# Assessing The Impact of Institutional Quality on Financial Performance: Evidence from Nigerian Microfinance Institutions

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## Abstract

This study investigates the relationship between institutional quality and financial performance of microfinance institutions in Nigeria. Using a panel dataset of 89 microfinance institutions over a period of 2009 2018, we employ regression analysis to examine the effect of institutional quality on financial performance metric such as return on assets. Our findings suggest that institutional quality influences financial performance, with rule of law playing a crucial role. The study contributes to the existing literature by providing empirical evidence on the importance of institutional quality in the Nigerian microfinance sector. The results have implication for policymakers, regulators and microfinance practitioners seeking to improve financial stability and sustainability in the industry.

Keywords: Institutional quality, Microfinance institutions, Financial performance, Governance

## 1. INTRODUCTION

Microfinance Institutions (MFIs) are specialized institutions that provide financial services to lowincome groups or individuals; such as savings, micro-credit, and other services with the aim of uplifting the economic status of small-scale producers, across both rural and urban areas. Microfinance has increasingly become an important tool of fighting poverty and financial exclusion in sub-Saharan Africa (Banerjee and Duflo, 2011; Baye, 2013; Morduch and Armendariz, 2010). Although microfinance has gained prominence as one of the useful tools to improve the welfare of the poor, the industry is also faced with many challenges. The institutional environment poses a momentous challenge to the performance of microfinance institutions.

Microfinance institutions are saddled with dual performance goal namely; financial performance and outreach performance, the outreach performance is further divided into depth of outreach and breadth of outreach. This paper focuses specifically on the financial performance of MFIs. The study captures the institutional environment using the following key variables from the World Governance Indicators (WGI). Under WGI, we selected all the six variables, they are control of corruption, political stability and absence of terrorism, regulatory quality, government effectiveness, rule of law and voice and accountability. The researcher also uses MFIs specific variables as the control variables; namely, capital- asset ratio, cost per borrower, yield on gross portfolio and total assets being proxies for financing structure, efficiency and size.

#### **1.1 Research Objectives**

The objectives of this research study are;

- i. To investigate the relationship between institutional quality and financial performance of MFIs in Nigeria.
- ii. To identify the specific institutional factors that significantly impact financial performance
- iii. To provide recommendations for improving institutional quality and enhancing financial performance in microfinance institutions

#### **1.2 Research Question**

How does institutional quality affect the financial performance of microfinance institutions in Nigeria?

#### **1.3 Organization of the study**

The study is structured into five sections, the first section comprises the introduction, research objectives and research questions. The rest of this paper is organized as follows. Section 2 reviews the empirical literature relating to the institutional environment and microfinance performance. Section 3 provides brief details about the dataset and the methodology adopted in this paper. Section 4 discusses the empirical results, and finally, Section 5 offers concluding comments.

## 2. LITERATURE REVIEW

Though several empirical studies in the literature examine the determinants and impact of financial performance, efficiency, governance and outreach performance of MFIs using a worldwide sample or other regions (Barry and Tacneng, 2014 and Chikalipah, S. 2017) non has looked into Nigerian MFIs regarding the institutional environment. Nevertheless, Aralica, Z., Svilokos, T. & Bacic, K. 2018, Ekeocha et al 2023; Jibir et al 2020; and Ojeka et al 2019, study the nexus of institutional quality and firm performance in different regions across the globe.

#### 2.1 Financial Performance Indicators in Microfinance institutions

Financial performance assesses how well an organization achieves its goals, policies, and operations in monetary terms. It reflects financial health and allows for comparisons between similar firms within the same industry (Agola, 2014). In the context of microfinance institutions (MFIs), financial performance indicates an MFI's ability to progress toward its microfinance objectives without relying on donor support. The primary goal of every microfinance institution is to operate profitably to ensure stability, sustainability, and growth (Agola, 2014). Strong financial performance benefits shareholders by rewarding their investments. Financial performance can be gauged using various metrics, such as profit after tax, return on assets (ROA), return on equity (ROE), earnings per share, and other generally accepted market value ratios (Yenesew, 2014). ROA is a crucial measure as it evaluates how efficiently a company manages and utilizes its assets to generate profit.

In their 2010 study, Armendariz and Morduch selected six financial indicators (ratios) to evaluate the financial performance of MFIs beyond group lending. These indicators include Return on Assets, Return on Equity, OSS Ratio, FSS Ratio, Yield on Loans (real), and Portfolio at Risk > 90 days. Additionally, many prior studies on the financial performance of microfinance institutions use a combination of these ratios.

According to SEEP (2010), standards for assessing the financial performance of microfinance institutions are outlined, with the determinants analyzed across five groups as shown in Table 2.1. Most of these ratios are also used to assess the financial performance of banks.

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Capital	Asset quality	Sustainability	Productivity and	Savings
adequacy and solvency		And profitability	efficiency	liquidity
Debt to Equity Ratio (DER)	Non- Performing Loan (NPL) past 30 days due	Portfolio yield	Active borrower per staff	Loans/deposit ratio
Equity to Assets (EAR)	Write off ratio	Net Interest Margin (NIM)	Average deposit account balance	Cash ratio
Cost of funds adjusted	NPL past 30 days due + write off ratio	Return On Asset (ROA)	Portfolio asset	
Uncovered capital ratio			Average deposit balance per borrower per credit officer	

 Table 2.1: Standard ratios in microfinance reporting

Average loan		Cost per active	
disbursed cost		borrower	
income to		outstanding loan	
customer drop			
out percentage			

Source: SEEP, 2010

# 2.2 Institutional quality and Microfinance Performance

Several empirical studies have investigated the impact of the institutional environment on microfinance institutions' performance in SSA. Barry and Tacneng (2014) investigate the impact of institutional quality on the performance and outreach of 200 microfinance institutions across 30 SSA countries over the period 2001 to 2007. Their econometric findings indicate that a strong institutional environment promotes microfinance outreach and profitability. Similarly, Chikalipah (2017) finds a positive and significant relationship between business freedom and microfinance performance in sub-Saharan Africa. A growing body of evidence suggests that good institutions enhance firm performance and promote economic growth (Ahlin et al., 2011; Ajide and Raheem, 2016; North, 1990; Rodrik et al., 2004; Tchakoute Tchuigoua, 2014). The emphasis, therefore, will be made on studies that focus on institutional quality and firm performance. Ahlin et al. (2011), study whether and how the success of microfinance institutions depends on the countrylevel context, in particular, the macroeconomic and macro-institutional features. After evaluating 373 microfinance institutions in 74 countries, covering a period from 1996 to 2007, they discover that higher macroeconomic growth and a strong institutional environment promotes growth in the microfinance industry. Correspondingly, Tchakoute Tchuigoua (2014) maintains that better protection of a creditor's rights (property rights) boosts the supply of microcredit.

Aralica, Z., Svilokos, T. & Bacic, K. (2018), study the effects of various institutional setting on the productivity of manufacturing firms in CESEE countries and document that control of corruption has positive impact on firm performance. On the other hand, better regulatory quality depicts adverse effect on firm productivity. Southall (2008) argues that firm performance is sensitive to a weak institutional environment. Ajide and Raheem, (2016) examine the relationship between institutions and foreign direct investments (FDIs) in ECOWAS countries, using the six governance indices, namely; control of corruption, political stability, voice and accountability, regulatory quality, government effectiveness and rule of law. They conclude that countries with better institutions attract more FDI than the countries with poorer institutional quality. Similarly, Jibir et al, 2020 investigate whether institutions promote firm performance, evidence from SSA countries. The study finds that control of corruption, government effectiveness, regulatory quality and rule of law create favorable business and investment results.

Ekeocha et al 2023; analyze the nexus between sectoral performance and institutional quality in sub–Saharan Africa over the period 2010 to 2018 and found a mute relationship on all the sectoral

performance reviewed i.e agriculture, manufacturing and service sectors. Conversely, political stability and voice and accountability showed significance influence on the aggregate sectoral performance. Overall, they conclude that the role of institutional quality on economic performance in SSA to be negligible during the period under review.

Finally, Adejumobi (2015) conclude that corruption increases the cost of doing business, and has been found to inhibit firm development and growth in Africa. Ellett (2016) argues that a strong rule of law contributes to creating a conducive business environment and the protection of property rights.

# 3. DATA AND METHODOLOGY

# 3.1 Data source

We obtain the data from the Microfinance Information Exchange (MIX) Market on the data bank series of World Bank, which includes both quantitative information and profile description of MFIs. We choose MIX market, because they are known with repute in providing data on microfinance institutions. The country-level data of institutional qualities is also taken from the governance indicators on the data bank series of World worldwide Bank (www.databank.worldbank.org).

The study uses a panel dataset on 89 MFIs in Nigeria, that self-report relevant information regarding their internal operations to the microfinance information exchange (www.mixmarket.org) The data cover annual reports from 2009 to 2018. However, the time periods individual MFIs, Thus, making it unbalanced panel and some variables missing in the data set. The missing gap in the MFIs data may be connected to some microfinance banks were closed while others just started. The study selected the period 2009 to 2018 because it has the lowest missing data on the variables in our model.

## **3.2 Methodology**

We use regression analysis as our methodology, which enables us to evaluate the relationship between institutional quality and financial performance of microfinance institutions.

Both the fixed effect (FE) and random effect (RE) regression were carried out for the model specified. The FE account for invariant omitted variables, while the RE explain for variability and differences between different entities or subjects within a larger group. In addition, we run a Hausman test to decide on whether FE or RE that fits the model.

# 3.1.2 Model specification

 $Y_{it} = \bar{\beta}_0 + \beta_1 X_{1it} + \beta_2 X_{2it} + \beta_3 X_{3it}.... + \epsilon_{it}$ 

Where;

Y is the dependent variable, i stands for individual MFIs, t denotes time period,  $X_1, X_2, X_3...$  are explanatory variables,  $\beta$  is coefficient of constant and explanatory variables and  $\varepsilon$  stands for error term.

# **3.2 MFIs Specific Variables**

We consider return on assets, (ROA), which is defined as net income over total assets, as the dependent variable. In order to understand how an MFI attains its profits, we look into its capital to asset ratio, (CAR), natural logarithm of cost per borrower, (LCPB), yield on gross loan portfolio, (YGL) and natural log of total assets, (LTA) as control variables. The CAR, is an indicator of

financing structure which is measured as adjusted equity divided by adjusted total assets. LCPB, measures efficiency, it is explained as adjusted operating expense/ adjusted average number of active borrowers. YGL, yield on gross loan is an indicator of revenue; it measures revenue from loan portfolio (i.e. interest charged on loans). It can be measured as adjusted financial revenue from loan portfolio/ adjusted average gross loan portfolio. Lastly, LTA, is the log of Total Assets, it is the sum of total asset adjusted for inflation and standardized provision for loan losses and write-offs.

# **3.3 Institutional Quality Variables**

We consider four indices measuring institutional quality out of the six indices obtain from worldwide governance indicators, namely; Control of Corruption (CCP), Political Stability and absence of violence/terrorism (POLST), Government Effectiveness (GOVEFF) and Rule of Law (RUL); We initially included Regulatory Quality (REQ) and Voice and Accountability (VOA) in our model, but due to high multicollinearity with 'Rule of Law' (RUL), we dropped REG and VOA to avoid biased estimates, instead, we replaced retained RUL as a more robust measure of institutional quality.

CCP captures perceptions of the extent to which public power is exercised for private gain, including both petty and grand forms of corruption, as well as "capture" of the state by elites and private interests. POLST measures perceptions of the likelihood of political instability and/or politically-motivated violence, including terrorism. GOVEFF describes the credibility of the government and the quality of public services and its independence from political pressures. The RUL index from the WGI captures the degree to which economic agents abide by the rules and regulations, including but not limited to the enforcement of contracts. Furthermore, it measures the efficiency of the judiciary, more precisely, how the court system enforces contracts efficiently and quickly, Kaufmann et al. (2009). The WGI indices, CCP, POLST, GOVEFF and RUL reports the country's score on the aggregate indicator, in units of a standard normal distribution, i.e. ranging from approximately -2.5 to 2.5 where (-2.5) indicates very weak institutional quality and (2.5) shows strong institutional quality.

1 able 4.1	: Descriptive	Analysis			
Variables	Obs.	Mean	Std. Dev.	Min.	Max.
ROA	104	4.819904	8.662782	-35.68	21.08
CAR	213	40.50906	84.4283	-56.89	1214.95
LCPB	93	2.128818	.5790279	.7781513	3.925261
LTA	220	6.330915	1.257315	2.498311	9.979469
YGL	90	45.95222	18.29422	.11	82.93
CCP	226	-1.122794	0.753053	-1.283504	-1.041886
POLST	226	-2.050477	.1077195	-2.211123	-1.873889
RUL	226	-1.113031	.086525	-1.178839	-8890331
GOVEFF	226	-1.108285	.0713083	-1.200476	9962325

#### 4. RESULTS AND DISCUSSIONS Table 4.1: Descriptive Analysis

Source: Authors computation, 2024 (STATA- 15.0)

Table 4.1 above summarizes the variables under investigation. It revealed that the mean value of ROA to be 4.82 with a minimum return on asset of -35.68 and maximum return of 21.08. This

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means that shareholders that invested in Nigerian MFIs during the period under review could earn as low as negative return of -35.68 percent and as high as 21.08 percent. The mean value for CAR is 40.51, with a minimum of -56.89 capital to asset ratio and a maximum of 1,214.95. The LCPB has a mean value of 2.13 with a minimum log of cost per borrower of .78 and maximum of 3.93. Similarly, the LTA recorded a mean value of 6.33 with a minimum log of total assets of 2.50 and maximum of 9.98. The YGL shown a mean value of 45.95 with a minimum yield on gross loan .11 and a maximum of 82.93. The mean values for CCP, POLST, RUL and GOVEFF are -1.122794, -2.050477, -1.113031 and -1.108285 respectively. This suggests weak institutions as all the estimates for the institutional quality variables are negative. According to the WGI reports the country's score on the aggregate indicator, in units of a standard normal distribution, i.e. ranging from approximately -2.5 to 2.5 where (-2.5) indicates very weak institutional quality and (2.5) shows strong institutional quality.

	ROA	CAR	LCPB	LTA	YGL	ССР	POLST	RUL	GOVEFF
ROA	1.0000								
CAR	0.3581	1.0000							
LCPB	-0.6074	-0.0819	1.0000						
LTA	-0.0707	-0.4259	0.1386	1.0000					
YGL	0.0598	0.2852	0.2289	0.0988	1.0000				
CCP	-0.0481	0.1115	-0.1033	-0.0420	-0.0059	1.0000			
POLST	-0.1329	-0.1248	0.0245	0.2113	-0.1741	0.3386	1.0000		
RUL	-0.1623	0.0520	0.0281	0.2724	0.1887	0.2861	0.1946	1.0000	
GOVEFF	0.0183	-0.0423	0.0280	0.1329	-0.0692	0.0052	0.3561	0.2404	1.0000

# Table 4.2: Correlation Matrix

Source: Authors computation, 2024 (STATA- 15.0)

The correlation table above shows that ROA is positively correlated with CAR (0.3581), YGL (0.0598) and GOVEFF (0.0183) but negatively correlated with LCPB (-0.6074), LTA (-0.0707), CCP (-0.0481), POLST (-0.1329) and RUL (-0.1623). Overall, the correlation matrix table did not show any sign of multicollinearity as none of them has up to  $\pm$  0.70 correlation, this signifies no multicollinearity.

## Table 4.3: VIF Test results

Variable		ROA
	VIF	<u>1/VIF</u>
LTA	1.53	0.654726
CAR	1.49	0.673253
POLST	1.44	0.694534
YGL	1.32	0.754728
RUL	1.32	0.755742
CCP	1.31	0.763754
GOVEFF	1.23	0.811253
LCPB	1.10	0.909673
Mean VIF	1.34	

Source: Authors computation, 2024 (STATA- 15.0)

As also revealed by the VIF test shown in Table 4.3 above; the variance inflation factor, (VIF) value is less than 2 and the tolerance value (1/VIF) greater than 0.10, this indicates that there is no multicollinearity problem among the independent and control variables. **Table 4 4: Pooled OLS regression** 

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ROA	Coefficient	Standard Error	ť	<b>P</b> \  t	[95% Conf.	. Interval]
	Coefficient	Standard Life	t	1 >  t	Lower limit U	Jpper limit
CAR	.1291729	.0358529	3.60	0.001	.0574315	.2009143
LCPB	-6.208466	.8785693	-7.07	0.000	-7.966479	-4.450453
LTA	1.639903	.7300507	2.25	0.028	.1790751	3.100731
YGL	.0373607	.0316119	1.18	0.242	0258947	.100616
CCP	-3.479853	6.729461	-0.52	0.607	-16.94547	9.985766
POLST	-4.071245	5.592511	-0.73	0.470	-15.26183	7.119344
RUL	-13.28859	5.366655	-2.48	0.016	-24.02724	-2.549938
GOVEFF	9.98477	7.305288	1.24	0.219	-5.539261	23.69643
CONSTANT	-13.98477	13.93129	-1.00	0.320	-41.86121	13.89167
$\mathbf{R}-\mathbf{sq.} = 0$	).5618					
Adj. $R$ -sq. = 0	0.5024					
Prob > F = 0	0.0000					
No of Obs. $= 6$	58					

Source: Authors computation, 2024 (STATA- 15.0)

The pooled OLS regression depicts that CAR [.1291729] and LTA [1.639903] has positive association with ROA and statistically significant 0.001 and 0.028 respectively. This means that a unit increase in Capital to Asset Ratio will increase Return on Assets by about .13 percent, similarly, an increase in log of Total Assets will increase Return on Asset by about 1.64. While LCPB [-6.208466] and RUL [-13.28859] exhibits negative relationship and statistically significant 0.000 and 0.016 respectively. The R-squared value of 0.5618, indicating that about 56% the variation in 'ROA' can be explained by the independent variables.

Table 4.5: Fi	xed-effect (	Within)	Regression
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ROA	Coefficient	Standard Error	t	<b>D</b> \  t	<u>95% Conf.</u>	<u>Interval</u>
	Coefficient	Standard Lift	ι	1 /  t	Lower limit U	Jpper limit
CAR	0623195	.0463464	-1.34	0.186	155918	.0312789
LCPB	-6.3043644	2.309167	-2.73	0.009	-10.9678	-1.640887
LTA	.1730649	2.328875	0.07	0.941	-4.530194	4.876324
YGL	.097701	.0576601	1.69	0.098	018746	.2141479
CCP	-9.925335	6.226833	-1.59	0.119	-22.50068	2.65001
POLST	5964561	5.082098	-0.12	0.907	-10.85996	9.667049
RUL	-9.804147	7.082788	-1.38	0.174	-24.10813	4.499834
GOVEFF	11.11989	5.957263	1.87	0.069	9110432	23.15083
CONSTANT	6.006286	22.56474	0.27	0.791	-39.56413	51.5767
R-sq. within =	0.2587					
Prob value >F	= 0.1075					

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No of Obs. = 68 Source: Authors computation, 2024 (STATA- 15.0)

The result of fixed effect regression model in table 4.5 above, shows LCPB has negative association and significant impact on ROA with coefficient of [-6.3043644] and p- value of [0.009]. This suggests that an increase in LCPB reduce the financial performance, and statistically significant. While YGL and GOVEFF record positive relationship and significant effect on ROA with coefficients of [.097701] and [11.11989] respectively and p- values of [0.08] and [0.069] respectively. This means that increase in both YGL and GOVEFF leads to increase in financial performance of MFIs in Nigeria, at 10% statistically significant. The R-squared within [0.2587] of the FE regression model demonstrate that about 26% variation in ROA can be explain by the independent variables.

ROA	Coofficient	Standard Error	+	$\mathbf{D} \setminus [\mathbf{t}]$	[95% Conf.	Interval]
	Coefficient	Stanuaru Error	ι	r>  l	Lower limit U	Jpper limit
CAR	.0267929	.0380191	0.70	0.481	0477231	.1013089
LCPB	-5.814	1.077983	-5.39	0.000	-7.926809	-3.701192
LTA	1.198587	.8597946	1.39	0.163	4865792	2.883754
YGL	.0717072	.0345191	2.08	0.038	.0040511	.1393634
CCP	-4.812649	5.528428	-0.87	0.384	-15.64817	6.022869
POLST	-3.50587	4.664955	-0.75	0.452	-12.64901	5.637274
RUL	-12.22859	5.0446	-2.42	0.015	-22.11582	-2.341352
GOVEFF	9.526891	5.907375	1.61	0.107	-2.051351	21.10513
CONSTANT	-8.682682	12.65973	-0.69	0.493	-33.49529	16.12992

Table 4.6: Random-effects GLS regression

R-sq. between = 0.5720Wald chi2 (8) = 37.47Prob > chi2 = 0.0000No of Obs. = 68Source: Authors computation, 2024 (STATA- 15.0)

On the other hand, the outcome of random effect regression model in table 4.6 below, reveals same pattern for LCPB (coefficient [-5.814], p- value [0.000]) and YGL (coefficient [.0717072], p-value [0.038]). Furthermore, GOVEFF that was significant in fixed effect regression model became statistically insignificant under the random effect regression model and RUL emerged to have significant impact on ROA with negative relationship (coefficient [-12.22859], p-value [0.015]). R-squared between of 57.20% was recorded, indicating that about 57% the variation in 'ROA' can be explained by the independent variables.

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<b>Table 4.7: Ha</b>	ausman Test			
	Coeff	<u>ficients</u>	(b-B)	Standard Eman
	(b) fixed	(B) random	Difference	Standard Error
CAR	0704627	.0129465	0834093	.0244799
LCPB	-6.355549	-5.839457	5160922	2.016249
LTA	.1634647	1.124969	9615041	2.140512
YGL	.0996453	.0743556	.0252897	.0455073
CCP	-9.772988	-4.950469	-4.822519	2.837904
POLST	7355241	-3.462434	2.72691	1.989762
RUL	-9.874093	-11.99065	2.116555	4.899466
GOVEFF	11.19046	9.687885	1.502578	.8348185
(1)	0.00			

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Chi2 (8) = 8.68

Prob > Chi2 = 0.3698

Source: Authors computation, 2024 (STATA- 15.0)

Based on the Hausman test Chi2(8) = 8.68, prob value = 0.3698, we selected Random Effects model as the most appropriate for our analysis. Hausman test assumes that the RE model is correctly specified, with a null hypothesis that the unique errors (ui) are not correlated with the regressors. The result suggests that the difference in coefficients between FE and RE is not systematic, hence we fail to reject the null hypothesis as revealed by the prob value [0.3698].

## 5. CONCLUSION

Both FE and RE regressions were conducted, a Hausman test was performed to choose between them, with the outcome favoring the RE model, this implies that the RE result should be interpreted. The RE result in table 4.6 show that the log of cost per borrower, LCPB, has a negative and significant effect on ROA [-5.814, 0.000], yield on gross loan, YGL has a positive and significant influence on ROA [.0717072, 0.038] and rule of law, RUL exhibits negative and significant impact on ROA [-12.22859, 0.015]. The findings answer the research question that rule of law, RUL, one of the institutional quality indicators, does stimulate growth on the performance of microfinance institutions in Nigeria at 5% statistically significant level.

The findings also confirmed that MFIs specific variables LCPB and YGL propels financial performance at [0.000] high significance of less than 0.01 and [0.038] 5% statistically significant level respectively.

This study contributes to the literature by highlighting the impact of institutional factors on the performance of microfinance institutions in Nigeria. Additionally, it will be useful to policy makers and practitioners of microfinance institutions.

## **5.1 Recommendations**

We recommend for a further study on the impact of institutional quality on financial performance of microfinance institutions in Nigeria, using generalized methods of moment (GMM) and/or Principal Component Analysis (PCA). To some extent, these will address the issue of possible endogeneity among the variables and/or address the issue of multicollinearity respectively.

The GMM model transforms the data by taking the lagged variables as instruments, there by addresses the issue of endogeneity. On the other hand, PCA transforms the original correlated variables into a new set of uncorrelated variables. It reduces the dimensionality of data and solve the issue of multicollinearity.

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