African Journal of Accounting, Banking and Intellectual Capital (AJABIC)
E-ISSN 3050-2314 (Online); ISSN 3050-2306 (Print)

Indexed by SABINET

Volume 2, Number 1, June 2025

Pp 5-26

A Green Finance Strategic Framework to Enhance Sustainable Development in Zimbabwe

DOI: https://doi.org/10.31920/3050-2314/2025/v2n1a1

Tough Chinoda PHD
University of Zimbabwe
Department of Accounting and Finance
Harare, Zimbabwe
toughchinoda@gmail.com

Nyasha Munemo
University of Zimbabwe
Department of Accounting and Finance
Harare, Zimbabwe
mnnyasha94@gmail.com

Tendai Towo
Bindura University of Science Education
Department of Banking and Finance
Bindura, Zimbabwe
ttowo@buse.ac.zw

&

Ezekiel Chitombo
Bindura University of Science Education
Department of Banking and Finance
Bindura, Zimbabwe
echitombo@gmail.com

Abstract

This study investigates the effectiveness of various green finance mechanisms and the roles of different stakeholders in promoting and implementing a green finance strategic framework for sustainable development in Zimbabwe. The study adopted a descriptive research design on a cross-section of employees in the Zimbabwean financial services sector, with a sample size of 380, which was determined using the Yamane formula. The results reveal a weak application of green finance by companies in the financial services sector, which does not contribute towards the improvement in sustainable development in Zimbabwe. The study recommended the creation of strong collaborations across the entire green finance value chain to harness the unique contributions of various stakeholders. The study also recommended enforcing strict mechanisms to ensure good use of green financial resources like renewable energy funds, green bonds, and sustainability loans.

Keywords: *Green finance, Sustainable development, Framework, Implementation*

1. Introduction

Green finance has attracted the attention of the financing profession due to the popularity of the sustainable development concept and its applicability across the functional areas of business (Dasanayaka *et al*., 2021). Green finance, according to Nuleg *et al.* (2021), is an evolution in development finance that is geared towards gathering sustainable development expenditures and reporting sustainable development issues impacting organisational performance.

In Asia, green finance has been utilised as a financing tool that helps firms reduce sustainable development problems for social well-being and the communities (Gunarathne, Lee & Hitigala Kaluarachchilage, 2021). Little is known regarding the efficacy of green finance in developing economies like Zimbabwe in support of sustainable development (Dasanayaka *et al*., 2021).

Zimbabwe, as a developing nation, suffers from serious sustainable development challenges emanating because of factors like deforestation, contaminated water, and pollution. 63% and 90% of the urban and rural populations in Zimbabwe lack access to reliable energy (Makokoba, 2020). These challenges directly affect the nation's economy, social cohesion, and long-term sustainable development. The Zimbabwean government has pledged to apply sustainable development principles to

address these sustainable development issues. Creating a green financial framework aligned with UN SDG 17 is a key initiative for achieving these objectives. This plan would entail raising money and investing in environmentally friendly initiatives and projects that support sustainable development (Plastun *et al.*, 2021). However, Zimbabwe lacks a comprehensive green finance strategic framework to effectively channel funds and investments towards sustainable development initiatives. Thus, it is against this background that the study proposes a green finance model that can enhance the sustainable development dimension of the use of renewable resources in Zimbabwe.

Statement of the Problem

Zimbabwe is encountering sustainable development challenges emanating from deforestation, contaminated water, and pollution. 63% and 90% of the urban and rural populations in Zimbabwe lack access to reliable energy. Insignificant financial resources have been invested in green finance initiatives in the country, which is severely impairing the sustainable development dimension of the utilisation of natural resources in Zimbabwe.

Research Objectives

The study seeks to achieve the following two objectives

i. To investigate the roles and responsibilities of different stakeholders in promoting and implementing a green finance strategic framework for sustainable development in Zimbabwe.

ii. To explore the key challenges and barriers in implementing green finance strategies and develop recommendations to overcome these obstacles in Zimbabwe.

iii. To develop a green finance model that can enhance the sustainable development dimension of the use of renewable resources in Zimbabwe

2. Literature Review

2.1 Theoretical framework

The study is grounded on the Triple Bottom Line (TBL) Theory, which was propounded by John Elkington in 1994 (Elkington, 1998). The TBL is a sustainability framework which recognise the essence of earning a profit while at the same time protecting the environment and the society that also depends on the environment. The study applied the TBL framework to depict the key aspects that constitute the sustainability framework. The TBL framework enables the assessment of the social, environmental, and economic benefits and costs associated with different financing approaches (Li and Fan, 2023). Using this framework, the study evaluated how green finance strategies contribute to the well-being of people (e.g., improved access to clean energy, employment opportunities in green industries), the planet (e.g., reduced greenhouse gas emissions, conservation of natural resources), and profit (e.g., financial viability and competitiveness of green investments).

2.2 Empirical literature

Afzal *et al.* (2022) investigated the effect of financial development and institutional quality on green development across 40 European nations between 1990 and 2019. The study found that financial development that does not integrate green frameworks has an inverse relationship with environmental protection. The study highlighted the emphasis on financial development initiatives, which do not relate to the expansion in social and environmental protection and worsen environmental issues.

Zhang and Wang (2021) evaluated the system for green financial development in the Chinese market between 2004 and 2017 and found that green funds influenced sustainable energy development in China. Employing the Autoregressive distributed lag approach, Ngo *et al.* (2021)examined the effect of green funds on economic growth in Vietnam between 1986 and 2019. Research results revealed that the use of green funds in Vietnam was associated with favourable developments in the level of economic growth. Zhang *et al.* (2023)examined the link between green funds and developments in renewable energy investments in China between 2005 and 2018. The study found that green finance has minimal influence on cleaner energy resources development, though it determines the long-run sustainability.

Hailiang *et al.* (2023) employed the quantile regression approach to examine the effect of green finance on environmental protection in the BRICS economies over the period 2000 to 2018. Research results indicated that the application of green financial strategy increased the usage rate in favour of environmentally friendly energy sources, which performed well promoting, environmental protection and lowering carbon emissions in BRICS countries. Calls for green finance are more pronounced among BRICS nations than Zimbabwe due to differences in the level of development.

A study by Taghizadeh-Hesary (2021) was focused on the development of new financing mechanisms to enhance the use of green bond investments in Nigeria, Kenya, Morocco and South Africa. The study found that renewable energy investment and sustainable infrastructure have been the main beneficiaries of such initiatives. The use of public-private partnerships has been instrumental in promoting the efficacy of green bond investments in these African economies. The noticeable results have been a significant improvement in the levels of exploiting natural resources for the present and future applications in line with the sustainability dimension.

3. Research Methodology

3.1 Research design

This paper used a descriptive research design, which is suitable when describing the characteristics of a phenomenon (Schindler, 2022). This research design is suitable when explaining why certain phenomena occur and is often used to test hypotheses and theories, as in our study. This type of research design involved observing and recording data without manipulating variables or attempting to establish causal relationships (Fernandez, 2020). This research design is useful in analysing the present nature of green financial strategy in Zimbabwe, including the types of projects that have been funded, the sources of funding, and the effect of these initiatives on sustained socio-economic advancements.

3.2 Population and sampling techniques

3.2.1 Population

The targeted population consist of all the employees in registered firms in the Zimbabwean financial sector. Thus, the total targeted population was 7,685 employees in the financial services sector in Zimbabwe (The Reserve Bank of Zimbabwe, 2024)

3.2.2 Sample size determination

The study calculated the sample size using a statistical method known as the Yamane formula, as depicted.

$$\frac{N}{1+Ne^2} = \frac{7685}{1+7685 \times 0.05^2} = \frac{7685}{1+19.2125} = 380.21$$

Thus, a total sample size of 380 employees from the financial services sector was determined and used in the study, as shown in Table 1. The proportional sampling methods were used to operationalise the selection and apportionment of respondents from the population of employees within the financial services sector in Zimbabwe. This means the sample size from each of Zimbabwe's 20 financial services firms is proportional to its total number of employees.

***Table 1**: Apportionment of the sample*

Financial institution	Targeted Population	Proportional sample
Bank A	462	23
Bank B	457	23
Bank C	650	32
Bank D	923	46
Bank E	390	19
Bank F	82	4
Bank G	711	35
Bank H	82	4
Bank I	251	12
Bank J	65	3
Bank K	356	18
Bank L	346	17
Bank M	453	22
Bank N	659	33
Bank O	645	32
Bank P	325	16
Bank Q	108	5
Bank R	50	2
Bank S	631	31
Bank T	39	2
Total	7 685	380

3.2.3 Sampling methods

A stratified sampling strategy which ensures that different strata within the financial services sector are properly represented in the sample was considered appropriate for this study. This approach was essential to guarantee that all the identified firms in the financial sector were represented in the population.

3.3 Data Collection Methods and Sources

3.3.1 Primary data

The study used primary data on green financing strategies, which was collected through questionnaires. Primary data is usually valid and reliable since it is collected from people who provide relevant and valuable information that can be relied upon to come up with an objective opinion that can be used to solve the stated objectives (Schindler, 2022). The study used a structured questionnaire as a data collection instrument because it is cost effective and yields standardised responses that make it easy for the researcher to interpret data. Structured questions on demographics were organised using boxes for ticking and other variables using a Likert scale ranging from 1 to 5 points (1= strongly disagree, 2= disagree, 3= Uncertain, 4= agree, 5= strongly agree). The process of pilot testing was also undertaken as a quality assurance protocol to ensure that the questionnaire could be properly interpreted by its intended respondents in a manner that it could gather the type of data that it was meant to collect (Safari, McKenna and Davis, 2023)

3.4 Methods of data analysis

The application of descriptive statistics was justified since it permits us to organise and summarise the key characteristics of the data, providing a clear picture of the status of green finance in Zimbabwe. Descriptive statistics were instrumental in identifying trends, patterns, and disparities in sustainable development efforts across the Zimbabwean financial services sector. The study also applied multiple regression and correlation statistics to predict the link between green financial strategy and sustained development in Zimbabwe. To ensure validity and reliability of responses, the study applied different data sources and

triangulation to improve the trustworthiness and relevance of the conclusions.

3.5 Conceptual Framework

Figure 1: *The green financing conceptual framework*

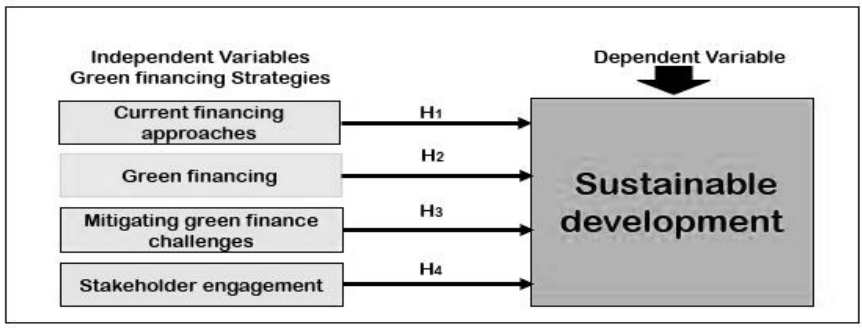

Figure 1 shows a conceptual framework to reflect the current financing approaches, green finance, mitigating green finance challenges, stakeholder engagement, independent message variables hypothesised to influence sustainable development, and a dependent research variable. The independent variable comprised three elements of renewable energy, which encompass economic, environmental and social performance. These elements have a significant bearing on the ability of the energy sector to sustain its operations in terms of product quality, creating green products and customer retention as well as employee training and development.

4. Presentation of Results

4.1 Response Rate

380 questionnaires were distributed to employees in financial services companies, and 278 completed questionnaires were returned in time, thus, the questionnaire response rate was 73.2%, as shown in Table 2. Since the overall response rate exceeds 50%, it can be inferred that the outcomes generated are a reliable and valid reflection of the views of all potential respondents.

Table 2: *Questionnaire responses*

Respondent category	Questionnaire sent	Responses received	Response Rate
Commercial banks	282	205	72.7%
Building Societies	42	35	83.3%
Savings Bank	22	16	72.7%
Other	34	22	64.7%
Total	380	278	73.2%

4.2 Demographics

The scope of respondent demographics used in our paper encompassed age, working experience, gender, work experience in the financial sector and educational level.

4.2.1 Age groups

In terms of age, those aged 31 to 40 are in the majority (45.71%), while those aged 51 and above are in the minority (10%). 14.29% of the respondents were aged between 21 and 30. The majority of Zimbabweans working in financial services are between the ages of 31 and 40 thus this age group plays an important role in the adoption and implementation of green finance techniques in Zimbabwe's financial services sector.The result is a reflection of the diversity of opinions from people of different ages, which can help to incorporate differences in the perspectives that are closely related to the mentors of a person in respect of their level of awareness of clean financing initiatives and the influence they have on sustainable development.

4.3 Working experience in the financial service sector

The responses show that 59.29% of the respondents have worked for 6 to 10 years. Respondents with less than a year of work experience accounted for 6.43%. Respondents with 16 years or more of experience accounted for 14.64%. Experience in the financial service sector also reflects the level at which institutions are embedded and awareness of the operation of the entire building sector and how credit creation contributes to improvement in the cost of the domestic product through the money multiplier effect.

4.4 Highest education

The respondents came from various educational backgrounds, including diplomas, certificates, undergraduate degrees, advanced degrees, and PhDs. However, most respondents held either a master's degree (41.79%) or a bachelor's degree (39.64%). 3.21% of the respondents had certificates and 13.57% hold diplomas. These findings suggest that respondents had relatively high levels of literacy, which could allow them to acquire, understand, and apply concepts linked to sustainable finance.

4.5 Gender

In terms of gender, males constituted 57.14%, while the remaining 42.86% were females. This distribution reflects a sample dominated by males, which might also indicate the gender distribution within these organisations, which are highly male-dominated.

4.6 Reliability statistics

The Cronbach's alpha coefficient was used to assess the reliability of a set of items. A Cronbach's alpha coefficient of more than 0.7 suggests better internal consistency. The outcomes of the reliability test are presented in Table 3. The Cronbach alpha coefficient for all twenty items combined is 0.863, which is considered excellent. It demonstrates an elevated degree of internal consistency for all 20 items on the scale, independent of construct.

Table 3: *Test for reliability*

Items tested	Cronbach coefficient	Items tested
Current Green Finance	.909	4
Effectiveness	.709	4
Challenges	.741	4
Responsibilities	.763	4
Sustainable development	.722	4
All items	.863	20

4.7 Descriptive statistics

Descriptive statistics were utilised to describe research results using the mean and the standard deviation.

4.7.1 The effect of green financial strategies and sustained development

Results on the effectiveness of green financial strategies and the promotion of sustainable development are shown in Table 4. The high means (ranging from 3.91 to 4.12) suggest that respondents generally agree with the effectiveness and positive impact of green finance mechanisms on environmentally friendly projects and sustainability. Overall, the descriptive statistics imply strong support for green finance mechanisms.

Table 4: *Effectiveness of green finance in promoting sustainable development*

	Min	Max	Mean	Std. Dev	Mean score
Green financial mechanisms are an effective way to allocate funds towards environmentally friendly projects.	1	5	4.12	.996	Agree
Green financial mechanisms have a positive impact on encouraging sustainability and reducing environmental impact.	1	5	4.01	1.026	Agree
I perceive that green finance mechanisms are effective in incentivising businesses and individuals to invest in sustainable projects.	1	5	4.05	1.039	Agree
I think that green finance mechanisms are a financially sound way to support environmentally-friendly initiatives.	1	5	3.91	.915	Agree

4.7.2 Key challenges in implementing green finance

Descriptive statistics on key challenges in implementing green finance are shown in Table 5. It can be inferred that the key challenges in implementing green financial strategies in the Zimbabwean financial service sector are relatively consistent, with mean scores ranging from 3.53 to 3.81, indicating that respondents perceive these challenges to be moderately significant. The relatively high means suggest that the lack of awareness and understanding among stakeholders, the availability of suitable green finance options, regulatory and policy barriers, and the

complexity of measuring the impact and effectiveness of green finance initiatives are all perceived as significant challenges by stakeholders in the financial service sector.

Table 5: *Key challenges in implementing green finance*

	Min	Max	Mean	Std. Dev	Mean score
Green finance initiatives are challenging to adopt since stakeholders are unaware of and do not understand them.	1	5	3.81	.903	Agree
Availability of acceptable green funding solutions is a significant challenge for organisations looking to adopt sustainable initiatives.	1	5	3.73	.967	Agree
Regulatory and policy barriers make it difficult for organisations to effectively implement green finance strategies.	1	5	3.53	1.005	Agree
The complexity of measuring the impact and effectiveness of green finance initiatives presents a significant challenge for organisations.	1	5	3.73	1.016	Agree

4.7.3 The interplay of different stakeholders in green finance

Table 6 shows that stakeholders in Zimbabwe have a strong understanding of their roles and responsibilities in promoting green finance, with a mean score of 3.66. However, there is some variability in responses, as indicated by the standard deviation of 1.010, suggesting that there may be some disagreement or inconsistency in stakeholder perceptions of their roles and responsibilities. Similarly, stakeholders appear to be actively working together and talking with one another to promote green finance initiatives, as seen by an average rating of 3.95. The findings also show that stakeholders prioritise green financing in their decision-making processes, with an average rating of 4.05.

Table 6: *The functions of many parties in advancing green finance*

	Min	Max	Mean	Std. Dev	Mean score
Stakeholders clearly understand their roles and responsibilities in promoting green finance.	1	5	3.66	1.010	Agree
Stakeholders actively collaborate and communicate with each other to promote green finance initiatives.	1	5	3.95	.953	Agree
Stakeholders consistently prioritise green finance in their decision-making processes.	1	5	4.05	.873	Agree
Stakeholders demonstrate a commitment to supporting and implementing sustainable financing practices.	1	5	3.47	.935	Indifferent

However, the mean score for stakeholder commitment to supporting and implementing sustainable financing practices is 3.47. Overall, these statistics suggest that while there is generally strong support for green financial strategies in the Zimbabwean financial service sector, some key challenges need to be addressed to drive effective implementation of green financial strategies in the sector.

4.8 Correlation Tests

The Pearson correlation value was utilised to determine the extent of the linear link connecting green finance strategy with sustainable development. The correlation test results show a weak, favourable, and insignificant statistical relationship between the current green finance method used in Zimbabwe and sustainable development ($r = 0.065$; $p = 0.280$). These findings suggest that the present green finance trajectory used in Zimbabwe may not be related to the country's pursuit of sustainable development. In addition, there is a moderately favourable, statistically significant relationship between the success of green finance techniques and the promotion of sustainable development ($r = 0.582$; $p = 0.000$). These results show that green finance activities in Zimbabwe's financial services industry, such as sustainable investments in renewable energy sources, can have a positive impact on the country's development.

4.9 Regression tests

Regression tests were conducted to predict the likely effect that adopting a green financial strategy has on the degree of sustainable development in the Zimbabwean financial services sector.

4.9.1 Model summary

The regression model summary is depicted in Table 7. The R-value of 0.836, shown, represents the overall linear correlation coefficient of the regression model. This demonstrates that the constant and predictors have a substantial beneficial association with the dependent variable, implying that stakeholder responsibilities, current green finance, green finance effectiveness, and implementation challenges are important in predicting the impact of using green finance strategies to promote equitable growth in Zimbabwe.

Table 7: *Model summary*

Model	R	R-square	Adjusted r-square	Std. Error of the Estimate
1	.836[a]	.699	.694	1.45661
a. Predictors: (Constant), Responsibilities, Current Green Finance, Effectiveness, Challenges				

According to the regression model summary, the model has a strong overall fit with an R-square of 0.699, suggesting that the independent variables can explain approximately 69.9% of the variation in the dependent variable (sustainable development). The modified R-square of 0.694 likewise reflects a decent fit, considering the total number of covariates in the model, implying that the equation is not overfitting. The regression model is a good fit for the study, implying that the discovered predictors have a significant impact on the promotion of equitable growth through green financing initiatives in Zimbabwe.

4.10 Regression Coefficients

Regression coefficients illustrate that predictors, which include current green finance, effectiveness, challenges, and responsibilities, all have

statistically significant relationships with the dependent variable of sustainable development. Current green finance initiatives have a non-significant negative relationship with sustainable development (t = -0.324, sig = 0.746). This implies that the existing green finance initiatives being taken by the financial services sector in Zimbabwe do not have a positive bearing on sustainable development. Table 8 shows that the effectiveness of green finance strategies significantly influences sustainable development (t = 3.817, sig = 0.000). This suggests that putting effective green finance strategies in place can enhance the sustainability of development initiatives.

Table 8: *regression coefficients*

Model		Unstandardised Coefficients		Standardised Coefficients	t	Sig
		B	Std. Error	Beta		
1	(Constant)	1.571	.598		2.627	.009
	Current Green Finance	-.005	.015	-.011	-.324	.746
	Effectiveness	.141	.037	.156	3.817	.000
	Challenges	.154	.048	.151	3.210	.001
	Responsibilities	.616	.050	.622	12.216	.000
a. Dependent Variable: Sustainable Development						

.

Challenges experienced in implementing green finance strategies in the financial services sector significantly influenced sustainable development (t = 3.210, sig = 0.001). This indicates that as the financial services centre navigates through the challenges it encounters in green finance and learn from them, it can establish robust mechanisms to promote sustainable development. Stakeholder responsibilities had a positive effect on sustainable development (t = 12.216, sig = 0.000). This suggests that taking responsibility for sustainable development initiatives leads to a significant increase in sustainable development. These findings can be used to inform policy and decision-making aimed at promoting sustainable development.

4.11 Discussion of Results

4.11.1 Existing green finance strategies for sustainable development

This study highlights that the current green finance strategies that are being used in the Zimbabwean financial services sector are ineffective in generating sustainable development. These outcomes might be related to the weak operationalisation of green financial strategies regarding the funding of renewable energy resources. The local financial services sector has not played a pivotal role in funding green projects. Similar insights were established in a study by Duppati et al (2022) where it was specified that most African nations have insignificant investments in green finance, which constraints the generation of renewable energy resources for the residential and industrial use. In addition, the Zimbabwean financial services sector has not provided adequate green financial resources to promote large-scale investments in renewable resources. Therefore, it falls short of achieving the agenda for SDG17.

4.11.2 The effect of green finance on sustainable development

Research results generated by the study specified that the adoption of green financial strategies is effective in the promotion of sustainable development. These outcomes are distinguished from the works of Afzal *et al.* (2022) where it was found that rapid financial development which not integrate green frameworks, has an inverse relationship with environmental protection and does not support sustained development. Research results from the works of Zhang and Wang (2021) indicated that an effective implementation green financing strategy have influenced the growth of cleaner energy resources in China. Related insights were shared by Ngo *et al.* (2021), whose study highlights the relevance of green funding in Vietnam influenced positive developments in the level of sustainable economic growth. Similar outcomes were generated from a study by Zheng *et al.* (2023), where it was indicated that green finance has minimal influence on renewable energy development in the short run but determines the long-run sustainability. Generally, the outcomes of this study on the effectiveness of green finance in supporting sustainable development are supported by extant literature on the topic.

4.11.3 Key challenges in implementing green finance

Current research results indicated that challenges experienced in implementing green finance were positively correlated with sustainable development. This might bring an organisational learning culture within the financial services sector, which encourages continuous innovations and development. However, extant research has proven that the implementation of green finance, especially in developing economies, has been hamstrung by resource constraints. Hailiang *et al.* (2023) stressed the application of green funds BRICS economies' increased use of renewable energy resources performed well in promoting environmental protection and lowering carbon emissions.

4.11.4 The roles of different stakeholders in promoting green finance

This study reveals that stakeholders in the green finance value chain significantly influenced the promotion of sustainable development. Related insights were generated in the study by Taghizadeh-Hesary et al. (2022), where using public-private partnerships has been instrumental in promoting the efficacy of green bond investments in Nigeria, Kenya, Morocco and South Africa. Current research differs from Duppati (2021), which found that poor financial value chain integration in African states hindered their adoption of green financing within their financial systems.

5. Conclusion and Recommendations

5.1 Conclusion

The study came up with the following conclusions:

1. There is an inverse relationship between the current green finance strategies and their ability to promote sustainable development in Zimbabwe. These results might imply that the financial services sector is not fully implementing and issuing green finance for industrial and household investments in areas such as renewable energy conservation in a manner that can promote sustainable development. Notable green finance initiatives, such as the funding

for the rehabilitation of the Kariba dam plunge pool, were provided by offshore finance providers.

2. An effective application of green funding strategies by the financial services sector has a positive impact on sustainable development. Effective implementation of green financial strategies entails the ability of the financial service sector to identify requisites and deserving individuals and corporations who can receive green financial loans, which they can use to promote sustainable development.

3. The use of green finance in the Zimbabwean financial service sector has been characterised by some key constraints in navigating through regulatory hurdles, particularly regarding the imposition of controlled interest rates by the Reserve Bank of Zimbabwe. Key among the challenges experienced in operating green financial strategies has been the lack of awareness and understanding among key stakeholders of the benefits associated with investments in renewable and sustainable developments. It was also highlighted that the limited scope of green finance options has been one of the key obstacles to the uptake of green financial advances by industry and commerce. One of the notable challenges faced in the issuance of green finance has been its low uptake due to low capacity utilisation in industry, given the realisation that a significant number of products that are being sold in the retail sector are imported. This has reduced the appetite for the industry to demand green finance loans to invest in capacity utilisation.

4. This study came up with a model, which emphasises the need to capacitate the current green finance strategies being implemented by Zimbabwe and the financial services sector. This comes out of the realisation of the statistically insignificant contribution of the current green finance trajectory, which is not linked to sustainable development in the country. It stands to reason that the financial services sector must improve on its current financial investments so it can fund more green and sustainable projects in information technology investments and investments in renewable energy resources and infrastructural development.

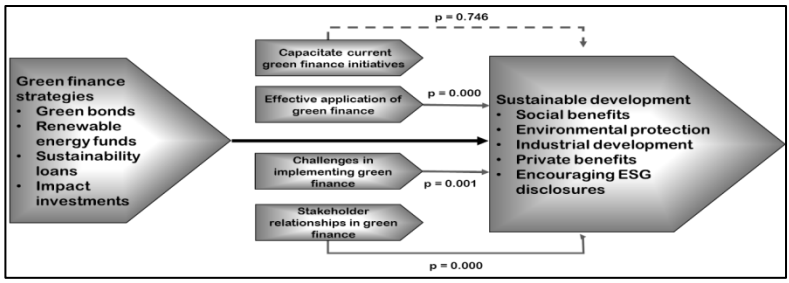

Figure 2: *Green Finance Outcome*

The creation of strategic alliances by different players, which include the financial service sector, the government, non-governmental organisations, independent power producers, the construction industry, players in the information and technology development sector, as well as industry and comments in general, is essential to develop a comprehensive understanding regarding the contribution that green finance can make towards sustainable development in Zimbabwe in the realm of advanced information technology application and investments in renewable energy resources. Investments in artificial intelligence and digital infrastructure, as well as infrastructure or development, must be done within the confines of some of the key limitations associated with the implementation of green finance. This revolves around the issue of non-performing loans. The strategic implications of these limitations and challenges are that green finance must be awarded based on the marriage of a business idea or a project rather than on a political or patronage basis.

5.2 Managerial recommendations

Executives in the Zimbabwean financial services sector must consider increasing their provision of green financial investments in support of sustainable and environmentally friendly projects that include investments in renewable energy. Such investments could include building dams and water reservoirs to improve water harvesting in low-rainfall communities. The financial services sector should enter strategic alliances with the technological sector to create the fintech industry, which can develop innovative and adaptive technologies that can enhance capacity utilisation in various sectors in Zimbabwe by exploring opportunities provided by advanced technological resources that include

artificial intelligence, machine learning, and drone technology, amongst others.

5.3 Practical Policy Recommendations

The operationalisation of the green financial strategy in terms of the qualification criteria for the awarding of such lines of credit must follow due diligence. The financial services sector must be empowered to use its discretion in identifying qualifying candidates who receive green finance. These initiatives are imperative to minimise political interference and counter the risks associated with non-performing loans from politically aligned individuals or organisations.

Green finance must be provided exclusively in support of sustainable projects in the realm of investments in renewable energy resources such as photovoltaic solar energy generation, the harnessing of wind energy, biomass, investments in artificial intelligence, and advanced technological improvements and innovations that save significant benefits to the economy in terms of the efficacy of economic resources. Strict mechanisms must be put in place to ensure that green financial resources are being put to good use, which can indicate sustainable development.

5.4 Research limitations and Areas for Advancement in Future

The study did not consider the views and opinions of other green financial investment value chain partners, such as government officials, non-governmental organisations, and other key stakeholders that might be interested in participating in green finance, including the corporate sector and individuals. It is recommended that future studies consider a more comprehensive inclusion in terms of representative respondents who can be drawn from a diverse spectrum of stakeholders who are interested in the interlink between green finance and sustainable development.

References

Afzal, A., Rasoulinezhad, E., & Malik, Z. (2022). Green finance and sustainable development in Europe. *Economic research-Ekonomska istraživanja*, *35*(1), 5150-5163.

Alvarez, T., Sensini, L., Bello, C., & Vazquez, M. (2021). Management accounting practices and performance of SMEs in the Hotel industry: Evidence from an emerging economy. *International Journal of Business and Social Science*, *12*(2), 24-35.

Dasanayaka, C. H., Murphy, D. F., Nagirikandalage, P., & Abeykoon, C. (2021). The application of management accounting practices towards the sustainable development of family businesses: A critical review. *Cleaner Environmental Systems*, *3*, 100064.

Draycott, S., Sellar, B., Davey, T., Noble, D. R., Venugopal, V., & Ingram, D. M. (2019). Capture and simulation of the ocean environment for offshore renewable energy. *Renewable and Sustainable Energy Reviews*, *104*, 15-29.

Duppati, G. R., Hailemariam, S., Murray, R., & Kivell, J. (2022). Electricity access and green financing in the African Region. *International Journal of Managerial Finance*, (ahead-of-print).

Elkington, J. (1998). Partnership from Cannibals with forks: The tripple bottom line of 21st-century business. Environmental quality management, 8(1), 37-51

Gunarathne, A. N., Lee, K. H., & Hitigala Kaluarachchilage, P. K. (2021). Institutional pressures, environmental management strategy, and organizational performance: The role of environmental management accounting. *Business Strategy and the Environment*, *30*(2), 825-839.

Hailiang, Z., Iqbal, W., Yin Chau, K., Raza Shah, S. A., Ahmad, W., & Hua, H. (2023). Green finance, renewable energy investment, and environmental protection: empirical evidence from BRICS countries. *Economic research-Ekonomska istraživanja*, *36*(2).

Jovanović, D., Todorovic, M., & Medved, I. (2022). Environmental management accounting support to iso 14001 implementation in Serbia: a case study. *Fresenius Environmental Bulletin*, *29*(4), 2290-2299.

Li, W., & Fan, Y. (2023). Influence of green finance on carbon emission intensity: empirical evidence from China based on spatial metrology. *Environmental Science and Pollution Research*, *30*(8), 20310-20326.

Makokoba, W. (2018). *High time for a renewable energy revolution in Zimbabwe to*. www.hivos.org

Murata, R., & Hamori, S. (2021). ESG Disclosures and Stock Price Crash Risk. *Journal of Risk and Financial Management*, *14*(70), 1–20.

Ngo, T. Q., Doan, P. N., Vo, L. T., Tran, H. T. T., & Nguyen, D. N. (2021). The influence of green finance on economic growth: A COVID-19 pandemic effects on Vietnam Economy. *Cogent Business and Management*, *8*(1)

Nuleg, A., Phoprachak, D., Dampitakse, K., & Ruepitiviriya, O. (2021). Environmental Management Accounting and Financial Competitive Advantage Affecting Corporate Sustainability of Thai Companies. *International Journal of Accounting, Finance and Education*, *2*(1), 20–38.

Plastun, A., Makarenko, I., Khomutenko, L., Osetrova, O., & Shcherbakov, P. (2021). SDGs and ESG disclosure regulation : is there an impact ? Evidence from Top-50 world economies. *Problems and Perspectives in Management*, *18*(2), 231–245.

Reserve Bank of Zimbabwe (2023) Zimbabwe National Financial Inclusion Journey 2021-2023. Reserve Bank of Zimbabwe Report 1–148

Rogers, E. (2003). Diffusions of Innovations 5th ed Free Press. *New York*.

Safari, K., McKenna, L., & Davis, J. (2023). Promoting generalisation in qualitative nursing research using the multiple case narrative approach: a methodological overview. *Journal of Research in Nursing*, *28*(5), 367-381.

Samaita, K. (2019). *Ailing Zimnabwe reels as 18-hour power cuts bite*. Buiness LIVE. www.businesslive.co.za

Schindler, S. (2022). *Business research methods*. McGraw Hill.

Taghizadeh-Hesary, F., Yoshino, N., & Rasoulinezhad, E. (2022). Unconventional monetary policy and income disparity in an aging society. *Journal of Economic Policy Reform*, *25*(4), 451–470. https://doi.org/10.1080/17487870.2021.1968860

Zhang, B., & Wang, Y. (2021). The effect of green finance on energy sustainable development: a case study in China. *Emerging Markets Finance and Trade*, *57*(12), 3435-3454.

Zhang, Y., Fang, X., Yang, Z., Sun, Y., & Wang, Q. (2023). Green finance, technological innovation, and energy efficiency improvements: Evidence from China's green finance reform pilot zone. *Emerging Markets Finance and Trade*, *59*(11), 3531-3549.

Zheng, M., Du, Q., & Wang, Q. J. (2023). Nexus between green finance and renewable energy development in China. *Emerging Markets Finance and Trade*, *59*(4), 1205-1218.