SUSTAINABLE BANKING PRINCIPLES AND PERFORMANCE OF DEPOSIT MONEY BANKS IN NIGERIA: AN ECONOMETRIC ANALYSIS

OBORO, O. G. (PhD) 1, & ONUORAH, A. C. (PhD. F,cfian) 2

1Department of Banking and Finance
Faculty of Administration and Management,
Delta State University of Science and Technology,
Ozoro Delta State, Nigeria

2Department of Banking and Finance
Faculty of Management Sciences
Delta State University,
Abraka, Delta State Nigeria

*Corresponding Author: OBORO, O. G. (PhD),
Corresponding Author Email: oborogo@dsust.edu.ng

Article Received: 02-10-22    Accepted: 17-10-22    Published: 13-11-22

Licensing Details: Author retains the right of this article. The article is distributed under the terms of the Creative Commons Attribution-Non Commercial 4.0 License (http://www.creativecommons.org/licenses/by-nc/4.0/) which permits non-commercial use, reproduction and distribution of the work without further permission provided the original work is attributed as specified on the Journal open access page.

ABSTRACT

The study looked at sustainable principles and the performance of DMBs Nigeria for 2000-2020. The actual objectives include assessing the indicators of sustainable principles of banking, such as the ATM, CPS, LR and CR, as well as how DMBs’ performance measured by the ROA is affected by those factors. Data were retrieved from CBN documents such as bank supervisory annual report, statistical bulletin, and the NDIC annual reports for the period 2000-2019 were used as a secondary source of data (time series data) in this study. The findings revealed that ATM and CPS have a negative yet not significant effect on the ROA of DMBs, whereas LR and CR which also revealed a negative effect on ROA were significant after all. Following the outcome of this result, it was agreed that a mixed association exists between sustainable principles of banking and performance. Hence, the recommendation that modalities...
introduction

Banks being the country's financial sector's corporate leaders are uniquely positioned to aid Nigeria's economic growth and subsequent development through controlled lending and investment. However, the environment that business-related decisions are made is made up of complex and growing challenges such as population growth, urban migration, poverty, biodiversity and ecosystem destruction, pressure on food sources, prices, and security, and potential climate change legislation from our trade partners, to name a few. Nigeria's development imperative is becoming increasingly clear: it must be both economically and socially viable (CBN, 2012). It is however worthy to highlight that a sound financial system is key to economic stability and financial progress in all parts of the world (Osiegbu & Onuorah, 2011).

The Bankers' Committee accepted these principles following the need to recognize banks’ role and responsibility in providing positive and development-driven impacts to society while also safeguarding the society within which we operate. We are optimistic that a sustainable approach to banking is agreement with our personal and general business objectives, and that it can help to promote growth in economy and opportunity, as well as boost innovation and competitiveness (CBN, 2012).

The banking industry was pushed to embrace and invest in environmentally healthy products and services that would avoid environmental degradation and stay up with global trends of "green" policies as well as practices. Given the aforementioned situation, Nigeria's CBN introduced the Sustainable Banking Principles (SBPs) to be observed by DMBs, DHs, and DFHs from 2012 onwards, and the year 2014 witnessed the emergence of the first document called full “Sustainable Banking Report” (Dugelay, Asiru, Atuluku & Thomas, 2017). CBN (2012) maintains that the main purpose of the SBPs was to ensure a beneficial outcome on the society while ensuring that the community at large and the institution’s environment are protected. To satisfy the general goal of the SBPs, three industries were chosen as priority sectors including: power, agriculture, and oil & gas (Aro-Gordon, 2016).

If great efforts require a first step, then the SBPs are surely the first major steps towards seeing that sustainability is achieved as far as the banking sector in Nigeria is concerned. It portrays that not all signatories are starting from the same location. Hence, it is pertinent that we appreciate the need for a step-by-step strategy that emphasizes progress as a group. These Principles are intended to represent a common starting point and foundation for each adopting organization's internal environmental, social, and CSR policies and practices, which must follow the organization's underlying business operations. We see that we will not always use our first attempts to do the positive things. We will review these Principles yearly, based on our implementation experience and to reflect on-going learning and emerging positive practice. Hence, on an annual basis, we will aim to assess and account on each bank's and sector's success against the Principles. We will be very conscious of our achievements and celebrate our progress while keeping an eye on areas calling for improvement. We can better support
Nigeria's environmental, social and economic goals by working together rather than going it alone, as the CBN advocates. These Principles were chosen to encourage long-term, sustainable growth while emphasizing development goals, conserving environment as well as people, and offering provable socio-economic benefits (CBN, 2012).

Before the SBPs came, banks spent more to make financial services available. This was because banks had to deal with large amounts of paper and were frequently obliged to transport these papers from one branch to another for further be handled (Islam, & Das, 2013). Following the large volume of papers and the cost of transferring them from one location to another, the banking industry's operational costs were extraordinarily high. Apart from the money costs, the request for more papers had a severe damage on the environment because more trees had to be chopped to make the papers, resulting in deforestation. As more trees are chopped, it is becoming clear that a more severe change in climate will be inevitable (Aro-Gordon, 2016). Hence, environmental depletion in aspects like deforestation, degradation and higher warming will inevitably be the outcome should banks keeps on with their paper-based works. Given the possible dangers accompanying banks’ operations, it was vital to come up with ways to cut these expenditures (Korshlund, 2013). Although a host of other policy reforms have previously emerged in a bid to achieve this objective- e.g. cashless policy (Ebiringa et al, 2014).

Owing to the aforementioned problems, the SBPs were created. SBPs are banking concepts and principles that portrays banks' role in long-term socio-economic growth in a commercially viable and green-conscious economy (Noh, 2018). Hence, SBPs are centered on offering high-quality services to mankind while sticking to ethical standards. Most importantly, SBPs ensure that financial services are supplied at a low cost to banks since it encourages the adoption of techs and tech-based innovations in banking. It was claimed that SBPs meant that bank loans were made with an eye on ecologically friendly business practices (Noh, 2010, 2012). The relevance of SBPs and bank performance in a commercially viable economy like Nigeria cannot be overstated. Is this assertion true in the financial industry of Nigeria? Can there be any association SBPs and the performance of Nigerian banks? These questions necessitated this investigation.

**LITERATURE REVIEW**

**The SBPs in Nigeria**

CBN (2012) highlighted SBPs as followed;

**Principle 1-Business Activities1: The need for environmentally-driven and Socially-driven Risk Management**

To avoid, mitigate, or offset negative impacts, we shall incorporate environment-driven and social-driven concerns into decision-making processes relevant to our Business Activities.

**Principle 2| Business Operations2: Environmentally-driven and Socially-driven Footprints**

We will avoid, mitigate, or drastically reduce the dangers that our operations release to the environment/communities within which we operate, and also enshrine the promotion of positive impacts where possible.

**Principle 3| Human Rights**

We ensure that human rights are duly respected via our operations
**Principle 4| The Economic Empowerment of Women**
Pursuing a gender-inclusive culture in the workplace and encouraging the economic empowerment of women as well as delivering women-based tailored products and services.

**Principle 5| Financial-Inclusion**
The promotion of financial-inclusion will be our priority, and this will go as far as taking financial services to people in communities with little or no access to the conventional financial sector.

**Principle 6| E&S Governance**
In our respective institutions, we will adopt robust and transparent E&S governance practices, and we will assess our clients' E&S governance practices.

**Principle 7| Capacity Building**
Individual institutional and sector capability will be generated to detect, assess, and manage environmentally-driven and socially-driven risks and opportunities relating to our operations.

**Principle 8| Collaborative Partnerships**
To accelerate our collective growth and propel the industry forward as a whole, we will interact across sectors and use international alliances, ensuring that our approach is in line with global norms and Nigerian development needs.

**Principle 9| Reporting**
At the individual institution and sector levels, we shall examine and report on our progress in meeting these Principles on a regular basis.

**Financial Performance in the Case of Banks**
Financial performance, which assesses how successfully a company meets its financial goals, has long been a focus of managerial research. Firm monetary performance represents the various subjective measurements of how successfully a company can apply its provided assets from its primary way of operation to make profits. Profitability ratios stand out when it comes to the need to capture banks’ financial performance. This information reveals a bank's overall performance. Profitability ratios are financial tools since they are useful in determining the bank's bottom line. Profitability ratios are paramount to managers and owners who want to understand when analyzing financial performance since they reflect a bank's overall efficiency and outcomes, which are vital for making decisions. Margins and returns are generally separated into two components in profitability ratios. At various phases of measurement, profitability ratios dealing with margins often emphasize a company's ability to convert sales into profits. Profitability ratios emphasizing returns, often focus on a company's ability to assess efficiency as well as effectiveness in delivering returns to shareholders. For the uniqueness of bank returns, ratios are carefully determined (Moody, 2017)

**Theoretical Framework**
For a long time, the nature of the implications of e-banking has been a matter of debate among many schools of thought. Theoretical and empirical aspects of gauging the success of electronic e-banking have gotten a lot of attention in recent years.

**Task Technology Fit (TTF) Theory**
To study diverse settings of a variety of information systems, including electronic commerce systems, the model can be merged with as an extension of other models linked to information system outcomes. A fit between business tasks and information technology, according to the theory, is crucial in explaining and forecasting information system success (Goodhue and
Thompson, 1995). According to Olaiya and Adeleke, one such invention that facilitates an increasingly mobile workforce is mobile technology (Barnes, 2003) referenced in Olaiya and Adeleke (2019).

If we consider the task-technology fit assumption to mobile information systems, it becomes evident that previous research has focused primarily on the potentials of the techs and has paid less attention to the environment where such technology is employed. Banks must be sure to see that financial innovation emphasized benefits the consumers on one end, and also adds value in the area of cost and time savings on the end.

**Rational Theory of Choice (RTC)**

Rationality usually refers to a calm, level-headed disposition. Friedman (1953), cited by Olaiya and Adeleke, uses a more particular and narrow definition of rationality to describe an individual's act of weighing costs and benefits to reach a decision that maximizes personal gain (2019). In rational choice theory, all decisions, mad or sane, are believed to follow this sensible procedure. Consequently, rationality is perceived to mean a feature of patterns of choices rather than individual choices. In modern theory of choice, rationality is significantly more limited than its name suggests; it just necessitates a steady ranking of many options. RTC is central to recent economic theory, as well as related subjects sociology and history which have accepted it as their decision-making paradigm. There is no widely accepted definition of RTC.

Regardless of the RC models used, everyone knows that people prefer the best course of action according on their own particular functions and limitations. On average, people will prefer the thing that avail the most reward at the lowest money spent, including time spent. The retention of financial innovation follows the same path. Customers are more likely to recognize and adopt new technology that does not demand any physical, emotional, or mental effort on their part. Apart from being the most cost-effective technological means of increasing productivity, financial innovation, such as ATM and Internet banking, eliminates distance/time barriers and provides continuous productivity for the bank and customers regardless of distance because it is accessible 24 hours a day, seven days a week (Agbemabiese et al, 2014) cited in Olaiya and Adeleke (2019).

**Advances the Technology Acceptance Model (TAM)**

According to Olaiya and Adeleke (2019), the TAM is enhanced by emphasizing technological obstacles (Davis, 1989). This method links a person's behavioral tendency to their use of technology. As mentioned by Olaiya Adeleke (2019), adopting the TAM paradigm involves an understanding of end-user criteria for usefulness and usability (Vijayasarathy, 2004). According to this paradigm, usefulness and user friendliness influence users' opinions of any service. Restricted ability, time, environmental or organizational restrictions, and unconscious habits will all limit the flexibility to act in practice. According to Olaiya and Adeleke (2019), perceived utility and simplicity of use is crucial (Davis, 1989). (2019). These two traits have been scientifically proven to be important factors of new information technology acceptance and use. This model is the most widely utilized and recognized among scholars due to its utility. As a result, Adesina et al. (2010), cited by Olaiya and Adeleke (2019), offered a number of new extension models (2019). As an extension of the Technological Acceptance Model, Agbemabiese et al. (2015), cited in Olaiya and Adeleke (2019), have welcomed perceived credibility, perceived financial cost, and perceived self-efficacy (TAM).
Empirical Review
Obiekwe, Njoku, and Okoro (2020) researched SBPs in Nigeria, focusing with emphases on the ways factors including use of ATM, use of POS, credit of commercial banks towards agric. firms have added (value-wise) to the economy of Nigeria. The study data were examined with the help of the OLS regression focusing on 4-month-based data from CBN from 2012 to 2018. According to the findings, the use of ATMs, POS, and credits from commercial banks contributed significantly to Nigeria’s economic growth.

Literature Gaps
Even after the Nigerian CBN established the SBPs in 2012, there is little research on the subject. Obiekwe, Njoku, and Okoro's (2020) remains the only one current study available. This is an important gap in empirical literature that this wants to fill.

METHODOLOGY
The study nature has necessitated the adoption of expost facto research design, while emphases were laid on all DMBs listed in Nigeria today. Secondary data from sources including financial statements of DMBs and the CBN annual bulletin on statistical data were used. Furthermore, such variables as ATM, CPS, LR, CR and LR were used, while ROA was used as a performance proxy. The OLS regression method was employed to analyze data collected.

Model Specification:
for the purpose of this study is as follows;
$$ROA = \beta_0 + \beta_1 \log{ATM} + \beta_2 \log{CPS} + \beta_3 LR + \beta_4 NPLR + U$$

Decision Rule: Accept the null hypotheses if the p-value is greater than the significance level, Significance level is 5%.

RESULTS AND DISCUSSION
Descriptive Summary
Table 1

|        | ROA     | LOGATM   | LOGCPS   | LR      | CR      |
|--------|---------|----------|----------|---------|---------|
| Mean   | 1.975000| 2.983260 | 3.753691 | 55.04100| 11.67550|
| Median | 2.320000| 2.966825 | 3.988725 | 51.82000| 11.88000|
| Maximum| 4.730000| 3.813755 | 4.409542 | 77.62000| 33.03000|
| Minimum| -9.82000| 1.888179 | 2.724582 | 41.25000| 2.810000|
| Std. Dev.| 2.977662| 0.675706 | 0.571261 | 10.23682| 7.385186|
| Skewness| -3.269174| -0.456258| -0.489853| 0.629102| 1.138694|
| Kurtosis| 13.73169 | 2.029182 | 1.703013 | 2.274430| 4.503101|
| Jarque-Bera| 131.5993 | 1.479311 | 2.201665 | 1.757942| 6.204839|
| Probability| 0.000000 | 0.047278 | 0.032594 | 0.015210| 0.044940|
| Sum     | 39.50000 | 59.66210 | 75.07382 | 1100.820 | 233.5100 |
| Sum Sq. Dev. | 168.4629 | 8.674999 | 6.200437 | 1991.058 | 1036.278 |
| Observations | 21        | 21        | 21        | 21       | 21       |

Source: EVIEW, 9.0 Outputs, 2021.

Table 1 dealt with the presentation of the descriptive summary. The mean for the ROA is recorded a mean value of 1.9750 with deviation of 2.9777 over the twenty-year period. Also, ATM recorded a mean of 2.9833 and deviation of 0.6757, CPS recorded a mean of 3.7537 with a standard deviation of 0.5713. Also, LR recorded a mean of 55.0410 with a deviation of 10.25688 while CR recorded a mean of 11.6755 with a deviation of 7.3852. Since the deviations of all variables are smaller than respectively means, it reveals that this data is well dispersed, except for ROA which recorded a higher deviation of 2.9777 greater than it mean of 1.9750.
Multicollinearity Test

Table 2

| Variance Inflation Factors Multicollinearity Test |
|-----------------------------------------------|
| Date: 10/25/21   Time: 03:14 |
| Sample: 2000 2019 |
| Included observations: 20 |

| Variable | Coefficient Variance | Uncentered VIF | Centered VIF |
|----------|----------------------|----------------|-------------|
| C        | 17.66819             | 122.6525       | NA          |
| LOGATM   | 2.166607             | 140.3825       | 6.523846    |
| LOGCPS   | 2.406803             | 240.5990       | 5.179848    |
| LR       | 0.002367             | 51.41410       | 1.635767    |
| NPLR     | 0.003244             | 4.236304       | 1.166736    |

Source: EVIEW, 9.0 Outputs, 2021.

The VIF was gotten as seen above, to confirm the validity of the study's findings. Furthermore, for ATM, CPS, LR and CR, the Centered VIF figures consistently lie within 6.523846, 5.179848, 1.635767, and 1.166736, respectively. This indicates the unavailability of multicollinearity problems in the variables because the cut-off value of VIF is 10.

Data Validity Test

Table 3

| Data Validity Test |
|-------------------|
| Breusch-Godfrey Serial Correlation LM Test: |
| F-statistic | 0.136521 | Prob. F(2,13) | 0.8736 |
| Obs*R-squared | 0.411425 | Prob. Chi-Square(2) | 0.8141 |
| Durbin-Watson stat | 1.969615 |

Heteroskedasticity Test: Breusch-Pagan-Godfrey

| F-statistic | 0.895740 | Prob. F(4,15) | 0.4907 |
| Obs*R-squared | 3.856176 | Prob. Chi-Square(4) | 0.4258 |
| Scaled explained SS | 0.907406 | Prob. Chi-Square(4) | 0.9235 |
| Durbin-Watson stat | 1.148752 |

Ramsey RESET Test

Equation: UNTITLED
Specification: ROA LOGATM LOGCPS LR NPLR
Omitted Variables: Squares of fitted values

| t-statistic | 5.088075 | 14 | 0.1202 |
| F-statistic | 25.88851 | (1, 14) | 0.1302 |
| Likelihood ratio | 20.94062 | 1 | 0.1701 |
| Durbin-Watson stat | 1.520087 |

Source: E-VIEW, 9.0 Outputs, 2021.

The Durbin Watson statistic confirms that our data exhibits no autocorrelation qualities, as revealed on table 3. The probability for three parameters exceeded 0.05 level of significance, interpreting the Homoskedastic nature of the model. Our model is correctly described and stable, according to the Ramsey test results.
Augmented Dickey-Fuller (ADF) Unit Root Test

Table 4

| Test Variables | ADF Test Statistic Value | Mackinnon Critical Value @ 5% | Order of Integration | P-Value | Durbin-Watson Statistics | Decision |
|----------------|--------------------------|-------------------------------|---------------------|---------|--------------------------|----------|
| ROA            | -5.288999                | -3.052169                    | 1(1)                | 0.0006  | 1.234026                 | Stationary |
| LOGATM         | -4.672971                | -3.040391                    | 1(1)                | 0.0019  | 2.011478                 | Stationary |
| LOGCPS         | -2.788825                | -2.040391                    | 1(1)                | 0.0396  | 1.857964                 | Stationary |
| LR             | -7.299708                | -3.040391                    | 1(1)                | 0.0000  | 2.171371                 | Stationary |
| NPLR           | -4.844974                | -3.040391                    | 1(1)                | 0.0013  | 2.052786                 | Stationary |

Source: E-VIEW, 9.0 Outputs, 2021

According to the summary of the ADF test, all variables under consideration have unit root tests at their initial difference 1. (1). Their respective ADF statistics, which is seen to exceed the threshold of 5%, is evidence of this. Furthermore, the p-value for all variables, which is lower than 5% significance level or more than 95 percent confidence level, provides additional proof of stationary series. At the first difference, i.e. at order one, they all achieved stationarity.

The DW statistic means the absence of autocorrelation problem in the data. We can use the Johansen cointegration test because all of the variables are integrated at order one.

Johansen Cointegration

After determining the variables' time series features, this study examines further utilizing the (Trace Statistics) and (Maximum Eigenvalue) methodologies proposed by Johansen and Juselius (1990) to see if the variables have a long-run relationship. As a result, Table 5 below summarizes the cointegration test:

Table 5

Summary of Johansen Cointegration Test Output

Date: 09/02/21   Time: 22:52
Sample (adjusted): 2002 2020
Included observations: 19 after adjustments
Trend assumption: Linear deterministic trend
Series: HDI INTR EXCHR MS MPR

| Hypothesized | Trace Statistics | 0.05 | 0.05 |
|--------------|-----------------|------|------|
| No. of CE(s) | Critical Value  | Prob.** | Critical Value | Prob.** |
| None *       | 0.998953        | 195.3541 | 69.81889 | 0.0000 | 123.5097 | 33.87687 | 0.0000 |
| At most 1 *  | 0.885978        | 71.84435 | 47.85613 | 0.0001 | 39.08450 | 27.58434 | 0.0011 |
| At most 2 *  | 0.654898        | 32.75985 | 29.79707 | 0.0221 | 29.15049 | 21.13162 | 0.0026 |
| At most 3    | 0.408715        | 17.60936 | 15.49471 | 0.0443 | 19.45821 | 14.26460 | 0.0205 |
| At most 4    | 0.205958        | 4.151147 | 3.841466 | 0.0416 | 4.151147 | 3.841466 | 0.0416 |

Researcher’s Computation Based E-views 9.0 Output, 2021.

Trace test indicates 4 cointegratingeqn(s) at the 0.05 level
* denotes rejection of the hypothesis at the 0.05 level
**MacKinnon-Haug-Michelis (1999) p-values

Source: E-VIEW, 9.0 Outputs, 2021

The outcome of the multivariate cointegration by Johansen technique showed that both the trace value and the Maximum Eigenvalue statistic show evidence of two cointegration relationships (at None and at most 1), where the values of the trace statistic and the Eigenvalue statistic are greater than their respective critical values at the 5% level of significance. This finding follows the presence of a long-run consistent association among the performance proxies- i.e. ROA and other variables- i.e. ATM, CPS, LR, and CR.
Table 6  
*Multiple Regression Analysis*

| Variable | Coefficient | Std. Error | t-Statistic | Prob.  |
|----------|-------------|------------|-------------|--------|
| C        | 24.74804    | 4.203355   | 5.887689    | 0.0000 |
| LOGATM   | -2.153872   | 1.471940   | -1.463288   | 0.1640 |
| LOGCPS   | -1.034769   | 1.551387   | -0.666996   | 0.5149 |
| LR       | -0.168711   | 0.048651   | -3.467791   | 0.0034 |
| CR       | -0.272128   | 0.056954   | -4.778066   | 0.0002 |
| R-squared| 0.743473    | Mean dependent var | 1.975000 |
| Adjusted R-squared | 0.675066 | S.D. dependent var | 2.977662 |
| S.E. of regression | 1.697356 | Akaike info criterion | 4.108338 |
| Sum squared resid | 43.21525 | Schwarz criterion | 4.357271 |
| Log likelihood | -36.08338 | Hannan-Quinn criter. | 4.156933 |
| F-statistic | 10.86835 | Durbin-Watson stat | 1.269254 |
| Prob(F-statistic) | 0.000243 |                      |          |

Source: EVIEW, 9.0 Outputs, 2021.

The result above shows that ATM’s coefficient is -2.1539 with a t-value of -1.4633 and an associated p-value (sig. value) is 0.1640. This means ATM asserts negative but insignificant influence on ROA. This confirms the position taken in Obiekwe, et al (2020).

CPS also had a coefficient of -1.0348 with an associated p-value 0.5149, a result that can be interpreted to mean that the influence that CPS has on ROA is both negative and insignificant at the same time.

However, LR and CR showed a strictly different result, such that LR posted a coefficient of -0.16871 but with a p-value of 0.0034, while CR posted a coefficient of -0.272128 with a p-value of 0.002; the implication is that both variables assert negative but influence on ROA, but their influence is rather significant compared to others.

**CONCLUSION AND RECOMMENDATIONS**

This piece looked at the concepts of SBPs and the performance of Nigerian DMBs over the period of 2000 to 2019. The findings simply explain that ATM and CPS are negative influencers of DMBs’ performance as proxy by ROA, and their influence is insignificant as well. However, unlike the aforementioned, LR and CR took a different path, as both factors were significant influencers of DMBs’ performance, even though their influence was also on the negative note. This Study therefore concludes that SBPs that are especially credit-driven will significantly influence performance negatively if DMBs do not implement the policy correctly and in due diligence.

It is therefore, by these findings recommended that DMBs in Nigeria should embrace the SBPs and incorporates the resulting principles correctly if they are interested in achieving meeting societal needs while pursuing the banks’ objective of making profit.
References

Adesina A. A., & Ayo C. K. (2010). An empirical investigation of the level of users’ acceptance of e-banking in Nigeria. *Journal of Internet Banking and Commerce, 15*(1), 75-82.

Aro-Gordon, S. (2016). Green banking in Nigeria: the first steps. Highlights of the presentation at the technical session of the 2nd International Conference on Inclusive Economic Growth and Sustainable Development (SDM-IMD), Mysore, India, 19 November, 2016.

CBN (2012). *Nigerian Sustainable Banking Principles*. Abuja: Central Bank of Nigeria.

Chin, W.C., & Todd, P.A. (1995) On the use, usefulness and ease of use of structural equation modelling in MIS research: a note of caution. *MIS Quarterly, 19*, 237-246.

Davis F. D. (1989). Perceived Usefulness, Perceived Ease of Use, and User Acceptance of Information Technology. *MIS Quarterly, 13*, 319-340.

Dugelay, E., Asiru, B., Atuluku, A., & Thomas, S. (2017). Sustainable banking as a driver for growth: A survey of Nigerian banks. Retrieved from [https://www.deloitte.com](https://www.deloitte.com)

Ebiringa, O. T., & Onuorah, A. C., & Obi, H. K. (2014). Behavioral pattern of monetary policy and effects on economic growth: An econometric investigation in Nigeria. *Journal of Economics and Sustainable Development, 5*(1), 11-20

Friedman M. (1953; 1984). *Strategic market planning: The pursuit of competitive advantage*. West Group. Chicago. University of Chicago Press.

Goodhue D.L., & Thompson R. L. (1995). Task-technology Fit and individual performance. *MIS Quarterly, 19*(2), 213-236.

Islam, M. S., & Das, P. C. (2013). Green banking practices in Bangladesh: A study on some selected commercial banks. *IOSR Journal of Business and Management (IOSR-JBM), 8*(3), 39-44.

Korshlund, D. (2013). *Real Banking for the Real Economy: Comparing Sustainable Bank Performance with the Large Banks in the World*. Zeist, The Netherlands: Global Alliance for Banking on Values.

Moody, A. (2017). Banking account and ratio definitions. Moody’s Investors Service. Retrieved [https://www.moodys.com/sites/products/productattachments/banking%20account%20and%20ratio%20definitions.pdf](https://www.moodys.com/sites/products/productattachments/banking%20account%20and%20ratio%20definitions.pdf)

Noh, H. J. (2010). *Strategies of Developing Green Finance*. Seoul: Korea Capital Market Institute (KCMI) Publications.

Obiekwe, C. J., Njoku, B. O., & Okoro, O. K. (2020). Sustainable banking in Nigeria: Empirical Perspective. *International Journal of Research and Innovation in Social Science (IJRISS), 4*(7), 228-231.

Olaiya, A. C., & Adeleke, K. O. (2019). Electronic banking and profitability of deposit money banks in Nigeria. *Journal of Association of Professional Bankers in Education, 5*(1), 129-151.

Onuorah, A. C. (2009). Automated clearing system and the banking sector performance: The Nigerian experience. *International Journal of Development and Management Review, 4*(1), 220-232.
Osiegbu, P. I., & Onuorah, A. C. (2011). *Fundamentals of finance*. Asaba: CM Global Co. Ltd. 2011

Vijayasarathy, L. R. (2004). Predicting consumer intention to use on hire-shopping. The case for an augmented technology acceptance model. *Information & Management, 41*, 747-762. [http://dx.doi.org/10.1016/j.im.2003.08.011](http://dx.doi.org/10.1016/j.im.2003.08.011)