014). Corporate environmental management and credit risk. *European Financial Management, 20*(3), 486-505. https://doi.org/10.2139/ssrn.1660470

Chen, Y. S. (2010). The drivers of green brand equity: Green brand image, green satisfaction, and green trust. *Journal of Business Ethics, 93*(2), 307-319. https://doi.org/10.1007/s10551-009-0223-9

Clark, G. L., Feiner, A., & Viehs, M. (2015). *From the stockholder to the stakeholder: How sustainability can drive financial outperformance*. Oxford University and Arabesque Partners. https://doi.org/10.2139/ssrn.2508281

Ariel L., Aisha R., Dani R., Sharna N., & Beth S. T. (2019). Green finance in Indonesia barriers and solutions. *Journal of Sustainable Finance & Investment, 8*(1), 1-14. https://doi.org/10.1007/978-981-10-8710-3_5-1

Hsu, K. T. (2012). The advertising effects of corporate social responsibility on corporate reputation and brand equity: Evidence from the life insurance industry in Taiwan. *Journal of Business Ethics, 109*(2), 189-201. https://doi.org/10.1007/s10551-011-1118-0

Le, T. T., & Marcos F. (2022). How green investment drives sustainable business performance for food manufacturing small- and medium-sized enterprises? Evidence from an emerging economy. *Corporate Social Responsibility and Environmental Management, 29*(4), 1034-1049. https://doi.org/10.1002/csr.2252

Park, H., & Kim, J. D. (2020). Transition towards green banking: Role of financial regulators and financial institutions. *Asian Journal of Sustainability and Social Responsibility, 5*(5). https://doi.org/10.1186/s41180-020-00034-3

Nguyen, Q., Nguyen, D., & Le, M. (2023). Green finance: A solution towards green growth in Vietnam. *Science & Technology Development Journal: Economics- Law & Management, 7*(4), 4834-4841. https://doi.org/https://doi.org/10.32508/stdjelm.v7i4.1272

Wang, H., Qi, S., Zhou, C., Zhou, J., & Huang, X. (2022). Green credit policy, government behavior and green innovation quality of enterprises. *Journal of Cleaner Production, 331*, 129834. https://doi.org/10.1016/j.jclepro.2021.129834

Tran, T. T. T., Do, H. N., Vu, T. H., & Do, N. N. M. (2020). The factors affecting green investment for sustainable development. *J. Decis. Sci. Lett., 9*, 365-386. https://doi.org/10.5267/j.dsl.2020.4.002

Zhuang, W., Luo, X., & Muhammad, U. R. (2021). The influences of consumer's perception on green purchase intention: A meta-analytic review. *Journal of Cleaner Production, 172*, 1453-1461. https://doi.org/10.3389/fpsyg.2021.644020

Dang, T. T., & Nguyen, T. T. (2021). Developing green bank operation in India and Vietnam: Comparison and evaluation. *Asian Journal of Business Environment, 11*(3), 33-43. https://doi.org/10.13106/ajbe.2021.vol11.no3.33

Nguyen, A. H., Do, M. H. T., Hoang, T. G., & Nguyen, L. Q. T. (2023). Green financing for sustainable development: Insights from multiple cases of Vietnamese commercial banks. *Journal of Business Strategy and the Environment, 32*(4), 321–335. https://doi.org/10.1002/bse.3132