

Sustainable Banking Business Model for Rural Banks in the Philippines

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Abstract

While rural banks have business strategies to generate and exploit opportunities, they also need to consider economic, social, and environmental facets for sustainability. This study used the survey approach for descriptive-correlational research involving rural banks' eighty managers or key employees who are knowledgeable about sustainability policies. The researcher employed quantitative tools to analyze the survey's hypothesis. The associations between the variables of a research model were examined using multiple regression analysis. In addition to conducting structured surveys, the researcher examined secondary data on rural banks' financial performance from the Bangko Sentral ng Pilipinas website. Results revealed that sustainable and sound environmental banking practices as well as their capital and loan portfolios significantly influence financial performance. Thus, the current study suggested a sustainable banking model for Philippine rural banks.

Keywords: sustainable banking business model, sustainability practices, financial performance, rural banks, quantitative

1.0 Introduction

Sustainability has become a survival strategy since the COVID-19 pandemic which caused limits on labor and person mobility and negative consequences on the commercial and industrial sectors, including financial sectors and rural banks in particular. Development should fulfill current needs while protecting the environment, according to the idea underpinning sustainable business practices (World Commission on Environment and Development [WCED], 1987; Hammer & Pivo, 2016). The 3 Ps – People, Planet, and Profit – have thus been the focus of a movement asking for more sustainable corporate practices. Today, banking processes must adhere to the social, economic, and environmental sustainability

elements; hence they must be sustainable. Through their financial services, rural banks support their local communities, but they must also ensure they follow sustainability principles. To discover sustainable banking practices that adhere to Elkington's (1998) Triple Bottom Line, this study was done. Many players in the rural banking sector consider the corporate sustainability of banks before investing in them. Banks have begun implementing sustainable banking practices in response to sustainability's social, economic, and environmental aspects. Most of these programs fall under the category of green banking. Bocken et al. (2014), referenced by Yip and Bocken (2018), defined sustainable banking as financial services and solutions that meet customer needs

while protecting the environment. Sustainable business practices can contribute to a "systems transformation." So, this study aims to develop a sustainable business model for rural banks in the Philippines, as rural banks play an essential role in sustainable development.

The three pillars of sustainability are (1) investor demand for socially responsible investments (SRI), (2) management's emphasis on CSR, and (3) investors' attention to sustainability and environmental concerns (Nizam et al., 2019). Therefore, a sustainable bank, such as a rural bank, must be able to uphold its corporate social responsibility duties and maintain its commitments to sustainability in the economy, society, and the environment. On the one hand, a favorable impact on long-term financial performance should be the expected result. On the other hand, there are studies where researchers looked at either one dimension or two dimensions of sustainable practices to assess the relationship with company performance, according to Laskar et al. (2017).

Numerous hypotheses contend that there could be a correlation between sustainability practices and financial performance that is either good, negative, or neutral. The researchers looked at the connection between financially successful banking operations and sustainability. According to the stakeholder theory, companies must consider a wide range of stakeholders, which could favorably or negatively affect society (Backstrom & Karlsson, 2015). The key factors are operating income performance capital investment levels, the ratio of dividend payments to total assets, asset backing per share, interest coverage, capital expenditures, and the ratio of liabilities to total equity. For instance, the study by Abidin et al. (2017) claims that Return on Equity and Return on Assets serve as measures of financial performance (ROE).

The study of Chang and Kuo (2008) revealed that better sustainability performers positively

influence the organization's earnings. Average loans per GNP per capita and sustainability, as well as gross loan portfolio ratio and profitability (ROA), are significantly positively correlated (Kipeshu & Zhang, 2013). Furthermore, the study by Soyta et al. (2022) found a favorable relationship between sustainability and organizational financial performance (potentially causative). They further explained that sustainability initiatives are more costly for more productive companies; thus, they have less incentive to invest. Overall, Magon et al. (2018) concluded that sustainability has a beneficial impact on performance, including lower prices, improved delivery, higher-quality products, increased volume, and mixed flexibility. The sustainability-performance linkages, however, are driven by several mechanisms that vary depending on the circumstances.

Many classifications of the various types of sustainable business models (SBMs) are provided by SBMs (Lüdeke-Freund et al., 2018). They used a theoretical-empirical classification approach to create an overarching classification theory sustainability triangle to create their taxonomy. They identified and chose pertinent data concerning sustainability problems and solutions that addressed them in line with recurrent, sustainable business model patterns. Shafer et al. (2005) conducted a meta-review on business models 15 years ago.

Today, the way to compete is more on integrating economic, social, and environmental sustainability dimensions. They view a business model as an organization's strategic decisions and underlying fundamental logic for generating and extracting value within a value framework. The business strategy should address sustainability concerns related to economic, social, and environmental sustainability, claim Joyce and Paquin (2016). The authors claim that a company's "business model" explains how it creates, distributes, and captures

value (Osterwalder & Pigneur, 2010, as cited in Joyce & Paquin, 2016).

A sustainable business model, as defined by Bocken et al. (2014), Stubbs and Cocklin (2008), Wells (2013), and Lüdeke-Freund et al. (2018), alters how a firm operates to dramatically boost good benefits while minimizing negative ones for the environment and society. Its network creates, delivers, and captures value. According to Bocken et al. (2014), corporate sustainability models (SBM) are vital for fostering and executing corporate innovation for sustainability. SBMs can also assist in incorporating sustainability into business goals and procedures and act as a key driver of competitive advantage. An instrument for implementing the strategy to actualize the development and capture of sustainable value is a business model for sustainability (BMFS), according to Karlsson (2019). According to Yip and Bocken (2018), the development of sustainable business models is becoming more and more recognized as a tool for systemic change toward sustainability in all sectors of the economy. It investigates the degree to which consumers support the sustainable business strategies that banks are pursuing.

Furthermore, Schutten (2016)'s analysis discovered that banks do not have a distinct business model for lending to SMEs. In addition to small and medium enterprises, its business model includes general policies applied across a range of customer sizes and institutions (SMEs). Additionally, the banks give their clients a framework to explain their business models using the business model canvas. They need to include it in their business strategy to grant SMEs loans.

Some studies, nevertheless, have looked at the connection between each of the three factors and corporate performance. While there are existing sustainable banking business models (Schutten, 2016; Yip & Bocken, 2018) in the banking industry, these business models contain some of the three

dimensions of sustainability. This is the research gap that this study uncovered and addressed by proposing a business model for sustainable banking. The researcher provides this proposed model in the current study with the aim that rural banks across the nation will be able to use it. Given the sustainable banking model, it is anticipated that the outcomes will impact the economy, society, and the environment, making rural banks more viable and profitable.

2.0 Methodology

The descriptive survey method was employed for selected rural banks' characteristics and the dimensions of sustainable banking practices and economic, environmental, and social. The researcher analyzed the financial statements of selected rural banks to reach a complete analysis of the study. The components of CAMELS in terms of Capital adequacy, Asset quality, Management efficiency, Liquidity, and Sensitivity to market risks were used to measure the financial performance of rural banks.

The data from Bangko Sentral ng Pilipinas (BSP) showed that the Philippines had 440 active rural banks. Out of 440 active rural banks, 121 disclose their financial statements publicly (<http://www.bsp.gov.ph>). The researcher identified the location of one hundred one (101) rural banks where their balance sheet as of March 2019 was publicly published on the BSP website. It was determined using Sample Size to estimate the average. Once identified, the researcher emailed the survey questionnaire to the rural banks' email addresses and sent the created google docs forms. After two weeks of waiting, those who did not respond either through email nor answered the google docs form were contacted via their contact numbers from the BSP list of directories. Lastly, the questionnaire was personally distributed to the manager or the key officer most knowledgeable about the

sustainability practices of the selected rural banks. Only those rural banks who gave consent and were willing to respond were given the survey questionnaire. The schedule for retrieving the questionnaire checklist took two (2) months, and the respondents were given time to respond to the specific situations in the checklist.

The balance sheets of 101 rural banks published by the Bangko Sentral ng Pilipinas website were accessed for the study. The questionnaire focuses on the characteristics of sustainable practices to be scored using a 5-point Likert-type scale, with "1" indicating never practiced and "5" being always practiced. The collected data were processed and analyzed using multiple regression analysis by means of the software program Statistical Package for Social Sciences (SPSS).

The final sample size was 101 rural banks, and their balance sheets were published on March 31, 2019. Purposive sampling is done by selecting participants based on their characteristics, group, and theory are necessary for the non-random method known as deliberate sampling (Etikan et al., 2016). Based on these responses, the researcher prepared a total of 101 questionnaires for participants who, for various causes, were unable to respond (misplaced, mistakes in filling up, and non-participation). Additionally, it permitted respondents to return incomplete questionnaires, however, those were excluded from the tabulation. The sample size of the population was 101 rural banks in the Philippines that made their balance sheets available to the public. The target sample size, $n = 80$, was at least 70% to 80% if the rural banks declined to participate in the study.

Multiple linear regression models were employed using the Statistical Package for the Social Sciences (SPSS) to analyze the relationship between the sustainability practices of rural banks and their financial performance. It summarizes the overall model system for the final regression

model, including t-values, probability levels, and collinearity diagnostics.

The researcher considered the Financial Performance measured by Capital adequacy, Asset quality, Management efficiency, Earnings capability, Liquidity, and Sensitivity to Market Risk (CAMELS) as dependent variables in the regression model. The independent variables used in the model are Economic Practices (EconP), Environmental Practices (EnviP), and Social Practices (SocP). Thus, the regression model is portrayed as follows:

$$FP(CAMELS) = \beta_0 + \beta_1(EconP) + \beta_2(EnviP) + \beta_3(SocP) + e_{it}$$

Where:

β_0 is constant;

β_i are the regression coefficients of the explanatory variables; and

e_{it} is the residual error of regression.

Before collecting data, the researcher submitted her protocol to the University Research Committee for assessment and approval. They gave the researcher an ethical research clearance after their approval, which proved that the researcher could continue collecting data. Questionnaires about their sustainable banking practices were distributed to all respondents who were willing to participate.

3.0 Results and Discussion

The rural banks' characteristics, the dimensions of sustainability practices, and their financial performance were examined using the outcome of the multiple regression analysis, as shown in Table 1. As shown, the model's modified R^2 is 0.157, which indicates that it can forecast the bank's financial performance by using its capital, loan portfolio, and environmental procedures to explain 15.7% of the variance. The remaining 84.3% may be attributable to other factors not initially included in

this investigation. The capital and loan portfolio is significant at the 10% level, and the environmental practices are at 5%.

At a 10% significance level, the capital and loan portfolio is significant in the model, with financial performance as the dependent variable ($p = 0.10$). The results of 0.22 and -0.14 are the relative beta coefficients. At 10% level of significance, there is a significant association between capital,

loan portfolio, and financial performance. At a significance level of 5%, environmental practices substantially correlate with financial performance.

The regression model can represent below:

$$\text{Camel's Index (FP)} = 3.71 + 0.10 * \text{Environmental} + 0.22 * \text{Capital} - 0.14 * \text{Loans Portfolio}$$

Table 1. Regression Analysis on the Rural Banks' Characteristics, Sustainable Banking Practices and Financial Performance (CAMELS)

Model (R Square = 15.7%)	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	Std. Error	Beta			
1 (Constant)	3.71	0.95		3.90	0.000
In Assets	-0.29	0.26	-0.77	-1.10	0.275
In Capital	0.22	0.11	0.60	1.88	0.064*
In Deposits	0.19	0.15	0.57	1.25	0.216
In Loans Portfolio	-0.14	0.08	-0.48	-1.85	0.069*
Economic Practices	-0.09	0.09	-0.13	-1.06	0.292
Environmental Practices	0.10	0.05	0.26	2.25	0.028**
Social Practices	0.04	0.09	0.05	0.47	0.640

Notes: *Significant at the 0.10 level (2-tailed) / ** 0.05 level (2-tailed)

Sustainable Banking Business Model for Rural Banks in the Philippines

While rural banks have business strategies to generate and exploit opportunities, they may need to be more sustainable. It suggests that their business model needs to consider sustainability's economic, social, and environmental facets. This researcher suggests a sustainable banking business model based on studies conducted with 80 rural banks in the Philippines. Their willingness to participate in this study indicates that they may be searching for a new business model to give them a competitive advantage in keeping with the UN's sustainable development objectives.

A business model, in the words of Shafer et al. (2005), is a company's underlying logic and strategic choices for creating and extracting value within a value framework. Therefore, a successful business model will increase the viability of rural banks. It captures the value that involves cost, financial aspects, and profit. A business strategy can produce an advantage through resources, assets, procedures, and activities. When Shafer et al. (2005) conducted the meta-review on business models, it was 15 years ago. Today, the way to compete is more on integrating the three dimensions of sustainability.

Businesses are under more pressure to address sustainability issues. The business model should

address economic, social, and environmental sustainability issues, claim Joyce and Paquin (2016). According to the authors, a business model is a company's strategy to create, deliver, and collect value (Osterwalder & Pigneur, 2010, as cited in Joyce & Paquin, 2016). The authors underline the necessity for innovations in sustainable business models to address the problems posed by today's environmental concerns.

The Rural Banks' Sustainable Banking Practices and Their Financial Performance

The elements of sustainability examined in this research include economic, social, and environmental sustainability. Only sustainable environmental banking practices display statistically positive relationships with financial performance with a p-value of 0.0208. Further, as presented in Figure 1, there are no significant relationships between banks' CAMELS index and sustainable economic practices ($p = 0.292$) and their sustainable social practices ($p = 0.640$). These results suggest that the financial performance (CAMELS) of the rural banks are not related to the banks' economic and social practices. However, sustainable social banking practices and sustainable economic banking practices are also practiced by rural banks, although more extensively than sustainable environmental practices. Hence, these two dimensions of sustainability are added to the model. It can be noted that the dashed lines in the model are used going to the rural bank's performance represented the CAMELS Index. These smaller boxes do not contain the details of sustainable banking practices regarding sustainability's social and economic dimensions.

The sustainable environmental banking practices are placed in a bigger box containing details of the sustainable environmental practices in the proposed model. It also has a direct arrow leading to the CAMELS, depicting a significant

positive relationship with a p-value of 0.028. Nizam et al. (2019) cited the scholarly work of Albertini (2013), who based his findings on 52 studies conducted over 35 years, found a strong correlation exists between environmental performance and the financial performance of an organization. As can be gleaned from the business model (Figure 1), sustainable environmental banking practices are grouped as follows:

Reporting. They report on the total amount of material consumed and recycled, the total power saved, and waste management procedures (i.e., papers and IT products). And lastly, a number of moans about ecological influences through a formal grievance mechanism. This environmental report is included in the corporate annual report; incidentally, it is also required by law for the banks to have such reports. Recycling waste materials is a good environmental practice and will result in savings for the bank. When banks practice energy conservation measures such as reduced use of air conditioning units in the office, use of solar panels instead of electricity, and less use of electric lights, these will redound to savings on energy consumption. Thus, these are some sustainable environmental sparingly practiced by banks.

Accounting. Accounting volume of water recycled and reused, greenhouse gas emissions from business travel and services accounted for, and accounting for environmental expenditures by type in the annual report in the area of environmental sustainability.

Compliance with laws on the annual environmental report. This is required by law and monitored by the DENR. But the sustainable way is not merely compliance but integrating it as part of good management practice.

Impact mitigation of bank products and services. There are occasions when the loan services granted to borrowers have adverse environmental impacts and cause damage to the environment. The bank should mitigate these incidents as part of its environmental practices.

Screening of suppliers using environmental criteria. This environmental practice concerns the supply chain where suppliers are screened. Only those that practice green business or are eco-certified will be chosen as the bank's suppliers. This will encourage suppliers to seek eco-certification from certifying bodies like Green Globe for the eco-label of their products.

The above sustainable environmental banking practices are sometimes practiced by rural banks and contribute to sustainable banking. Thus, these are integrated into the proposed business model. If rural banks implement sustainable environmental banking practices more often, they will contribute significantly to sustainably, thereby conserving the environment. It becomes their competitive advantage and creates value for all stakeholders in the rural banking industry.

The next box in the proposed model (Figure 1) is about the characteristics of rural banks. This research includes the following: assets, deposits, capital, and loan portfolio. This study examined which bank characteristics positively influence financial performance as represented by the CAMELS Index.

Figure 1 showed that only capital (p-value=0.064) and loan portfolios (p-value=0.069) have significant relationships with bank financial performance. Thus, these two characteristics are included in the second box with two arrows pointing to the third box containing financial performance represented by CAMELS Index. One insight is that an alpha of 0.05 does not yield a significant relationship. However, at the 0.10 level of significance, the loan portfolio and

capital and the rural banks' financial performance have a small significance at $\alpha = 10\%$. This is a meaningful finding for this researcher even though the statistical significance is at a 90% confidence level. The bank's capital and loan portfolio are significant characteristics of having enough capital to offer their clients loans.

Capital and Loan portfolios positively influence financial performance. Thus, it can be noted that sustainable environmental practices and capital and loan portfolios contribute to improved financial performance. This implies that a large capital base enables rural banks to successfully perform their primary service, providing loans to the communities they serve. It must be recalled that rural banks cater to agricultural communities' financial needs.

The Loan Portfolio enables the banks to earn interest income and use their capital to effectively support such significant services. Thus, capital and loan portfolios go together in tandem and have a significant influence on bank performance in a positive way. However, there is a caveat here. If the loan portfolio is considered non-performing, it will negatively affect financial performance. Thus, for rural banks to be sustainable, they have to manage their loan portfolio to collect payments from borrowers and achieve a robust and effective bank operation.

The quality of the loan portfolio in a bank directly affects its profitability. The bank faces the highest risk loss due to delinquent loans (Dang, 2011). According to Afriyie and Akotey's (2012) research, non-performing loans and the profitability of rural banks are significantly positively correlated. Higher loan losses indicate that rural banks' strategies for managing credit risk are not solid and efficient.

The fifth box, labeled the financial performance of rural banks, is the goal of every rural bank. The banks implement sustainable environmental banking practices and manage their capital and loan portfolios to improve financial performance. At

the same time, they can comply with environmental laws, mitigate the bearing of bank goods and services on the environment, screen their suppliers to ensure they are green suppliers, and better yet, that they are eco-certified, and practice green business.

Figure 1 captures in a diagram the dynamics of a sustainable banking business model that will transform them into sustainable rural banks.

These ultimately will make rural banks sustainable. Indeed, the proposed business model will hopefully create and capture value for the rural banks and provide a strategic advantage to compete in the vast Philippine banking industry. Sustainable rural banks will be the driving force to transform rural communities into sustainable communities able to protect and conserve the environment to save Planet Earth.

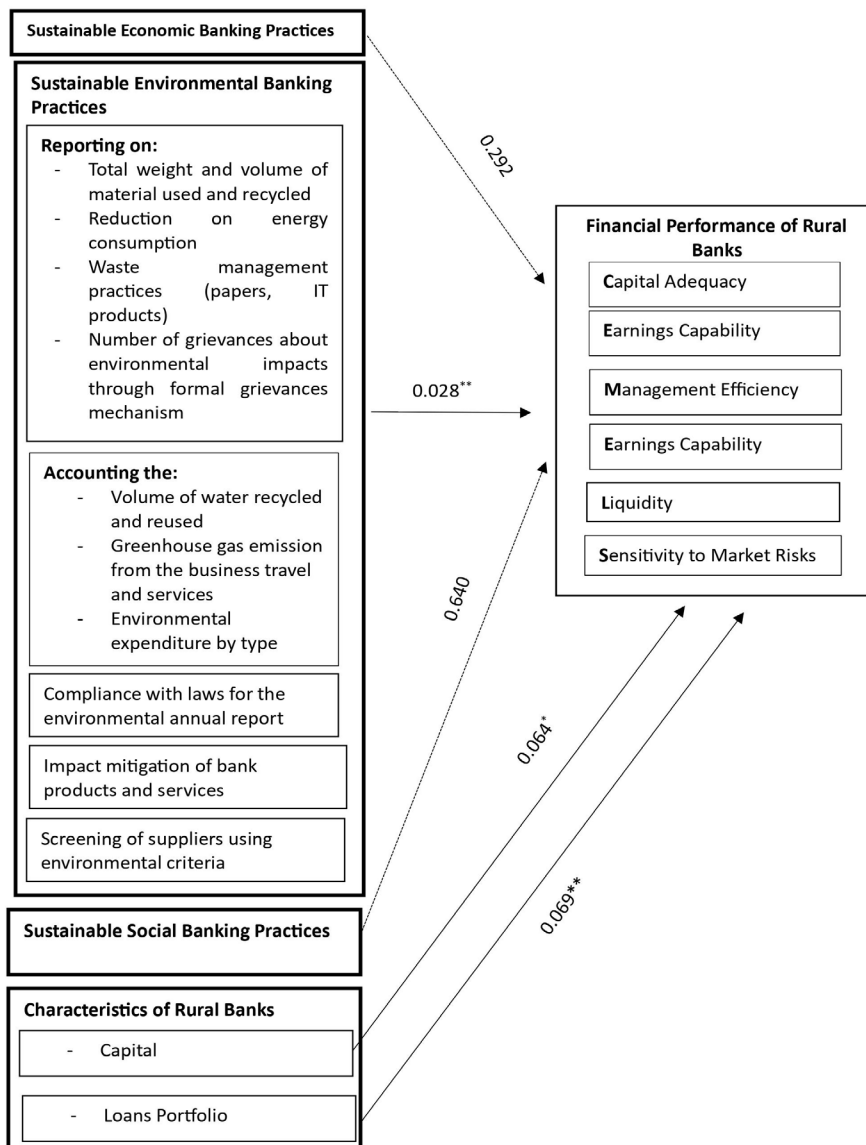


Figure 1. The Proposed Sustainable Banking Business Model for Rural Banks in the Philippines

4.0 Conclusion

This study explores the sustainable banking practices and financial performance of 80 rural banks that participated in this study. The study concluded that while sustainable environmental banking practices positively impact rural banks' financial health and help rural banks become more sustainable, the rural banks also engage in sustainable social and economic banking sustainability practices. The proposed sustainable banking business model shows that both sustainable environmental banking practices and rural banks' capital and loan portfolios significantly influence bank financial performance.

Thus, it is recommended that rural banks consider adopting the proposed sustainable banking business model developed by this researcher for sustainable banking. This study's findings might not necessarily apply to other rural banks in the Philippines. Instead, they may only be applied to the 80 rural banks that made up the study's sample. This will help them ensure they have enough capital to provide lending services and effectively manage their loan portfolio. It will prevent the non-performing portfolios from negatively affecting the bank's financial performance.

In the future, researchers should look into why social and economic banking practices do not significantly affect rural banks' financial performance. The future researcher will also use structural Equation Modelling (SEM) as another statistical tool, and they will search for a method that best reflects social sustainability practices.

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