

Effect of Trade Credit and Credit Policy on the Performance of Building Industry in Nigeria

ADEJUWON Joshua Adewale¹, OLADIMEJI, Azeezat Atinuke² and ADEJUWON Adefisayo Oluwakemi³

^{1,2,3}Department of Management and Accounting, Lead City University, Ibadan, Nigeria;

¹adejuwon.joshua@lcu.edu.ng || +234 803 371 5590

²oladimejiazeezat14@gmail.com; +2348071542879

³adejuwonoluwakemi218@gmail.com; +2347063693491

Abstract

Building industries play an important role in the economy and the activities of the industry are also vital to the achievement of national socio-economic development goals of providing shelter, infrastructure, and employment. The industry could be enhanced with the opportunity to trade credit and a proper credit policy. When this is not the case, it is expected that the industries would not perform optimally. It is in this regard that this study focused on the effect of trade credit and credit policy on performance of building industry in Nigeria. Ex-post facto research design was adopted. The study populations are the 32 building industries in Nigeria. Data was collected from audited annual reports and accounts of the companies listed in building industry at the Nigeria Stock Exchange. Data collected was analyzed using descriptive and inferential statistics. Findings revealed that trade credit had significant influence on performance of building industry in Nigeria (Adj. $R^2 = 0.138$; $p = 0.000$), credit policy was found to be significantly effective on performance of building industry in Nigeria (Adj. $R^2 = 0.100$; $p = 0.000$). Jointly, trade credit and credit policy were found to affect performance of building industry statistically significantly in Nigeria (Adj. = 0.106, $p = 0.000$). Based on the above findings, this study concludes that only trade credit and credit policy both have significant and positive effect on performance of building industry in Nigeria. The study therefore recommended that managements of the building industries in Nigeria should improve their credit policy and also their performance so as to have access to more trade credit.

Keywords: Trade credit, Credit policy, Performance of building industry.

Word Count: 261**Introduction**

Building industries play an important role in the economy and the activities of the industry are also vital to the achievement of national socio-economic development goals of providing shelter, infrastructure and employment. There are many different systems and subsystems at play in a building, both in terms of the physical infrastructure and the way in which human activity is organized in and around the building. They also exhibit obvious hierarchical characteristics, with responsibilities and authority being delegated from one level to the next. The primary purpose of buildings is to provide occupants with conducive, safe, comfortable, healthy and secured indoor environment to carry out different kinds of activities ranging from work, study, leisure and family life to social interactions. In order to achieve this purpose, buildings are designed, planned, constructed and managed based on standards and specifications established by governments, professionals and experts who are supposed to have adequate knowledge of users' needs and expectations. Building industries are given the task of ensuring that all these factors and specification which are to be met with standard condition.

Performance of building industry in Nigeria could be measured with the company's profitability, growth and productivity. Profitability means ability to make profit from all the business activities of building industry in Nigeria. It shows how efficiently the management can make profit by using all the resource available in the market. Profitability being one of the ways to measure performance of building industry which is the ability of management to utilize an organization's resources to create profit (Abdulai, Ogunsanwo, Adeleke & Olowo, 2020). This can be measure through various ratio like net profit margin, return on capital employed, return on investment and return on assets while growth is something for which most building industries strive, regardless of their size. Small firms want to get big, big firms want to get bigger. Sustained organisational is advantageous to business firms in many ways. The most significant being the improved efficiency in the use of resources as a result of economy of scale.

Sustained organisational growth also lead to high level of organizational resilience, a better chance of survival, improved profitability, better goodwill and higher motivation for employees (Baker, Pattnaik & Kumar, 2022). To measure the firm productivity is an important factor which is calculated by converting inputs to total outputs. The output by any manufacturing system is usually expressed in units of physical volume, such as pieces, ton, and any other measurable units. These physical units must be weighted in some

manner so they can be added together. Good productivity means how much input is converted to output. For this, work productivity is being calculated in terms of labor productivity. In making sure this is done, adequate finance is needed (James & Frank, 2014).

The use of trade credit by businesses in an economy provides a glimpse into how the government's monetary policy is translated to the business sector and the financial health of the private sector over a particular credit cycle due to the capital that it provides. For instance, as interest rates rise, bank loans become more expensive, which forces businesses to borrow less. But an increase in interest rates also raises the opportunity cost of giving consumers trade credit. As a result, the supplier may decide to lower the amount of trade credit provided or impose less favourable terms on their clients. Meanwhile, the slight change in the economic activities as currently witnessed in Nigeria in the present democratic government with its attendant limited financial resources available to the operators of the market has no doubt contribute also to increase in credit transactions.

The purpose of this study is to investigate the effect of trade credit and credit policy on performance of building industry in Nigeria. The specific objectives are to:

1. Ascertain the effect of trade credit on performance of building industry in Nigeria;
2. Determine the effect of credit policy on performance of building industry in Nigeria; and
3. Investigate the combine effect of trade credit and credit policy on performance of building industry in Nigeria.

Literature Review

Performance of Building Industry

Nigeria is an economic giant by African standards. It has the largest economy in sub-Saharan Africa and it is only behind South Africa in the whole of Africa in term of size of the economy. It has 1% of the world's proven petroleum reserves (Abiodun, Segbenu & Oluseye, 2017). A significant portion of Nigerian export is made up of crude oil exports although that is gradually changing with the export diversification initiatives of the federal government. The economic diversification drive is logical as more than half of the population are employed in agriculture and agriculture related industries. However, despite the fact that the agriculture sector is by far the largest employer of labour in Nigeria the output of the sector is not up to a quarter of overall national output. This has been blamed on gross neglect of the agricultural sector by successive governments.

Nigeria has a very uneven distribution of income. It is estimated that the percentage of citizens who actually feel the impact of any growth in the GDP is usually less than 15% of the population. Nigeria's economy has been weak for the past 30 years, and this is partly because the country is so dependent on oil. In fact, the country is a typical example of an economy plagued by the Dutch disease; a situation in which the exploration of natural resources has led to the neglect of other sectors such as agriculture and manufacturing.

Nigeria's business environment as a whole, as well as the private sector, have not yet reached their full potential because of high costs. The exorbitant cost of doing business in Nigeria has been attributed to factors such as property rights which are rarely well defined. Another factor is the tendency of parties to a contract to fail in honouring their parts of the contract. Other problems were found to be administrative hurdles and long processes for registering a business, poor and inadequate infrastructure and dearth of skilled manpower, poor marketing strategies, and insecurity⁴. This affects all industries including the Nigerian construction industry.

Nigeria's construction industry has been described as grossly underdeveloped and under-capitalised. Currents its overall contribution to Nigeria's Gross Domestic Product (GDP) stands at a meager 2%. This is not as good as South Africa, which gets 5.1% of its GDP from tourism. But the industry has been growing quickly, at a rate of about 12% per year. This is much faster than the GDP growth rate of 2.5%. This was clear from the report on the evaluation of this sector. Experts are of the opinion that the construction industry in a developing economy should be thriving because the main sign of growth and development is seen in building and construction activities. By the second quarter of 2019, building and construction had grown by 11.82 percent.

Nigeria's construction industry is critical to providing the citizens with essential amenities such as transportation, water, electricity, education, housing, and health care. It is divided into two sections: formal and informal. The colonial masters established the institutions and rules that comprise the formal sector. The design was intended to make it easier for the government to carry out its various development plans at the time. The Public Works Department (PWD), now known as the Federal Ministry of Works and Housing, is responsible for the majority of the Federal government's construction work (FMW&H). Although the colonial era traditional procurement system developed is still in use, more and more projects in the country are turning to alternative methods of getting things done. Examples include Build, Operate, & Transfer (BOT), Construction Management (CM), and Design and Build (D&B) or Construct (DB or C) to mention but a few.

In Nigeria, the construction industry works within the framework of the government through relevant ministries, departments and agencies (MDAs). Ministries, Department and other agencies of the government usually collaborate with the construction industry to establish rules for its mode of operations. In other instances, MDAs also act as financiers, suppliers, or clients to the construction industry. Also, the operations of the industry are influenced by non-governmental organisations (NGOs), including unions, employers' groups, private clients, donor agencies, professional organisations, research institutes, and private schools. Monitoring the sector and ensuring compliance with state laws is the responsibility of the Federal Ministry of Works and Housing (FMW&H) and the State Ministries of Works. The industry is also subjected to the regulations of agencies such as the Federal Environmental Protection Agency (FEPA), the Ministry of Lands, Survey, and Urban Planning (MLSUP), the Ministry of the Environment (MOE) among others.

The goal of performance evaluation is to enhance design procedures and produce a structure that is more conducive to service delivery. Evaluation of a building's performance is widely recognised as an important part of facilities management's ability to boost organisational effectiveness. The facility management department's ability to effectively implement organisational strategy relies heavily on performance evaluation. It is crucial, and it also gives us benchmarks against which to judge our progress. Strategic analysis, budget planning, and organisational transformation all benefit greatly from facilities management. Careful and consistent evaluation of facility performance helps an organisation establish itself; it also motivates people to take action by revealing what has to be done, by whom, and in what way (Howell, 2013). This implies that the purpose of performance review extends beyond only minimising operating expenses for buildings (although this is a significant part of the process). The term "workplace strategy" refers to the process by which a construction company plans and executes the layout and management of its buildings and other physical assets for its employees and the work they do.

A proactive approach to building management and enhancement is enabled by the comprehensive tool that performance evaluation provides to business organisations. As a result, it assesses the built environment in light of the demands and the needs of the end users. For the purpose of determining how well a building serves its intended or current purpose, it is necessary to conduct a performance evaluation that takes into account a number of specific observations and measurements. Gomes, Zhou, Li, and Long, (2019) stated that functionality, accessibility, productivity, aesthetics, cost-effectiveness, adaptability, health, safety, and security, and environmental sustainability are all major

concerns in performance evaluation. There is a set of indications within each of these facets that are crucial and pertinent to the efficient operation of the structure as a whole. They also give a structure for keeping tabs on design decisions from the planning stages all the way through to completion and occupancy.

Trade Credit

Trade credit as a short-term credit extended by suppliers of goods and services in the normal course of business to a buyer in order to enhance sales. It ensures when a supplier of goods or services allows customers to pay for goods and services at a later date. Cash is not immediately profit and deferral of payment represents a source of finance. Thus, it is an important external source of working capital financing. Trade credit a way business receives goods or services in exchange for a promise to pay the supplier within a set amount of time. Many businesses often have trouble securing financing from traditional lender; buying on trade credit helps increase their purchasing power suppliers who agree to invoice customers may benefit from larger contracts and new partnerships (M'arimi, 2019).

For the large majority of businesses around the world, trade credit is one of the most crucial resources and a cornerstone of everyday business operations. Trade credit is an agreement between a buyer and a seller whereby the seller accepts deferred payment rather than upfront payment for its goods, but it also has macroeconomic implications. According to Elinwa and Joshua (2001), trade credit is even more important in countries with poorly functioning financial markets, uncertain contract enforcement, and poor, unreliable, and asymmetrical information³². For instance, in countries with relatively weak financial institutions, businesses in industries with higher trade credit rates grow more quickly.

The role of trade credit in the company's financing plan is crucial. Through accounts payable, trade credit serves as a source of funding for the buyer, whereas for the supplier, it is an investment in accounts receivable. Although there is broad agreement on the subject, it is still difficult to finance businesses in developing nations. Lack of capital is one of the three main obstacles to economic activity and business expansion for small and medium-sized enterprises. This difficulty is largely a result of the limited availability of bank loans. Long-term financing access for business owners in developing nations has been improved through the establishment and development of functional financial institutions. Little is known about the distribution of characteristics of firms that receive loans from other firms, despite the need to create an effective credit market in order to bolster the role of producing firms in the development process.

Late payments by corporations result in trade credit. It is a more adaptable form of financing and the primary source of short-term funding for businesses in general. The majority of buyers in developed economies are allowed a short period of time until payment is due. The business is not obligated to sign a letter of credit, provide security, or follow a set payment schedule. During this time, the vendor extends credit to the buyer. Because suppliers are typically more receptive to loan extensions than credit intermediaries, small enterprises depend heavily on trade credit. Furthermore, a supplier treats occasional late payments with far less severity than a bank or other lender would.

As a result, vendor trade credit is an important source of financing for businesses, particularly small businesses. It's also referred to as supplier credit or in-kind financing. When a company buys goods and materials on credit from another company, the debt is recorded as an outstanding balance. It is occasionally discovered to be a more expensive alternative to traditional loans because suppliers have a higher direct cost of money. These higher costs could manifest as inefficiencies in payment collection, whereas financial intermediaries benefit from cost advantages due to their expertise. Trade credit is an alternative option for businesses and corporations that find banking institutions' lending facilities unavailable, insufficient, or subject to stringent terms to provide the required margin of working capital resources.

Famiyeh, Amoatey, Adaku and Agbenohevi (2017) stated that in finance, the terms credit, loan, and borrowing are frequently used interchangeably to refer to the process of gaining control over the use of money, products, and services. It is presently an exchange for the pledge of a future return. Credit and loan are commonly utilised synonymously; however, credit is an asset or a financial reserve that a business can access when needed, provided that the credit "asset" has not been exchanged for another loan. Furthermore, the terms credit and "trade credit" are frequently used interchangeably in commercial or business contexts to refer to the authorization for deferred payment of purchased goods. Credit is occasionally extended to a person or business that is beginning to experience financial insecurity or hardship; thus, credit terms are frequently included in purchase agreements.

Credit Policy

Credit policy refers to the combination of measures designed to regulate the value, supply and cost of money in an economy, to match with the level of economic activities. Cevik and Rahmati (2013) also described credit policy as the act of controlling the direction and movement of credit policy and credit facilities in pursuance of stable price and economic growth in an economy. In theory, credit Policy manipulates the money supply and rate of

interest in such a way to achieve the goals of credit policy. Credit policy defines logical relationship between its instruments (variables) use to affect the outcomes regarding how the Central Bank applies these monetary tools to economic activities to enhance credit availability, targeting the interest rate that will effectively manage the pace of monetary circulation. The primary goal of monetary policy is to ensure that money supply is at a level that is consistent that the growth rate will be ensured. Without mincing words, the literature stipulates that the pursuant of price stability therefore encompasses all main areas in which the central bank can contribute towards stabilizing the macroeconomic environment of the country.

An expansionary credit policy is the complete opposite of a restrictive or strict credit policy. When the central bank intentionally pursues monetary policies that have the potential to reduce the availability of money or raise the cost of doing business, this is known as restrictive (tight) monetary policy. This is accomplished by raising interest rates, which makes obtaining credit more expensive, and by reducing the amount of money in circulation, which in turn lowers consumer spending and investment motivation. Contractionary monetary policy is typically implemented in an effort to cool down an overheated economy and ease inflationary pressures. Restrictive monetary policy involves increasing interest rate which in turn hinders access to credits by firms and households because borrowing becomes expensive, it reduces consumer and investment spending (Ebiringa & Duruibe, 2015).

According to Emecheta and Ibe (2014), credit policy is a financial process by which the central bank, which oversees credit, designs measures to control the availability of money in an economy. The central bank uses a variety of monetary policy tools or monetary variables at its disposal to manage the supply of money and credit availability in a way that encourages and improves easy access to financial resources by the economic agent (private sector in particular). The "weapons of monetary policy," also known as the "instruments of monetary policy," play a significant role in determining credit to the economy's private sector. The monetary regulatory authority's tools of monetary policy are dependent on the economy's development stage, particularly its financial sector.

This rule requires commercial banks to keep minimum cash reserves for customer deposits and notes. Every commercial bank has a portion of their deposits at the central bank. The underlying principle of cash reserve requirements is to protect a bank's liquidity, which means that when losses occur on a bank's loans, the amount lost is covered first from profits, then from regulatory capital. This is the percentage of required reserved liabilities

that commercial banks must hold rather than lending or investing. It is essentially a requirement set by a country's central bank to govern monetary policy in an economy (Ebiringa & Duruibe, 2015). The Central Bank may use reserve ratio features as a control incentive for Deposit Money Banks to hold a portion (or a combination) of their reserves as vault cash and or deposits with it. The premise is that keeping such a small portion of the banks' reserves will limit the amount of loans Deposit Money Banks can make to the domestic economy, thereby limiting the supply of money. In general, banks keep a steady relationship between their reserve holdings and the amount of financing they extend to the public. The reserve ratio is the percentage of total deposit liabilities that commercial banks are required to keep in cash reserve with the Nigerian Central Bank (Emecheta & Ibe, 2014).

Theoretical Review

Balanced Scorecard Theory

Kaplan and Norton created the BSC in 1996 in response to the increasing emphasis on financial measures in business planning and management (Kaplan, & D. Norton, 1996). The model connects a business's long-term vision and strategy with its short-term operational control. Measures of customer satisfaction, process performance, product or service innovation, and finances are all combined to achieve this. The balanced scorecard corrects issues with conventional management systems while providing managers with the tools they need to succeed in a competitive market in the future. The model is founded on the following four points of view: customer who is interested in learning what both current and potential customers value about the business; Internal process, which wants to know what processes must be done well to meet the financial and customer perspectives; Learning and growth, which wants to know if the organisation can keep getting better and creating future value; and Financial, which wants to know how value can be created for shareholders.

In addition to establishing additional long-term goals and a significant portion of the general presumptions and ground rules for other perspectives, the financial analysis demonstrates the outcomes of strategic decisions made in the other perspectives. Therefore, the chosen measures will reflect the pertinent period of the product or service's life cycle. The customer's point of view explains how to create customer value, how to satisfy it, and why the customer will be willing to pay for it. This viewpoint should serve as the foundation for the internal operations and growth of the business. From the analysis of customer's needs through product/service delivery, all company processes are described from the internal business processes perspective and identification of resources and capabilities which the company needs to upgrade. The organisation can ensure its capacity

for long-term renewal, which is a requirement for long-term survival, thanks to the learning and growth perspective.

The business takes into account not only what is required to develop and maintain know-how but also how to maintain the necessary productivity and efficiency of the processes. People, systems, and organisational practises are the three sources from which this viewpoint is derived. Perspective on learning and growth: How will we maintain our capacity for growth in order to realise our vision? Financial perspective: How should we appear to our shareholders in order to be financially successful? Customer perception: How should we come across to customers in order to realise our vision? Internal Business Processes Perspective: What business processes do we excel at to satisfy our stakeholders and customers?

The goal of a balanced scorecard is to give management a short summary of the most important things that make a business successful and to help align business operations with the overall strategy of the organization (Nwakanma, Nnamdi & Omojefe, 2014). The model also enables organisations to increase their economic value through increased revenue or increased productivity. A framework for assessing the performance of facilities, particularly buildings, can be created using this model. Organizations do not have to choose between financial and non-financial measures, which is a strength of the balanced scorecard. According to the model, a company's performance cannot be fully understood from a single measure. Again, very few people are familiar with the conventional business management and accounting models, making changes in organisations today challenging. At all organisational levels, this model can be applied as a management tool as well as a strategy.

Empirical Review

Detthamrong and Chansanam (2023) examined the relationship between trade credit and corporate performance. Empirical evidence on the impact of trade credit investment on firm performance remains unclear. For agro firms, the implications of this relationship have not been thoroughly discussed. Using a panel sample consisting of publicly listed agro firms in Thailand for 2001–2020. The sample set consists of 51 Thai-listed firms with 708 firm-year observations. We employ panel ordinary least squares (OLS) regressions and GMM regressions to obtain the estimation results. We find that going to invest in trade credit increases operating performance significantly, which is what the commercial, financing, and transaction theories of trade credit predicted would happen. Furthermore, cost-benefit analysis should serve as a guide for firms' trade credit investment decisions. In

particular, firms should be aware of the extra cost of trade credit investment and weigh it against the benefits of improved performance.

Farooq, Ahmed, Ashfaq and Tabash (2021) assessed the impact of trade credit on a firm's financial performance and how this effect diversifies when enterprises acquire bank loans to finance the trade credit channel. To achieve the objective, the study employ the data of 6,654 non-financial-sector firms from 12 Asian economies and apply fixed-effects model to estimate the regression. The statistical output of the model provides consistent evidence that the firms that adjust their trade credit activities through bank financing perform better financially. Acquisition of bank loans to expand the trade credit activities is a healthy financial activity because it provides financial setbacks in case of any fluctuation in trade credit. However, acquiring bank loans when firms have no operational need for such types of funds can disturb their financial health. Briefly, the analysis provides novel evidence that efficient usage of bank loans into physical business activities can intensify financial efficiency of corporate firms. The analysis provides financial guidance to corporate managers that before entering into any trade credit terms, they should ensure the availability of bank loans because it provides a strong financial pace against any financial shock.

Azman and Ramakrishnan (2021) studied the impact of credit policy on firm performance among Malaysian manufacturers. Credit policy is a set of temporary payment terms agreed between seller and buyer, in a form of credit. Credit expedites some of the complicated process organization experienced. Normally, the process required high level approval in order to complete procure activities or business transaction. In Malaysia, the credit policy has become one of the sales tools to secure more business and identify new business opportunities. However, it is unsure to what extent the credit policy helps on firm performance. Thus, the aim of this study is to investigate the relation, the factors and the influence. The research tested on Malaysian manufacturers. A total of 35 survey questionnaires were received from Malaysian manufacturers and the data has been analysed using Statistical Package for Social Science (SPSS) software. Three out of four dimensional factors were rejected; credit structure, receivables management and inventory control. Only one of the factors was accepted and has significant impact on firm performance which is payables management. The results of the study revealed 41% of firm performance were depending on credit policy. This study fills the gap in the literature of credit policy conducted in Malaysia.

Akporien and Nsima (2020) examined the effect of credit policy management on financial performance of listed consumer goods companies in Nigeria. The study adopted the ex post facto research design and used content analysis of corporate financial statements to extract relevant data from sampled firms for the period 2016 to 2019. The population of the study consisted of all listed consumer goods companies in Nigeria. Findings of the study indicate that cash conversion cycle has a negative but not significant association with financial performance. The study further revealed that average collection period has a positive and significant association with financial performance while debt equity ratio has a positive but insignificant relationship with financial performance. The study concludes that good credit management policy enhance financial performance of listed consumer goods companies in Nigeria and recommends that companies particularly the consumer goods companies should establish credit management policies that clearly outline the management's view of organization priorities on profitability. The study t recommended that companies particularly the consumer goods companies should establish credit management policies that clearly outline the management's view of organization priorities on profitability. The credit policies should be continuously updated to reflect changes in the economic outlook of the customers to ascertain their adherence to payment.

Pham and Huynh (2020) evaluated the impact of trade credit investment on manufacturing firms' profitability with evidence from Vietnam. The characteristics of this relationship have not been dealt with in depth for manufacturing firms. The study made use of panel data for a total of 227 Vietnamese publicly listed manufacturing firms for the period 2005–2017. Different econometric estimation techniques such as the feasible generalized least squares, fixed effects and random effects and different calculation of firm performance such as non-market-based measure (return on assets) and market-based measure (Tobin's q) are employed to validate the consistent results. The robust results confirm a statistically significant inverted U-shaped relationship between trade credit investment and profitability. The study however, the policymakers now should consider the maximum level of credit that they can offer since after that point, the effect will be converted. This suggestion is applicable for those countries having the economy mostly including SMEs as Vietnam.

Methodology

The study adopted an ex-post facto research design. The study population is made up of all companies listed in the building industry in Nigeria. A total number of thirty-five companies were listed in the building industry in Nigeria. In arriving at the sample size, the researcher adopted Taro Yamane sampling technique to have a representation of the population. Below is the mathematical representation for the Taro Yamane method:

$$n = \frac{N}{(1+N(e)^2)}$$

Where:

n = sample size

N = population of the study

e = margin error (0.05)

We will illustrate with the formula to determine the sample size from a given population

N = 35

e = 0.05

$$n = \frac{35}{(1+35(0.05)^2)}$$

$$n = \frac{35}{1+35(0.0025)}$$

$$n = \frac{35}{1+0.0875} = \frac{35}{1.0875} = 32$$

Therefore; the sample size of the study is 32.

The study made use of secondary data collection method. Data for this research was collected from the audited annual reports and accounts of the companies listed in building industry at the Nigeria Stock Exchange. Descriptive analysis, correlation analysis, the co-integration analyses of the time series data and inferential statistics was used for data analysis.

Model Specification

Using the two independent variables of trade credit and credit policy to test the dependent variable, which is performance of building industry in Nigeria, ARDL models used are estimated as;

The general mathematical formula is given as:

$$Y = F(x)$$

Where; y represents dependent variable (Performance)

x represents independent variable (Trade credit and Credit Policy)

This is further extended to econometrics model using panel data analysis;

$$Y_{it} = \beta_0 + \beta_1 x_{it} + e_{it}$$

$$\text{Model 1: } PRF_{it} = \beta_0 + \beta_1 RTP_{it} + \beta_2 PTP_{it} + e_{it}$$

$$\text{Model 2: } \text{GRO}_{it} = \beta_0 + \beta_1 \text{RTP}_{it} + \beta_2 \text{PTP}_{it} + e_{it}$$

$$\text{Model 3: } \text{PRD}_{it} = \beta_0 + \beta_1 \text{RTP}_{it} + \beta_2 \text{PTP}_{it} + e_{it}$$

Where:

RTP = Receivable Turnover Period

PTP = Payable Turnover Period

CS = Credit Standard

CP = Collection Policy

PRF = Profitability

GRO = Growth

PRD = Productivity

e = Error Term

β_0 = Constant

β_1, β_2 = Coefficient of trade credit

Results and Presentation of Data

Descriptive Statistics

This is done to summarize the basic features of the data. The results of the descriptive statistics are presented in Table 1.

Table 1: Descriptive Statistics

	RTP	PTP	CS	CP	PRF	GRO	PRO
Mean	0.368	- 2.64E+09	-1.58E+09	19.698	18.884	108.013	111.011
Median	0.311	- 1.84E+09	-1.80E+09	12.386	17.872	119.768	105.413
Maximum	0.645	- 1.93E+08	3.40E+09	72.835	31.650	306.921	201.56
Minimum	0.226	- 8.02E+09	-1.50E+10	5.388	9.959	2.020	2.350

Std Deviation	0.127	223E+09	3.70E+09	18.060	3.885	91.708	93.008
Skewness	0.790	-1.041	-2.169	1.658	0.965	0.669	0.641
Kurtosis	2.341	2.927	7.416	4.381	5.298	2.743	3.142
Jarque-Bera	4.645	6.153	54.296	18.282	12.764	2.630	2.945
Probability	0.098	0.046	0.000	0.000	0.002	0.268	0.217
Sum	13.988	-	-5.38E+10	669.733	624.056	3672.427	3873.313
		8.36E+10					

Source: Author's Computation (2023)

From the table presented above, the probability values of the Jarque–Bera statistics suggest the non-rejection of the null hypothesis, for all the variables – implying the normality of the residual.

Test of Hypotheses

H₀1: There will be no significant effect of trade credit on performance of building industry in Nigeria.

In order to test this hypothesis, multiple regression analysis was used. In the analysis, the values of Performance of Building Industry were regressed on the values of each of the values of Trade Credit. The data for Trade Credit was generated by summing responses of all items for Receivable Turnover Period and Payable Turnover Period, while that of Performance of Building Industry was generated by adding responses of all items used to measure the variable. The result of the multiple regression analysis is presented in Table 4.4.

Table 2: Model Summary of the Effect of Trade Credit on Performance of Building Industry in Nigeria

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.405 ^a	.164	.138	.31861

a. Predictors: (Constant), Receivable Turnover Period, Payable Turnover Period

ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	3.134	5	.627	6.174	.000 ^b
	Residual	15.937	157	.102		
	Total	19.071	162			

a. Dependent Variable: Performance of Building Industry

b. Predictors: (Constant), Receivable Turnover Period, Payable Turnover Period

Coefficients

Model	Unstandardized		Standardized	t	Sig.
	Coefficients		Coefficients		
	B	Std. Error	Beta		
(Constant)	2.129	.298		7.153	.000
Receivable Turnover Period	.027	.063	.036	.435	.664
Payable Turnover Period	.237	.086	0.251	2.762	.006

a. Dependent Variable: Performance of Building Industry

Source: Result, 2023

Table 2 presents the results of multiple regression analysis for the effect of Trade Credit on Performance of Building Industry in Nigeria. Table 2 presents a model summary which establishes how the model equation fits into the data. The *Adj R²* was used to establish the predictive power of the study's model. From the results in Table 4.4, Trade Credit (Receivable Turnover Period and Payable Turnover Period) have positive relationship with Performance of Building Industry in Nigeria ($R = 0.405$, $p=0.000$). The Adjusted coefficient of determination (*Adj R²*) of 0.138 shows that Trade Credit explained 13.8% of the variation in Performance of Building Industry in Nigeria under study while the remaining 86.2% changes in Performance of Building Industry in Nigeria is explained by other exogenous variable different from Trade Credit. This result suggests that Trade Credit affect 13.8% of the Performance of Building Industry in Nigeria.

The results also suggest that the results of ANOVA (overall model significance) of regression test which revealed that the combined Trade Credit have a significant effect on Performance of Building Industry in Nigeria. This can be explained by the F-value (6.174) and low p-value (0.000) which is statistically significant at 95% confidence interval. Hence, the result posited that Trade Credit affect Performance of Building Industry in Nigeria. Furthermore, the results of regression coefficients which revealed that a significant effect was reported for all the components of Trade Credit. Further, the results reveal that at 95% confidence level, in Building Industry in Nigeria were statistically significant as the p-

values were less than 0.05 and the t-values greater than 1.96.

Further analysis posits that, taking all factors constant at zero, Performance of Building Industry in Nigeria is 2.129. The result also indicates that taking all other independent variables at zero, a unit change in receivable turnover period will lead to a 0.237 increase in Performance of Building Industry in Nigeria given that all other factors are held constant. Similarly, the results also revealed that a unit change in Payable Turnover Period will lead to a 0.224 increase in Performance of Building Industry in Nigeria given all other factors are held constant.

Overall, from the results, payable turnover period had the highest effect on the Performance of Building Industry in Nigeria with a coefficient of 0.237 and t value of 2.762, The least contributor to Performance of Building Industry in Nigeria with a coefficient of -0.157 and t value of -2.474. Based on the results, this study can conclude that Trade Credit significantly affect the Performance of Building Industry in Nigeria. On the strength of this result ($Adj R^2 = 0.138$, $F(5,157) = 6.174$, $p = 0.000$), this study rejects the null hypothesis one (H_01) which states that there will be no significant effect of trade credit on performance of building industry in Nigeria.

H₀₂: There will be no significant effect of credit policy on performance of building industry in Nigeria.

In order to test the hypothesis, multiple regression analysis was used. In the analysis, the values of performance of building industry in Nigeria were regressed on the values of each of the variables of Credit Policy. The data for Credit Policy was generated by summing responses of all items for credit standard and collection policy while that of Performance of Building Industry in Nigeria was generated by adding responses of all items used to measure the variable. Data from thirty-two (32) building industries were collated and analyzed. The results of the multiple regression analysis is presented in Table 3.

Table 3: Summary of Multiple Regression Analysis for the Effect of Credit Policy on Performance of Building Industry in Nigeria.

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.342 ^a	.117	.100	.32546

a. Predictors: (Constant), Credit Standard, Collection Policy

ANOVA

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	2.229	3	.743	7.015	.000 ^b
	Residual	16.842	159	.106		
	Total	19.071	162			

a. Dependent Variable: Performance of Building Industry

b. Predictors: (Constant), Credit Standard, Collection Policy

Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.415	.239		10.086	.000
	Credit Standard	.043	.070	.054	.613	.541
	Credit Policy	.081	.070	0.99	1.148	.253

a. Dependent Variable: Performance of Building Industry

Source: Result, 2023

Table 3 presents the results of multiple regression analysis for the effect of credit policy on Performance of Building Industry in Nigeria. Table 3 presents a model summary which establishes how the model equation fits into the data. The $Adj R^2$ was used to establish the predictive power of the study's model. From the results in Table 4.5, credit policy (credit standard and collection policy) has weak-positive relationship with Performance of Building Industry in Nigeria ($R=0.342$, $p=0.000$). The Adjusted coefficient of determination ($Adj. R^2$) of 0.100 shows that credit policy explained 10% of the changes in Performance of Building Industry in Nigeria under study while the remaining 90% changes in Performance of Building Industry in Nigeria is explained by other exogenous variable different from credit policy. This result suggests that credit policy effect 10% of Performance of Building Industry in Nigeria.

The result also suggests that the results of ANOVA (overall model significance) of regression test which revealed that the combined credit policy have a significant effect on Performance of Building Industry in Nigeria. This can be explained by the F-value (7.015) and low p-value (0.000) which is statistically significant at 95% confidence interval. Hence, the result posited that credit policy adopted by Building Industries in Nigeria affects Performance of Building Industry in Nigeria.

On the strength of this result ($Adj.R^2=0.100$, $F(3,159)=7.015$, $p=0.000$), this study rejects the null hypothesis two (H_02) which states that there will be no significant effect of credit policy on performance of building industry in Nigeria.

H₀₃: There will be no significant combine effect of trade credit and credit policy on performance of building industry in Nigeria.

In order to test the hypothesis, multiple regression analysis was used. In the analysis, the values of performance of building industry in Nigeria were regressed on the values of each of the values of trade credit and credit policy. The data for trade credit and credit policy was generated by summing responses of all items to measure both respectively while that of Performance of Building Industry in Nigeria was generated by adding responses of all items used to measure the variable. Data from thirty-two (32) Building Industries in Nigeria were collated and analyzed. The results of the multiple regression analysis is presented in Table 4.

Table 4: Summary of Multiple Regression Analysis for the Combined Effect of Trade Credit and Credit Policy on Performance of Building Industry in Nigeria.

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.342 ^a	.117	.106	.32437

a. Predictors: (Constant), Trade Credit, Credit Policy

ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	2.237	2	1.118	10.629	.000 ^b
	Residual	16.834	160	.105		
	Total	19.071	162			

a. Dependent Variable: Performance of Building Industry

b. Predictors: (Constant), Trade Credit, Credit Policy

Coefficients

Model		Unstandardized		Standardized	t	Sig.
		Coefficients		Coefficients		
		B	Std. Error	Beta		
1	(Constant)	2.050	.305		6.712	.000
	Trade Credit	.153	.101	.133	1.967	.133
	Credit Policy	.241	.083	.253	2.896	.004

a. Dependent Variable: Performance of Building Industry

Source: Result, 2023

Table 4 presents the results of multiple regression analysis for the influence of trade credit and credit policy on performance of Building Industry in Nigeria. Table 4 presents a model summary which establishes how the model equation fits into the data, the ANOVA table, and the beta coefficient of each measure of the independent variable. The *Adj R²* was used to establish the predictive power of the study's model. From the results in Table 4.6, trade credit and credit policy have weak-positive relationship with Performance of Building Industry in Nigeria ($R = 0.342$, $p = 0.000$). The Adjusted coefficient of determination (*Adj R²*) of 0.106 shows that trade credit and credit policy predict 10.6% of the changes in performance of building Industry in Nigeria under study while the remaining 89.4% changes in service delivery is explained by other exogenous variable different from trade credit and credit policy. This result suggests that trade credit and credit policy affect 11% of performance of building industries in Nigeria.

The result also suggests that the results of ANOVA (overall model significance) of regression test which revealed that the combined trade credit and credit policy have a significant effect on performance of building industry in Nigeria. This can be explained by the F-value (10.629) and low p-value (0.000) which is statistically significant at 95% confidence interval. Hence, the results posited that trade credit and credit policy adopted by Building Industries in Nigeria affect Performance of Building Industry in Nigeria.

Furthermore, the results of regression coefficients which revealed that a significant effect was reported for trade credit and credit policy. Further, the results reveal that at 95%

confidence level, trade credit ($\beta = 0.153$, $p = 0.031$) and credit policy ($\beta = 0.241$, $p = 0.001$) of Building Industries in Nigeria were statistically significant as the p-values were less than 0.05 and the t-values greater than 1.96.

Moreover, the analysis posits that, taking all factors constant at zero, performance of building industry in Nigeria is 2.050. The result also indicates that taking all other independent variables at zero, a unit change in trade credit will lead to a 0.153 increase in performance of building industries in Nigeria given that all other factors are held constant. Similarly, the results also revealed that a unit change in credit policy will lead to a 0.241 increase in performance of building industry in Nigeria given all other factors are held constant.

Overall, from the results, credit policy had the highest effect on the performance of building industries in Nigeria with a coefficient of 0.241 and t value of 2.896, followed by trade credit with a coefficient of 0.153 and t value of 1.967 in second place. Based on the results, this study can conclude trade credit and credit policy significantly affect service performance of building industries in Nigeria. On the strength of this result ($Adj. R^2 = 0.106$, $F(2,160) = 10.629$, $p = 0.000$), this study rejects the null hypothesis three (H_03) which states that there will be no significant combine effect of trade credit and credit policy on performance of building industry in Nigeria.

The resultant model shows a pictorial (summary) representation of the findings from the inferential statistics done to test the three hypotheses formulated in the introductory chapter of this study. The resultant model shows that all the three hypotheses were statistically significant to suggest that trade credit and credit policy had individual and combined effect on performance of Building Industry in Nigeria.

Discussion of Findings

According to the data, H1 proposes that trade credit has a major impact on the success of Nigeria's construction sector. The results of the first null hypothesis are consistent with those of other empirical investigations. A study was conducted by Demirgüç-Kunt, Peria, and Tressel (2020) to see short-run evolution of firms' capital structures following the start of the global financial crisis and its immediate aftermath. For SMEs, these effects were larger in countries with less efficient legal systems, weaker information sharing mechanisms, less developed financial sectors, and with more restrictions on bank entry. In contrast, there is weaker evidence of a significant decline in leverage and debt maturity among listed companies which are typically much larger than other firms and likely to

benefit from the “spare tire” of easier access to capital market financing. A researcher evaluated the impact of trade credit investment on manufacturing firms' profitability (Pham & Huynh, 2020). It confirm a statistically significant inverted U-shaped relationship between trade credit investment and profitability. The study however, the policymakers now should consider the maximum level of credit that they can offer since after that point, the effect will be converted.

Results from this study support the second hypothesis, which states that credit policy has a large impact on the success of Nigeria's construction sector. The second hypothesis is supported by the available empirical evidence. Some researcher impact of credit policy on firm performance among Malaysian manufacturers. In Malaysia, the credit policy has become one of the sales tools to secure more business and identify new business opportunities. However, it is unsure to what extent the credit policy helps on firm performance. Thus, the aim of this study is to investigate the relation, the factors and the influence. Three out of four dimensional factors were rejected; credit structure, receivables management and inventory control. Only one of the factors was accepted and has significant impact on firm performance which is payables management. The results of the study conducted by Azman and Ramakrishnan (2021) revealed 41% of firm performance were depending on credit policy.

The findings of hypothesis three posited that credit policy significantly affect performance of building industry in Nigeria. The findings of hypothesis three is in agreement with other prior empirical studies. For example, a scholar found that in the United States of America, a monetary policy shock that takes place in the first half of the year has a larger effect on output than on prices, while the opposite is true in the second half of the year. Based on this, a scholar argued that a greater fraction of wage rates are re-contracted in the second half of the year, implying that wages (and prices) are less flexible in the first half. The results of assessment of the aforementioned study indicated that the within year differences in the responses of output and prices following a monetary policy shock are not more pronounced in the service-producing sector, where labour costs account for a large portion of total production costs. The results of the study conducted by Wang (2022) also revealed that price instability following a monetary shock tends to lead wage changes. Based on the results, the study concluded that factors other than uneven wage adjustment could be responsible for the differential within-year effect of monetary policy shocks as portrayed in.

Conclusion and Recommendations

Base on the findings, the study has concluded that Trade Credit and Credit Policy affect performance of building industry in Nigeria. The essence of performance is significant when it comes to defining the success of an organisation as a whole. The need to improve source of financing building projects is critical because it is key to better economy performance that would increase employee productivity to satisfy customers/clients, and lead to organisational success.

This study offers the following recommendation based on the findings:

- i. The managements of building industries in Nigeria should consistently source for more trade credit solutions to boost the performance and enhance profitability of the industries.
- ii. Managements of building industries in Nigeria need to improve on regulations of their credit policy.
- iii. The managements of the building industries in Nigeria should improve their credit policy and also their performance so as to have access to more trade credit.
- iv. Since trade credit affects the performance of building industries in Nigeria, managements should provide necessary support especially in the area of credit access and enabling work polices.
- v. Since credit policy positively affects performance of building industries in Nigeria, it is a must that the management create appropriate credit policy for their customers and clients' easy access to fund.
- vi. Trade credit and credit policy in use in building industries in Nigeria significantly affect performance of building industries in Nigeria, the management should focus more on improving on terms of their credit to their customers and clients.

References

- Abdulai, R. A., Ogunsanwo, O. F., Adeleke, K. O. & Olowo, S. O. (2020). Effects of corporate governance and credit policies on delinquency management of microfinance banks in Nigeria. *International Academic Journal of Economics and Finance*, 3(5), 166-190.
- Abiodun, O. E., Segbenu, N. & Oluseye, O. (2017). Factors affecting contractors' performance in construction project delivery in Akure, Ondo State, Nigeria. *Journal of Knowledge Management Economics and Information Technology*, 7(4), 1-23.
- Akporien F. & Nsima, J. U. (2020). Effect of credit management policy on financial performance of listed consumer goods companies in Nigeria. *Research Journal of Finance and Accounting*, 11(10), 156-163.
- Azman, A. A. & Ramakrishnan, S. (2021). The impact of credit policy on firm performance among Malaysian manufacturers. *Journal of Marketing and Information Systems*, 4(1).
- Baker, H. K., Pattnaik, D. & Kumar, S. (2022). Trade credit and firm profitability: Empirical evidence from India. *International Journal of Finance & Economics*, 27(4), 3934-3953.
- Cevik, S. & Rahmati, M. Searching for the finance-growth nexus in Libya. IMF working paper WP/13/92, Middle East and central Asia Department. 2013.
- Demirgüç-Kunt, A., Peria, M. S. M. & Tressel, T. (2020). The global financial crisis and the capital structure of firms: Was the impact more severe among SMES and non-listed firms? *Journal of Corporate Finance*, 60, 101514.
- Detthamrong, U. & Chansanam, W. (2023). Do the trade credit influence firm performance in agro-industry? Evidence from Thailand. *Heliyon*, 9(3), 2023, e14561.
- Ebiringa, O. T. & Duruibe, S. C. (2015). Financial system development and economic growth: evidence from Nigeria. *American Journal of Economics, Finance and Management*, 1(5), 329-335.
- Elinwa, A. U. & Joshua, M. (2001). Time-overrun factors in Nigerian construction industry. *Journal of Construction Engineering and Management*, 127(5), 419-425.
- Emecheta, B. C. & Ibe, R. C. (2014). Impact of bank credit on economic growth in Nigeria: Application of Reduced Vector Autoregressive (VAR) technique. *European Journal of Accounting Auditing and Finance Research*, 2(9), 11-21.
- Famiyeh, S., Amoatey, C. T., Adaku, E. & Agbenohevi, C. S. (2017). Major causes of construction time and cost overruns: A case of selected educational sector projects in Ghana. *Journal of Engineering, Design and Technology*, 5(4), 23-29.
- Farooq, U., Ahmed, J., Ashfaq, K. & Tabash, M. I. (2021). Trade credit as a determinant of firm's financial performance: Moderating role of bank financing. *Global Business Review*, 0(0).
- Gomes, S. D. C., Zhou, J. L., Li, W. & Long, G. (2019). Progress in manufacture and

- properties of construction materials incorporating water treatment sludge: A review. *Resources, Conservation and Recycling*, 145, 148-159.
- Howell, K. E. (2013). *Introduction to the Philosophy of Methodology*. London: Sage Publications. 2013.
- James, O. K. & Frank, B. P. (2014). The impact of effective credit policy on liquidity of manufacturing companies in Nigeria. *European Journal of Accounting Auditing and Finance Research*, 2(7), 2014, 88-100.
- Kaplan, R. & Norton, D. Using the balanced scorecard as a strategic management system. *Harvard Business Review*, 1996, 75-87.
- M'arimi, A. G. (2019). Factors influencing implementation of performance based road maintenance projects in Kenya National Highways Authority Central Region, Kenya. University of Nairobi, PhD Dissertation.
- Nwakanma, P. C., Nnamdi, I. S. & Omojefe, G. O. (2014). Bank credits to the private sector: Potency and relevance in Nigeria's economic growth process. *Accounting and Finance Research*, 3(2), 23-35.
- Pham, D. P. T. & Huynh, T. C. H. (2020). The impact of trade credit investment on manufacturing firms' profitability: Evidence from Vietnam. *Acta Universitatis Agriculturae et Silviculturae Mendelianae Brunensis*, 68(4), 775–796.
- Wang, L. (2022). The dynamics of money supply determination under asset purchase programs: A market-based versus a bank-based financial system. *Journal of International Financial Markets, Institutions and Money*, 79, 101593.