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Organization Characteristics, Efficiency, Financial Regulation and Performance of Commercial Banks in Kenya

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Abstract

Purpose: *The purpose of the study was to establish the relationship between organization characteristics, efficiency, financial regulation and financial performance of commercial banks in Kenya.*

Methodology: *The study used unbalanced panel data sourced from the Central Bank of Kenya for the period 2011 to 2021 across the 43 commercial banks. Organization characteristic was measured using weighted composite index of total assets, liquidity risk, asset quality, management quality, non-traditional activities and technological innovation; efficiency was captured using data envelopment analysis; financial regulation was measured using the composite index of capital adequacy and deposit/loan ratio; while financial performance was measured using a weighted composite index derived from return on assets and net interest margin. The relationship was assessed using panel least squares regression.*

Findings: *The study found that there was statistically significant relationship between organization characteristics and financial performance of commercial banks in Kenya (β = .571, p = .014). The relationship between efficiency and financial performance was not statistically significant (β = -.026, p = .115). The relationship between financial regulation and financial performance was not statistically significant (β = -.013, p = .715). The overall model was statistically significant (β = .056, p = .000, R2 = .802). The results organization characteristic, efficiency and financial regulation together predict the financial performance of commercial banks in Kenya.*

Implication: *The results imply organization characteristic are some of the most critical determinants of financial performance of commercial banks and the banks should strive to have a mix of internal characteristics that will enhance their financial performance. The banks understand that efficiency and financial regulation influence their levels of performance.*

Value: *The study adds value to policy makers, banking regulators and managers in understanding the influence of organization characteristics of banks, efficiency and financial regulation on the financial performance of the banks. The banking regulations should encourage banks to attain internal characteristics that enhance their profitability; move banks to attain levels of efficiency that enhance their financial performance; and develop financial regulations that will not lower the profitability of commercial banks.*

Keywords: *Organization Characteristics, Efficiency, Financial Regulation, Financial Performance, Commercial Banks.*

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Introduction

Organization characteristics are demographic features, such as size, financial revenue, technological expertise, and location (Oncioiu, 2019). Efficiency is the ratio of output to input of any system and is about achieving results with the optimal use of resources (Puteh, Rasyidin & Mawaddah, 2018). Regulations are policies that restore the welfare properties that free markets would have if market failures were eliminated (Campbell, 2016). Performance is a multi-dimensional concept and is the measure of the value created by an organization out of the decisions of its management (Taouab & Issor, 2019). Commercial banks are financial institutions with a substantial fraction of illiquid assets financed with demandable liabilities payable at par (Diamond, Kashyap & Rajan, 2017). Organization characteristics, efficiency and financial regulations have a direct effect on bank performance (Abobakr, 2018, Jimenez-Hernandez, Palazzo & Saez-Fernandez, 2019; Rahman, Chowdhury & Dey, 2018).

Commercial banks are primarily formed to earn profits for their owners. As they do this, they perform critical financial intermediation in the economy and are one of the most regulated sectors of the economy. Their unique characteristics determine whether they succeed or fail. Ondigo (2016) identified these characteristics in banks as size, management efficiency, liquidity, risk management and corporate governance and as being critical in determining the success or failure of banks, with smaller banks and banks with inefficient management being the most susceptible to fail. The failure of banks has led the government to enhance financial stability in the sector by creating the Kenya Deposit Insurance Corporation and making several changes to the Central Bank of Kenya (CBK) Act (Cap 491) and to the Banking Act (Cap 488). In undertaking its role, the CBK enforces financial regulation in the banking industry in Kenya. Bank characteristics like size, liquidity and capitalization are closely associated with susceptibility of banks to collapse with small, less liquid and poorly capitalised banks more prone. The regulators focus on these characteristics to ensure the health of the banking sector. The collapse of the banks have always been followed by tightened regulations by the CBK, implying that the regulator uses financial regulation to correct market failures.

The bank characteristics have been identified as loans to assets ratio, liquidity, deposits to assets ratio, capital adequacy, operating income to asset ratio, non-interest income to asset ratio, and bank size (Abobakr, 2018); size, credit risk, regulatory capital, efficiency and capital, (Ercegovac, Klinac & Zdrilic, 2020); size, off-balance sheet transactions, liquidity, quality of loans, concentration (Erdogan and Aksoy, 2016); and

technological innovation, mobile banking, computer software, internet banking, and Automated Teller Machines (Chaarani & Abiud, 2018). Bank efficiency is measured using several inputs and outputs. While Kamarudin, Sufian, Nassir, Anwar and Hussein (2019) uses price of deposits and price of labour as inputs; and price of loans and price of investments as outputs, Jimenez-Hernandez, et al (2019) use operating expenses, non-earning assets, equity and customer deposits as inputs and gross loans and financial assets as outputs. Financial regulation is measured by the level of restriction on banking activities, usually assessed by the capital adequacy requirements, liquidity regulation requirements, existence of interest rate caps, and forex exposure requirements (Osano & Gekara, 2018). This study used capital adequacy and deposit to loan ratio as measures of financial regulation. Performance of banks was assessed from the accounting perspective which uses accounting measures like return on average assets (ROAA), return on average equity (ROAE), net interest margin (NIM), cost to income ratio (CIR). The study used ROA and NIM to measure performance. NIM is used for its ability to measure the spread, which some studies consider a better measure of performance than ROAA and ROAE (Ongore & Kusa, 2013), while ROA is seen as a superior indicator of performance as compared to return on equity (ROE).

Research Problem

Organization characteristics, efficiency, financial regulation and financial performance have been studied with various outcomes. Some of the studies reviewed conceptualized efficiency as a function of bank characteristics (Oluitan 2014, Jimenez-Hernandez et al., 2019) which is not the most adequate measure of bank performance as banks are set up to make profits. Other studies modelled firm characteristics as either a moderating variable in corporate governance-financial performance relationship (Ondigo, 2019), or as a determinant of financial stability (Wamalwa, Mungai & Makori, 2020). Some studies report that bank characteristics like size are related to performance (Kassem & Sakr, 2018; Wambugu & Koori, 2019; Nyabaga & Matanda, 2020) while others report no relationship (Ercegovac et al, 2020). These studies were in disagreement on the effect of capitalization and asset quality on performance. The influence of efficiency on financial performance is inconclusive. Jimenez-Hernandez et al. (2019); and Kamarudin et al. (2019); report a positive effect while Asongu and Odhiambo (2019) reported a negative effect. The influence of financial regulations on financial performance are equally inconclusive with some studies reporting a positive effect (Rahman et al, 2018; Osano & Gekara, 2018); others reporting a negative effect (Raz, Irawan, Indra, & Darisman, 2014) and others no effect (Djalilov & Piesse, 2019). It is important to continue empirically assessing these factors further to isolate those that affect performance.

Commercial banks in Kenya vary greatly in their characteristics as per the CBK Annual Bank Supervision Report (2020). While the banking sector in Kenya is critical in promoting investments in the economy, it has, in the recent past, seen the collapse or placement under receivership of several banks (Nyabaga & Matanda, 2020) due to poor capitalisation, liquidity and management. Wambugu and Koori (2019) state that the profitability of banks in Kenya has experienced a steady decline over the years. Since Kenya is a bank driven economy, the failure of one bank is likely to have a multiplier effect on the economy as a whole. Small banks, poorly capitalized banks, banks lacking liquidity and banks without quality management are more likely to fail compared to the others (Ondigo, 2016; Musiega, Olweny & Mukanzi, 2017). With the frequent failures of banks in Kenya, it is important for stakeholders in the banking sector to understand bank characteristics and their effect on the financial performance of banks in Kenya.

While the measures of financial regulation and efficiency in the banking sector are generally agreed on, measures of bank characteristics used are diverse and varied: (Erdogan & Aksoy, 2016; Ercegovac et al., 2020; Chaarani & Abiud, 2018; Kamarudin et al., 2019). There is a research gap to further empirically refine these measures to determine which of them are applicable in the Kenyan context. The period covered by some of the studies was too short to give a balanced finding (Osano & Gekara, 2018); while other studies used too small a sample size to bring out conclusive results (Ercegovac et al, 2020; Kassem & Sakr, 2018). The predictive power of a relationship is greatly enhanced if more independent variable are used. By introducing including organization characteristics, efficiency and financial as independent variables, this paper aims to enhance the understanding of the determinants of financial performance of commercial banks in Kenya.

Research Objectives

The objective of the study was to establish the effect of organization characteristics, efficiency and financial regulation on the financial performance of commercial banks in Kenya.

Literature Review

The study was guided by Financial Intermediation Theory (Gurley Shaw, 1955), Resource Endowment Theory (Barney, 1991), Efficient Structure Theory, (Demsetz, 1973) and Agency Theory (Jensen & Meckling, 1976). Financial Intermediation Theory (Gurley Shaw, 1955) contends that commercial banks are financial intermediaries which transmit excess resources from surplus to deficit units and

must attain minimum cost production to remain a viable alternative to self-financing or direct-financing. Resource Endowment Theory (Barney, 1991) argues that firms, including banks use their internal resources (labour, capital among others) as inputs in different ratios, and gain competitive advantage by using the resources with which they are heavily endowed. Efficient Structure Theory, (Demsetz, 1973) states that the structure of an industry is a result of superior operating efficiency held by organizations in that industry. Under this theory, when subjected to the pressure of competition, efficient firms win, become larger, acquire more market share leading to greater profits. Agency Theory (Jensen & Meckling, 1976) explores how the principal can manage the self-serving behaviour of the agent so as to protect the principal's interest. In the banking systems there are several principal-agent relationships. The oversight in the principal-agent relationship is provided both internally and externally. As the cost of monitoring the principal-agent relationships becomes expensive, public regulatory agencies come in to perform this task, moving part of the risk from banks to government, and ultimately to the tax payer, making the government and banks principal and agents respectively (Donnellan & Rutledge, 2016).

The review found that organization characteristics, bank efficiency, financial regulation interacted and had an impact on performance of commercial banks. Rahman et al. (2018) reported that regulation of capital affected both performance and the credit risk/asset quality of commercial banks. Size and liquidity were positively related with performance while asset quality was negatively related to performance. Capital regulation ensured that banks maintained acceptable asset quality and liquidity levels thus improving their performance. Efficiency had a negative correlation with credit risk, implying that efficient banks managed their credit risk better. Capital regulatory requirements reduced the efficiency of small banks, but was not relevant for large banks. The findings are in agreement with Andries (2011) who found that bank characteristics like asset quality and size improved both efficiency and profitability. These findings establish a clear link between bank characteristics, bank efficiency, financial regulation and performance. Kamarudin et al. (2019) found that in in order for banks to maximize revenue efficiency, they ought to maximize output subject to the regulations in place. Banks which are big in size and banks which are better capitalised were more profitable than small and less capitalized banks. Banks which reduced their liquid assets by giving out more loans were more profitable. Management quality was found to reduce performance due to the large fees such managers demanded. Furthermore, size and capitalization enhanced efficiency and thus improved performance.

Liquidity reduced the efficiency of banks and in turn their performance. The findings were in agreement with Jimenez-Hernandez et al. (2019), but differed with Djalilov and Piesse (2019) who found that more liquid banks were more efficient and profitable. Djalilov and Piesse (2019) found that activity restrictions were the only regulatory interventions that improved bank efficiency, but only in the lower and medium efficient banks, implying no one-size fits all. Regulations on capital requirements decrease efficiency on medium efficient banks while market discipline decreases efficiency at the lower efficient banks. Large banks were more efficient, indicating size provides them with the latitude to improve efficiency. Small size had a negative effect on efficiency. The study found that more profitable and liquid banks were more efficient. These findings were largely in agreement Curi, Lozano-Vivasi and Zelenyuk (2013) who established that regulations denoted by capital stringency reduces efficiency, while restrictions on bank activities had negative impact on efficiency. Bank size had no effect on efficiency while the better capitalized banks were more efficient.

Ngumo, Collins and David (2017) established that there was direct relationship between operational efficiency, capital adequacy, firm size and financial performance of microfinance banks in Kenya and that these variables significantly and positively influenced the financial performance of microfinance banks in Kenya. Liquidity risk and credit risk did not have statistically significant relationship with financial performance of microfinance banks of the Kenya and therefore did not affect the financial performance of microfinance banks in Kenya. The minimum liquidity ratio requirement by the Central Bank of Kenya was deemed sufficient keep the necessary financial performance levels by banks.

Conceptual Framework

The study conceptualized the relationship between bank characteristics, efficiency and financial regulations and performance of banks, arguing there exists a direct relationship between the four variables.

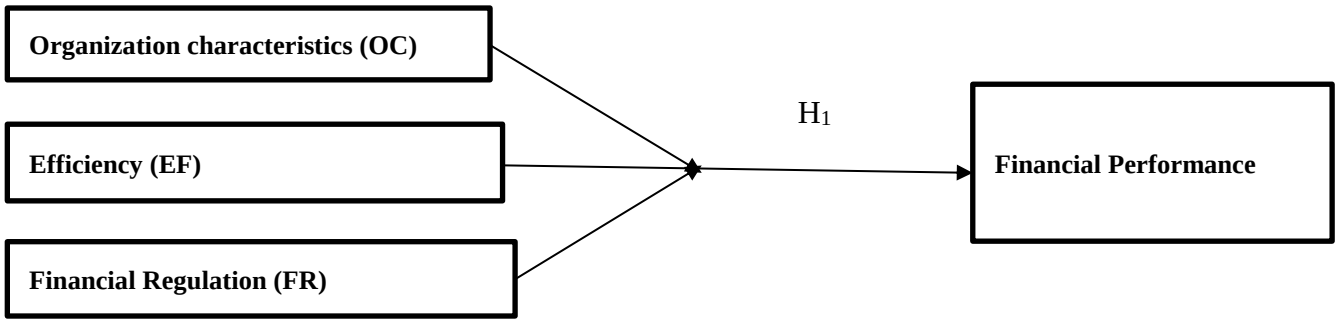

Figure 1: Conceptual Model

Research Methodology

The study used secondary panel data extracted from the Central Bank of Kenya (CBK) Bank Supervision Annual Reports and the audited annual financial statements for 43 commercial banks and covered the period 2011 to 2021. The study adopted longitudinal descriptive research design since the key variables are well defined with clearly stated hypotheses and investigative questions.

Financial Performance Indicators

Financial performance was adopted as the measure of bank performance as banks are mostly set up to make profits.

Return on Assets

The paper considered Return on Assets (ROA) as one of the dependent variables and proxy of financial performance. ROA is a widely used measure and meets the requirements of many stakeholders like shareholders, managers, depositors, governments and creditors. ROA was measured as earnings before interest and tax (EBIT) divided by total assets (TA). The model is shown below.

$$ROA = \frac{\text{EBIT}}{\text{TA}} \quad \text{.....1}$$

Where: ROA is return on assets

EBIT is earnings before interest and tax

TA is total assets

Net Interest Margin

The second measure of financial performance considered by this paper is net interest margin (NIM). It is a widely used measure of performance since the major expense of banks should ideally be the interest paid on the deposits they receive. It is the difference between net interest income and net interest expense.

NIM = NII - NIE 2

Where: NIM is net interest margin

NII is net interest income

NIE is net interest expense

Financial Regulation

Financial regulation was approximated using capital adequacy ratio and deposits to loan ratio.

Capital Adequacy

Capital adequacy is the statutory minimum capital which a bank must have to available. It is measured as a ratio of core capital to total risk weighted assets.

$$Capital\ Adequacy = \frac{\text{Core Capital}}{\text{Total Risk Weighted Assets}} \quad \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots 3$$

Deposit to Loan Ratio

Deposits to Loan Ratio is a measure of the how much of the loans given out by banks is covered by the deposits the bank holds.

$$Deposit\ to\ Loan = \frac{\text{Total Deposits}}{\text{Total Loans}} \quad \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots 4$$

Organization Characteristic

The study considered organization characteristics as the independent variable. It was measured using six unique characteristics of commercial banks namely bank size, liquidity risk, asset quality, management quality, non-traditional activities and technological innovations. The models for these variables are shown in Equations 5 to 10.

$$\text{Bank Size} = \ln \text{Total Assets} \quad \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots 5$$

$$\text{Liquidity Risk} = \frac{\text{Liquid Assets}}{\text{Total Asets}} \quad \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots 6$$

$$\text{Asset Quality} = \frac{\text{Non-Performing Loans}}{\text{Total Loans}} \quad \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots 7$$

$$\text{Management Quality} = \frac{\text{Non-Interest Expense}}{\text{Total Asets}} \quad \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots 8$$

$$\text{Non - traditional Activities} = \frac{\text{Non-Interest Income}}{\text{Total Income}} \quad \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots 9$$

$$\text{Technological Innovations} = \text{Investment in Computer Software} \quad \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots 10$$

Since the study involved both financial and non-financial aspects of organization characteristics and financial performance indicators with different measurement units, a composite index was computed for each dimension as the average score for the respective units. According to Zuriekat, Salameh & Alrawashdeh (2011), empirical evidence has shown that financial and non-financial measures are not substitutes, but rather non-financial measures are used as additives to financial measures. Based on the

procedure proposed by Ley (1972) on combining financial and non-financial measures, a composite variable is ideally meaningful to the context and objective of the study. In this regard, combination of financial weighted indices and non-financial weighted indices using the averaging method as proposed by Ley (1972) was done to create a composite which permitted the creation of an index that allowed investigation of overall performance effect. The composite measures were developed from ideas and suggestions as applied by the previous studies such as Zulkiffl and Perera (2011), Santosi and Brito (2012) and Selvam et al., (2016).

Efficiency

Efficiency was the intervening variable and was measured using Date Envelopment Analysis (DEA) Input - Output model as specified by Charnes, Cooper & Rhodes (1978) was used. The input variables were labour, physical capital and cost of funds while the output variables were loans, other earning assets and non-interest income Oluitan (2014). The results were data points for each of the sampled commercial banks having values ranging from 0 to 1, given by:

$$E_i = \text{Maximize} \sum_{k=1}^{m} U_k y_{ki} / \sum_{j=1}^{n} v_j x_{ji}. \quad \text{……...…….. 3}$$

Subject to

$$\sum_{k=1}^{m} U_k y_{ki} / \sum_{j=1}^{n} v_j x_{ji} \leq 1$$

For it = 1, …N and u_k and $v_j \geq 0$ …….. 4

m = number of outputs for each bank using n different inputs

n = number of inputs used by each bank to produce m different outputs

y_{ki} = is the amount of the k^{th} output for the i^{th} bank

x_{ji} = is the amount of the j^{th} input used by the i^{th} bank

u_k = is the output weight

v_j = is the input weight

Model Specification

The major dependent variable is the composite index of financial performance derived from ROA and NIM. The determinants of organization characteristics is the composite index of organization characteristic derived from total assets, liquidity risk, asset quality, management quality, non-traditional activities and technological innovation. The following baseline model was used:

Performance = f (Organization Characteristics, Efficiency, Financial Regulation, factors)

$FP = \beta_0+\beta_1 OC+\beta_2 EF +\beta_3 FR +\varepsilon$

Where:

- FP is financial performance
- β_0 is the intercept
- $\beta_1 – \beta_3$ are the Coefficients
- OC is organization characteristics
- EF is efficiency
- FR is financial regulation.
- ε is the error term.

Table 1: Hausman Test

	(b)	**(B)**	**(b-B)**	**FP (V_b- V_B)**	
	fe	**re**	**Difference**	**S.E.**	**Prob>chi2**
Organizational Characteristics	0.333	0.288	0.045	0.034	0.000
Efficiency	0.625	0.533	0.093	0.030	0.000
Financial Regulations	0.394	0.287	0.108	0.022	0.000
Financial performance	0.743	0.622	0.121	0.023	0.000

b = Consistent under Ho and Ha
B = Consistent under Ha, efficient under Ho; Ho: systematic difference in coefficients

chi^2 (5) = (b-B)'[(V_b-V_B) ^ (-1)] (b-B) = 3.26 Prob>chi2 = 0.0362

H_0: The appropriate model is RE
H_1: The appropriate model is FE

The results in Table 1 show that the p-value is significant ($p<0.05$). We therefore fail to accept H_o, and accept H_1. Hausman test confirms that the analyzed data fitted the Fixed Effects model. The next step analyzed the best model between OLS and REM. The study used the Breusch-Pagan Lagrangian Multiplier Test for random effects. The H_o is that the appropriate model is pooled OLS model, while the H_1 is that the most appropriate model is REM. If the $p>0.05$, we fail to reject H_o, meaning that the appropriate model is pooled OLS. If $p<0.05$, we accept H_1, meaning the most appropriate model is REM. The results are presented in Table 2 below.

Table 2: Breusch-Pagan Lagrangian Multiplier Test

Model	Value
Chibar2(01)	15.580
Prob > chi2	0.000

H_0: The appropriate model is pooled OLS
H_1: The appropriate model is RE

The Breusch-Pagan Lagrangian Multiplier test Table 4.16 show that $p<0.05$. We therefore reject H_o meaning pooled OLS is not the appropriate model. We accept H_1, meaning REM is the most appropriate model.

Normality

Table 3: Tests of Normality

	Kolmogorov-Smirnov		
	Statistic	**df**	**Sig.**
Organizational characteristics	.147	429	.123
Efficiency	.139	429	.067
Financial Regulation	.190	429	.082
Financial Performance	.112	429	.089

Table 3 indicates that all the components of financial performance had Kolmogorov-Smirnov probability >.05 indicating that the financial performance data follow a normal distribution.

Autocorrelation

The Breusch-Godfrey LM Autocorrelation Test was used to test for the autocorrelation in the panel data. Table 4 presents the test results of The Breusch-Godfrey LM Autocorrelation Test.

Table 4: Results for Breusch-Godfrey LM Autocorrelation Test

Lags	Chi^2	df	p > chi2
1	30.251	1	0.46

The results in Table 4 show that the p-value (p = 0.46) is greater than 0.05 level of significance and conclude that the model has no serial correlation.

Multicollinearity Test

The presence of multicollinearity in the panel data was assessed using the VIF (Tolerance) test. Multicollinearity was considered not to exist if the tolerance threshold of 0.1<VIF<10 was met.

Table 5: Results of Multicollinearity Test

Model	Collinearity Statistics	
	Tolerance	VIF
Organization characteristics	.921	1.086
Efficiency	.970	1.031
Financial Regulation	.932	1.073

Based on the research findings as shown in Table 5, organization characteristics had VIF value of 1.086, efficiency had VIF value of 1.031 and financial regulation had VIF value of 1.073. The test confirms there was no multicollinearity in the multiple linear regression model, as the variables met the Tolerance threshold of 0.1 < VIF < 10). This implied that the research data was good for further analysis.

Heteroscedasticity Test

Homoscedasticity was tested in the research using Breusch-Pagan/Cook-Weisberg test. Table 6 shows the results of White's test show that the p-value = 0.081 is greater than 0.05 and conclude that the dataset is homoscedastic.

Table 6: Results of Breusch-Pagan/Cook-Weisberg Heteroscedasticity Test

$Chi^2(1)$	$Prob > chi^2$
8.24	0.081

Stationarity Test

The augmented Dickey-Fuller (ADF) was used to check for stationarity of the data variables p-values at 0.05 significance level. Table 7 shows the results of the inverse normal Z statistic for organizational characteristics, efficiency and financial performance have p-values of 0.000 and conclude that the data for the variables is stationary.

Table 7: Results of the Augmented Dickey-Fuller

Variable	Inverse normal Z statistic	P-value
Organizational Characteristics	3.243	0.000
Efficiency	0.626	0.000
Financial Regulations	2.758	0.000
Financial Performance	0.751	0.000

Descriptive Statistics

The descriptive statistics were as shown in Table below.

Table 8: Efficiency Descriptive Statistics

	OC	EF	FR	FP
N	429	429	429	429
Minimum	.000	.200	.000	.120
Maximum	.830	1.000	.865	.700
Mean	.302	.308	.132	.219
Std. Deviation	.248	.210	.147	.160
Skewness	.498	1.527	.297	.545
Kurtosis	-1.090	2.737	-.401	-.658

The table shows that the mean ($\bar{x}$) scores and standard deviation (σ) for the variables. Organization characteristics level was 30 percent ($\bar{x}$ = .302, σ = .248), efficiency was 31 percent ($\bar{x}$ = .308, σ = .210), financial regulation was 22 percent ($\bar{x}$ = .219, σ = .210), and financial performance was 22 percent ($\bar{x}$ = .219, σ = .160). Further, both skewness and kurtosis were within the acceptable range of ± 2 and ±3

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respectively. All the variables exhibit positive skewness. All the variables exhibited negative kurtosis except efficiency which displayed positive kurtosis.

Trend Analysis

Trend analysis in a time series data analysis involves comparing the movement of a data variable over a period of time in order to assess its general pattern and project its possible future movement. The trend analysis was done for the composite scores and the results are presented below.

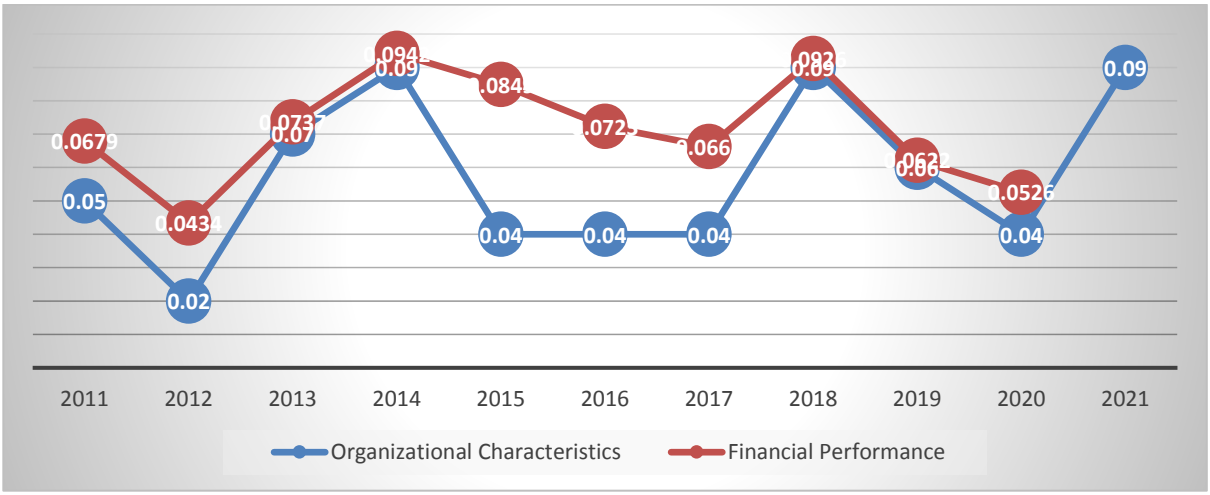

Figure 1: Trend Analysis of Organization Characteristics and Financial Performance

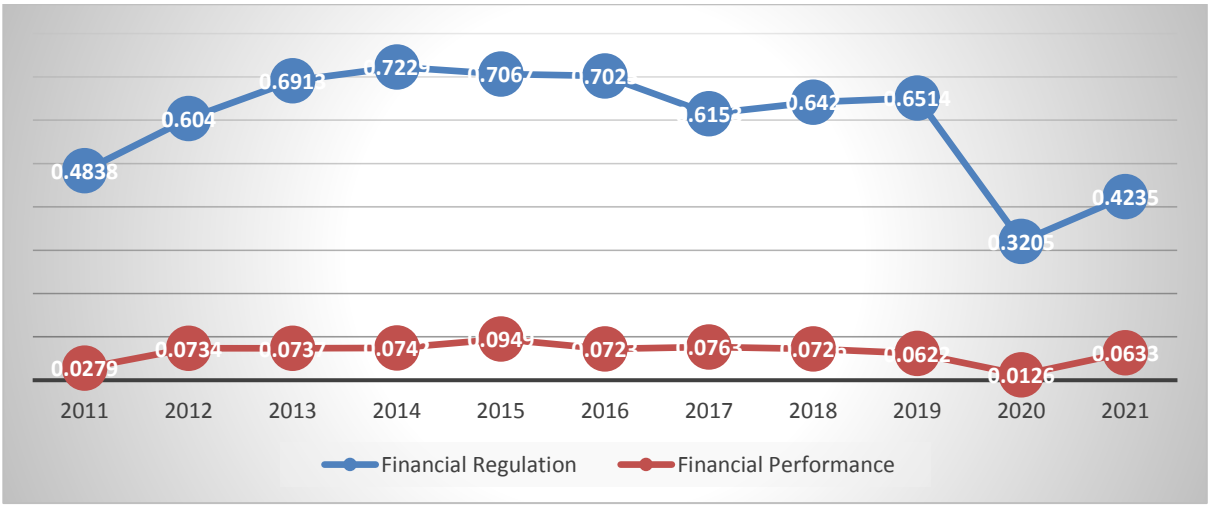

Figure 2: Trend Analysis of Financial Regulation and Financial Performance

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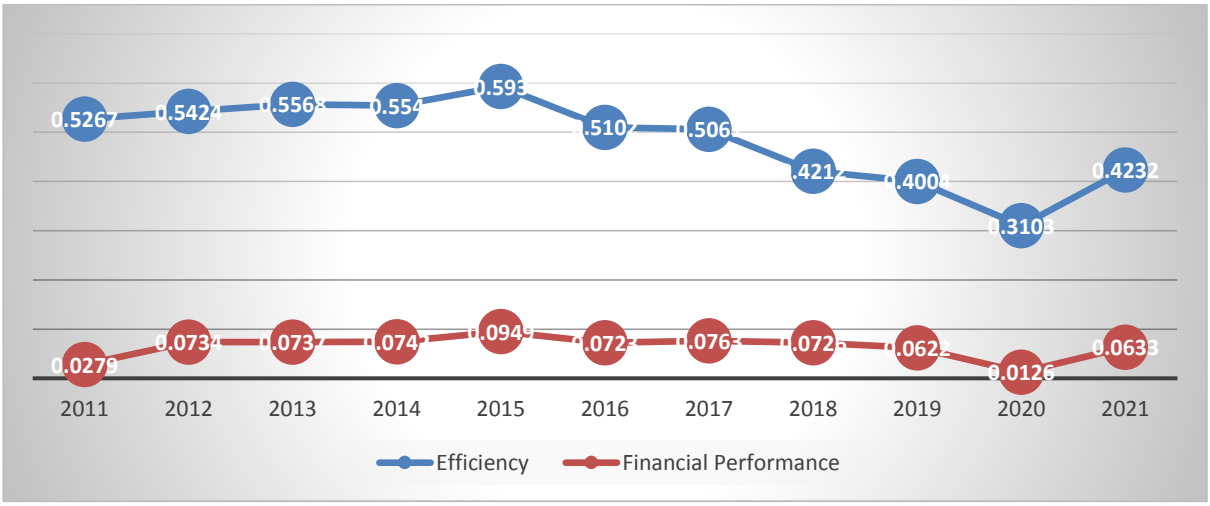

Figure 3: Trend Analysis of Efficiency and Financial Performance

Figures 1, 2 and 3 show that organization characteristic and financial performance were irregular over the years. The implication of this was that Organization Characteristic and financial performance in the sector changed a lot during the period of the study. Efficiency, financial regulation and financial performance of the commercial banks over the years of study was fairly stable and regular, meaning that the banks had obtained stability in their operations in relation to those two variables.

Correlation Analysis

Correlation was used to assess the strength of the relationship between the variables using Pearson correlation. The results in Table 9 show the relationship between Organization Characteristics, Efficiency and Financial Regulation. There was a statistically significant very weak positive correlation between Efficiency and Financial Performance ($r = .173$, $p<.01$). The implication of this is that an increase in Efficiency is accompanied by an increase in the Financial Performance. There was a statistically significant positive very strong correlation between Organization Characteristic and Financial Performance ($r = .895$, $p<.01$). An increase in Organization Characteristic leads to an increase in Financial Performance. There was a statistically significant strong positive correlation Financial Regulation and Financial Performance ($r = .656$, $p<.01$). This implies that an increase in the level of Financial Regulation leads to an increase in Financial Performance.

Table 9: Correlation Analysis

		Efficiency	Organizational characteristics	Financial Regulation	Financial Performance
Efficiency	Pearson Correlation	1			
	Sig. (2-tailed)				
	N	429			
Organizational characteristics	Pearson Correlation	-.157**	1		
	Sig. (2-tailed)	.001			
	N	429	429		
Financial Regulation	Pearson Correlation	-.110*	.250**	1	
	Sig. (2-tailed)	.022	.000		
	N	429	429	429	
Financial Performance	Pearson Correlation	.173**	.895**	.656**	1
	Sig. (2-tailed)	.000	.000	.000	
	N	429	429	429	429

**. Correlation is significant at the 0.01 level (2-tailed).
*. Correlation is significant at the 0.05 level (2-tailed).

Hypothesis Testing

The study assessed the relationship of organization characteristics, efficiency and financial regulation on the financial performance of commercial banks in Kenya. The hypothesis tested was that the relationship of organization characteristics, efficiency and financial regulation on the financial performance of commercial banks in Kenya was not significant.

Table 10: Joint Effect of Organization Characteristics, Efficiency and Financial Regulation on the Financial Performance

FP	Coefficient	Std. Err.	t	p>t	F(3, 425)	Prob > F	R-Squared	N
OC	.571	.014	40.786	.000	572.57	.000	.802	429
EF	-.026	.017	-1.529	.115				
FR	-.013	.036	-0.361	.715				
_cons	.056	.009	6.222	.000				

Table 10 shows that the fixed effects regression confirmed that the relationship between organization characteristics and financial performance was significant ($p<.05$), while the relationship between efficiency and financial regulation and financial performance were found to be insignificant ($p>.05$). Organization characteristic had a positive and significant relationship with financial performance ($\beta = .571$, $p<.05$). This means that for every unit increase in organization characteristic, there is a 0.571 increase in financial

performance, which is significant. The relationship between efficiency and financial performance (β = -0.026, p>.05) is negative and insignificant. This means that for every unit increase in efficiency, there is 0.026 decrease in financial performance. The relationship between financial regulation and financial performance (β = -0.013, p>.05) is negative and insignificant, indicating that for every unit increase in financial regulation, there is a corresponding 0.013 decrease in financial performance. The joint effect of the relationship between organization characteristics, efficiency, financial regulation and financial performance (β = 0.056, p<.05) is positive and statistically significant. The f test (f (3,425) = 572.57, p<.05.) is statistically significant meaning that the regression model is statistically significant. This is an indicator that the model applied can statistically, significantly predict financial performance of commercial banks in Kenya. The r-squared (R^2) is 0.802 which suggests that organization characteristics, efficiency and financial regulation jointly account for 80.2% of the variance in the financial performance of commercial banks in Kenya, and the joint effect is statistically significant (p<.05).

The hypothesis postulated that the effect of organization characteristics, efficiency and financial regulation on financial performance of commercial banks in Kenya was not significant. The results of the test indicated that organization characteristics, efficiency and financial regulation accounted for 80.2% of the variance in the financial performance of commercial banks in Kenya and the overall model was statistically significant. The null hypothesis was thus rejected.

The original equation was expressed as

$$Y_{it} = \beta_0+\beta_1X_{1it}+ \beta_2X_{2it}+ \beta_3X_{3it}+\varepsilon_{it}$$

Where:

Y_{it} *= Financial Performance;*

X_1 *= Organization Characteristics;*

X_2 *= Efficiency;*

X_3 *= Financial Regulation;*

β_0 *= Constant (intercept);*

$\beta_1, \beta_2, \beta_3$ *= Coefficients;*

ε *= Error term*

The equation can now be rewritten as

$$FP = 0.056 + .571OC_{it} - 0.026EF_{it} – 0.013FR_{it} + \varepsilon_{it}$$

The equation shows that Financial has a positive relationship with organization characteristic and increases as organization characteristic increases with one unit for every 0.571 unit change in organization characteristic. The relationship between financial performance and efficiency and financial regulation were negative, meaning that an increase in financial performance is accompanied by 0.026 decrease in efficiency and 0.013 decrease in financial regulation.

Discussions of Findings

The findings of the study was that the joint influence of organization characteristics, efficiency and financial regulations on financial performance of commercial banks in Kenya was slightly greater than the individual effect of organization characteristics on financial performance. This led to the conclusion that the joint influence of organization characteristics, efficiency and financial regulations on financial performance of commercial banks in Kenya is significant. This findings support the argument that organization characteristic is a critical factor in determining the financial performance of commercial banks, and we would expect the variations in organization characteristic to explain the level of financial performance in the commercial banks in Kenya. The findings were in agreement with previous studies (Curi, et al., 2013; Djalilov & Piesse, 2019).

The study supports the Agency Theory (Jensen & Meckling, 1976) which contends that as the cost of monitoring the debtor-lender relationships becomes expensive, public regulatory agencies come in to perform this task, moving part of the risk from banks to government, and ultimately to the tax-payer, creating a principal-agent relationship between the government and the banks. The Financial Intermediation Theory (Gurley & Shaw, 1955; Brealey, Leland & Pyle, 1977; Diamond & Dybvig, 1983; Diamond, 1984), which contend that firms have moved away from self-finance and direct finance models of funding investments and that commercial banks are financial intermediaries which transmit excess resources from surplus to deficit units. The banks resolve both agency and information asymmetry problems between the lender and the borrower by taking over the delegated costs associated with monitoring loan contracts and frees depositors from independently and directly monitoring the contracts. To resolve the agency problem between the lenders and the borrowers and to reduce the cost of monitoring the lender to the borrower, the government takes over this role by designing adequate and targeted regulations to monitor the lender. This additional regulations with their attendant costs lead to lower profitability of banks, supported by the negative relationship between Financial Regulation and Financial Performance see in the results.

Conclusions

The study concludes that organization characteristics, efficiency, financial regulation jointly affect the performance of commercial banks. The study found that organization characteristics, efficiency, financial regulation jointly predict financial performance and that commercial banks with requisite organization characteristics, have efficiency in their operations and meet the financial regulation requirements tend to have better financial performance. The implication of this is that the management of the banks must consider all these variables in order to enhance the financial performance of the commercial banks. Including many predictors of financial performance in the model enhances the predictive power of the model.

This study has increased the existing body of knowledge on bank characteristics, regulation, efficiency and performance. The study has several contributions to board of directors, corporate managers, regulators, depositors and investors in general. The fact that there is a relationship between organization characteristics and financial performance of banks, the policy makers must pay attention to these characteristics. They should particularly pay attention to the size of the bank, the level of non-performing loans, the expenditure on management and the investment in technology as some of the key predictors of Financial Performance. Policy reforms should be geared towards merging and consolidating small banks to make them more profitable. Regulators of commercial banks like the Central Bank of Kenya and the Capital Markets Authority will better understand that regulations have a moderating effect on the relationship between organization characteristics and financial performance of banks. They could ensure that the right level of capital adequacy and deposit/loan is set to balance between the bank profit maximization motive and the financial health of the banks. The regulators could also regulate more those organization characteristics that affect financial performance like bank size, asset quality, management quality and technological innovations. The findings of this study will be beneficial to investors and depositors in commercial banks in making better investment decisions. Investors bear the risk when banks fail and collapse. The investors could better assess the bank characteristics that could lead to better financial performance and avoid those banks whose bank characteristics show likelihood of profit failure. The risk of the inconveniences caused by bank losses, failures and bankruptcy could be avoided. This study shows the linkage between organization characteristics, efficiency and financial regulation and how they translate to better bank financial performance that benefits all stakeholders.

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