



Admiralty Journal of Multidisciplinary Research, ISSN 1597–278X

Environmental Scanning and Performance of Pharmaceutical Firms in Nigeria: Evidence from May and Baker Plc

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Authors' Contributions

This work was carried out in collaboration among all authors.
All authors read and approved the final manuscript.

Research Article

ABSTRACT

Pharmaceutical firms in Nigeria face a difficult operating environment. In view of this, the need for them to carry out continuous environmental scanning is imperative to remain in operation. Open system theory anchored this quantitative-empirical study, which investigated the effect of environmental scanning on the profitability of pharmaceutical firms in Nigeria using May and Baker Plc as a case study. Secondary data were collected from the annual reports of May and Baker Plc., and the Central Bank of Nigeria within the period of 2010 to 2022. The study established that exchange rate, taxation, exports, inflation, imports, and investment have significant positive effects on the profitability of May and Baker Plc. Economic growth has a significant negative effect on the profitability of May and Baker Plc. Industrial production has a non-significant negative effect on the profitability of May and Baker Plc. Investment and exchange rate volatility have the strongest significant positive effects on the profitability of May and Baker Plc. within the period covered in this study. Continuous environmental scanning by pharmaceutical firms in Nigeria with focus on exchange rate, taxation, exports, inflation, imports, and investment cannot be ignored as they have significantly influenced their performance.

Keywords: Environment, environmental scanning, exchange rate, inflation, pharmaceutical firms, profitability.

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INTRODUCTION

Organisations in this modern business era operate in a more competitive, complex, and rapidly changing unpredictable environment. One of the fast growing industrial sectors in Nigeria is the Nigerian pharmaceutical industry (Isola & Mesagan, 2016) but the industry is no doubt immensely influenced by the volatility of the Nigerian business environment (Markéta, 2013; Ikon & Chukwu, 2017, Agosto & co, 2024). Lodha international (2018) in their forecast projected that the Nigeria Pharmaceutical Industry is estimated to grow at a compound annual growth rate (CAGR) of 9.1% to reach \$5.3 Billion by 2024.

Though some of the pharmaceutical firms operating in Nigeria have shown significant doggedness in the face of macroeconomic fluctuations, the industry, however, continues to face challenges from environmental turbulence and lack of patronage for locally manufactured pharmaceutical products forcing the industry to currently produce at 30% below capacity there by incurring losses in millions of naira yearly (Shree & Bhagwati, 2017; Lodha international, 2018; Ifijeh, 2019). Despite the government's efforts to encourage local manufacturing, the local drug manufacturing sector is still facing a lot of problems including rising operational costs driven by the increase in the price of petroleum products by the Nigerian government, inflation and diminished consumer purchasing power. In addition, the Industry's heavy dependence on imported raw materials aggravates the negative effects of the naira depreciation resulting from exchange rate volatility, particularly over the past year (Agusto & Co, 2024). Other problems facing the pharmaceutical firms include but are not restricted to the increase in tax rates, high tariff on imported raw materials, unfair government policies, inadequate infrastructural provision, lack of access to low interest funding, illegal importation and sale of fake substandard goods. These

unfavourable factors led to an extreme increase in the cost of production and limited the facilities of pharmaceutical industries from performing at optimal capacity. The pharmaceutical firms who couldn't cope with the drastic increase in the cost of production were forced by these circumstances to close their operation in Nigeria.

In this linkage therefore, the financial sustainability of the pharmaceutical sub sector depends on the understanding of the dynamic trends within their business environmental (Ikon & Chukwu, 2017). This is because most of these suspected environmental forces that inhibit the performance of pharmaceutical firms emanate from the environment. Ezeilo and Ebenebe, (2018) defined the environment as comprising of all sets of element that are independent of the organisation but are of importance for its success. Thus, to utilise the strengths and overcome the weaknesses created by the environment, organisations need to spend much time to learn how to deal with the traumas, fluctuations, and opportunities created by the environment (Aka, Azunwene & Onuoha, 2018). To understand the means of adapting and adjusting to the constant changes occurring in the business environment, scanning of the environment becomes inevitable.

Enemuo and Akpan (2017) referred to environmental scanning as the process by which managers observe the economic, political, socio-cultural, legal and technological setting in order to determine the opportunities and threats to the firm. Therefore, the identification of the strengths, weaknesses, opportunities and threats (swot) of pharmaceutical sector will be dependent on the unavoidable scanning of their environment (Lotayif, 2018, Onondaga & Ewurum, 2013, Adegboyega, Onikoyi, Adetunji, Wasiu & Odeh, 2022). This is because the extent to which an organisation achieves success appear to be a function of how effectively interactive the organisation is with its environment (Lotayif, 2018, Enuoh &

Akpan, 2024). In other words, the extent to which a firm responds to the external environment determines its eventual performance (Ezeilo & Ebenebe, 2019).

This study provides a better understanding of the correlation between environmental scanning and performance of firms. It explores some of the environmental factors affecting companies' performance, so the pharmaceutical companies will be better guided on where to channel their energy when it comes to gathering information for the environmental scanning process. Thus, this study broadly investigates the influence of environmental scanning on the organisational performance of selected pharmaceutical firms in Nigeria. Specifically, the objectives of this study are to: (a) ascertain the extent to which exchange rate volatility influences the profitability of selected pharmaceutical firms in Nigeria; and (b) examine the influence of taxation on profitability of selected pharmaceutical firms in Nigeria

CONCEPTUAL REVIEW

Business Environment

Organisations operate in a dynamic environment, therefore, their adaptation and adjustment to changes in their environment is crucial. These changes, especially from the external environment, can present an opportunity to exploit or a threat to avoid by the organisations. The symbiotic relationship between organisations and their environment enables the organisation to utilise the information and resources which flow as inputs into the organisations and also grow and survive as a result of outputs outflow to the environment (Enemuo & Akpan, 2017, Ezeilo & Ebenebe, 2019).

The environment of an organisation consists of strengths and weaknesses existing in the internal environment and the uncontrollable external environment comprising of those factors which determine the exploitable opportunities and threats that constrain the activities and

operations of an organisation (Hiriyappa, 2016). This study focuses on the external uncontrollable economic environmental factors such as the economic conditions and economic policies (exchange rate, taxation, gross domestic product, and inflation) in Nigeria which influences the performance of a business.

Environmental Scanning

Environmental scanning is conceptualised as a process that organisations adopt to monitor their environment with the determination of identifying the exploitable opportunities and avoidable threats that serve as constraints to their business with the intention of making informed decisions. Aguilar (1967) as cited by Zhang, Majid and Foo (2011) is arguable the first classical scholar to have carried out a research on the study of environmental scanning. He defined environmental scanning as the process through which organisations acquire facts and figures about the incidents and relationships in their external environment that enables the managers to perform their tasks of decision-making effectively for improved organisational performance (Zhang, Majid & Foo, 2011; Enemuo & Akpan, 2017). Some scholars agree that those firms that engage in frequent and continuous scanning of their organisation's environment have a higher chance of gaining competitive advantage and higher performance over those that do not (Lotayif, 2018; Onodugo & Ewurum, 2013). The unstable nature of present business environment requires serious and continuous all-encompassing scanning of the dynamism of external economic environmental factors such as tax rates, exchange rate, inflation rate, exports, imports and investment variables (Adegboyega, Onikoyi, Adetunji, Wasiu & Odeh, 2022).

Several techniques have been suggested and used by previous researchers for conducting environmental scanning. They include techniques such as

undirected viewing, conditioned viewing, informal searching, and formal searching (Aguilar, 1967). Morrison, Renfro, and Boucher (1984) disentangled the environmental scanning techniques to either passive or active environmental scanning while Fahey, King, and Narayanan (1981) as well as Babatunde and Adebisi (2012) viewed environmental scanning methods as irregular, periodic, and continuous. However, the most common and uncomplicated way to conduct environmental scanning is by using the 'SWOT analysis' (Wheelen & Hunger, 2012; Enemuo & Akpan, 2017).

Environmental scanning can be done using SWOT analysis to understand the factors peculiar to the organisation with reference to the strengths, weaknesses, opportunities, and threats (SWOT). Maximising threats and seizing opportunities can help organisations acquire information that will expose them to the opportunities that they can exploit to achieve enviable competitive advantage. It can also eradicate the imminent dangers that may become inimical to their survival in the future. strength provides organisation with competitive advantage; weaknesses pose constraints and limitations for the organisation providing competitive disadvantage; opportunities are environmental conditions that are capable of strengthening organisation's market leadership (Kazmi, 2008, Enemuo & Akpan, 2017); organisation's environment also pose threats which can be both unfavourable and disturbing (Enuoh & Akpan, 2024).

Environmental Scanning and Performance of pharmaceutical Firms

The Nigerian environment where the pharmaceuticals operate is highly competitive given the fact that everyone uses pharmaceutical products, and their environment is also highly dynamic given the unstable nature of the economic variables such as tax rate, exchange rate, inflation rate, export, import, and investment. Thus, Enemuo and Akpan

(2017) and Enuoh and Akpan (2024) maintained that pharmaceutical firms in Nigeria must expediently recognise and respond to continuous environmental changes in their catchment areas to ensure their sustainable performance indicators.

The concept of performance is multifaceted and the success or failure of pharmaceutical organisations can be assessed by using profitability measures. Profitability as a measure of financial performance can be adopted by the organisation based on sales turnover, net profit, market share, and other indicators. High profitability reveals the ability of a firm to conquer the instability in the Nigerian business environment. Through consistent and continuous monitoring of the environment, organisations can adjust their techniques and operations to the changing environment in order to ensure improved performance. Figure 1 captures the relationship among the critical variables of this study.

THEORETICAL FRAMEWORK

This study adopted the open systems theory (OST) which was propounded by Ludwig von Bertalanffy in 1956 and cited in Enemuo and Akpan (2017). The OST views organisations as establishments that are highly affected by their environmental factors. Organisation's environment is a source of opportunities and unpredictability for them. Thus, an organisation as an open system receives resources (information, raw materials, labour, capital, technology, suppliers, Customers, and other resources) from its environment, which it uses to make decisions for survival, growth and higher performance (Daft & Weick, 1984, Ezeilo & Ebenebe, 2019). The open systems theory is germane for understanding the linkage between environmental scanning and the performance of pharmaceutical organisations. This is because pharmaceutical firms as subsystems are integral parts of economic, political, technological, socio-cultural and

international environments. Thus, they must adapt and adjust to the continuous changes in these environments. Pharmaceutical organisations also depend on the environment for their business operations and survival; they receive inputs from the environment, convert these inputs into outputs (products and services) for increased profitability, turnover, and sustainable productivity (Ezeilo & Ebenebe, 2019; Brammer, Hojmosse & Marchant, 2011).

Yan (2010) opined that, without the necessary skills and knowledge to scan the environment, pharmaceutical firms remain impaired by the complex systems and networks supporting and opposing them. This theory is crucial to this study because it assists pharmaceutical firms' managers in understanding the correlation between organisations and their environments; the threats serving as limitations to high performance; and the opportunities to exploit business environments that lead to long-term increased sales and profit maximisation.

EMPIRICAL REVIEW

Onikoyi, Odumeru, Tajudeen and Odeh (2022) in their study of Unilever Nigeria Plc evaluated the influence of environmental scanning on organisational performance. They adopted survey research design; and collected data using a structured questionnaire as well as the company's annual report. The regression results revealed that consumer satisfaction and profitability are influenced by internal environmental variables; and that there is a positive relationship between external environmental analysis and profitability. They recommended that organisations should periodically monitor consumer satisfaction trends; assimilate changes in consumers' taste and choices; and reflect on product quality (which may represent opportunities and constraints to organisations).

Enuoh and Akpan (2024), in their study, examined environmental scanning

and strategic investment of brewing firms in developing countries with focus on Nigeria. Their paper employed ordinary least square technique and found a positive relationship between environmental scanning and strategic investments variables. They recommend continuous monitoring of the external environment by firms so as to recognise opportunities and threats for greater profit and market leadership.

In 2018, Aka-Wolugbom and Onuoha performed an empirical analysis on environmental scanning and strategic decisions of small businesses in Port-Harcourt, Nigeria with focus on manufacturing and service sectors. They gathered information from 25 small and medium enterprises (SMEs) and adopted a qualitative research design. Using the pattern-matching method, their post-interview results established that many small business leaders do not engage in the process of strategic decision-making via environmental scanning. Therefore, they recommended training programmes on environmental scanning and decision-making for small businesses to enhance effectiveness of their decision making skills.

Using a combination of both quantitative and qualitative approach, Zhang, Majid, and Foo (2011) examined the contribution of environmental scanning to organisational performance. They found that environmental scanning could provide early warning signals for organisations, emerging from environmental uncertainties, risks, threats and opportunities. It could help companies develop and modify business strategies to meet changing external circumstances and improve their competitiveness and performance.

Babatunde and Adebisi (2012) engaged in a study on strategic environmental scanning and organisation performance in a competitive business environment with reference to some Nigerian food and beverage organisations in Nigeria. Using a structured

questionnaire for data collection and regression method of data analysis, they found that the kind of response a firm gives to its environment directly or indirectly determines their effective and efficient performance. They recommend that Nigerian executives should recognise the Nigerian environmental uncertainties and ensure that they align their organisations strategy to the environmental demands (Babatunde & Adebisi, 2012).

Fadzli, Tajuddin, and Ahmad (2013) used a quantitative survey approach to analyse the impact of environmental scanning on organisational performance of local authorities in Malaysia in a bid to also understand scanning behaviour of the public sector. Their findings detected a significant relationship between environmental scanning (operation) and the overall achievement of the organisations' performance.

Lotayif (2018) in an effort to establish the relationship between performance and environmental scanning obtained data from 292 business executives in the United Arab Emirate (UAE). The multiple-regression revealed that significant relationships exist between performance and environmental scanning. The study found that UAE businesses regularly conduct proactive, and ad-hoc environmental scanning.

Enemuo and Akpan (2017) centred their study on strategic environmental scanning and its influence on the performance of food and beverage firms in Nigeria using secondary and primary data. The study found that strategic environmental scanning leads to increased firm performance. An analysis was carried out to ascertain the impact of environmental scanning on the performance of small and medium retail enterprises in Harare by Vudzijena (2015). Survey research of 150 sampled small retail firms in Harare was carried out; and the analysis established a positive relationship between environmental scanning and performance of small retail businesses in Harare.

Similarly, Siddharatha and Dev (2014) empirically investigated the influence of environmental scanning on the performance of the three top banks in India using primary and secondary data. The results of the analysis of variance (ANOVA) established that there exist a significant relationship between environmental scanning and performance of the banks in India.

Agyapong, Amanor and Muntaka (2012) applied criterion sampling in selecting 59 Ghanaian Chief Executive Officers (CEOs) to investigate the relationship between environmental scanning and strategic uncertainty. The study established that customers, suppliers, competitors, economic, and technological environments are the most strategic environmental variables that require environmental scanning (Agyapong, Amanor & Muntaka, 2012). During the same period, Pulaj and Pulaj (2015) adopted factor and situational analyses to ascertain how strategic external environmental factors affect the performance of organisations.

Saadeghvaziri, Khaef, Motaqi and Esfahani (2012) examined the relationship between environmental scanning and performance of Iranian automobile spare parts manufacturers using quantitative survey design. The study argued that enormous information from environmental scanning could constitute constraints for companies as the exercise could lead to information overload syndrome. Hence, Wann (2023) observed that environmental scanning focuses more on external environment than internal factors like socio-cultural and leadership styles that may equally influence organisations' productivity. The study argued that environmental scanning contributes nothing to organisational performance because it does not provide actionable information about boosting operations or minimising risk (Wann, 2023).

Choo (2001) assessed 200 businesses via interview of experts from various industries. The research gathered

that companies that focus mostly on environmental scanning are not as successful as those that do not engage in frequent environmental scanning. The study revealed that companies that have vibrant growth strategy perform better than others during unpredictable periods. This suggests that organisations should pay more attention to how they can improve their internal processes instead of scanning external factors.

From the findings of reviewed literature, there is still a gap in literature on the influence of environmental scanning and the performance of pharmaceutical companies in Nigerian. The findings of these studies also suggest mixed outcomes. This research therefore seeks to fill this gap.

METHODOLOGY

Research Design

The study applied an ex-post facto research design. This design assesses the relationships between two or more variables. The ex-post facto research design helps in determining the degree of relationship between dependent and independent variables of interest. This study is a case study focused solely on May and Baker Nigeria Plc. (M&B Plc) for the period 2010-2022. Financial data was obtained from published annual financial reports from M&B Plc. while aggregate economic data were obtained from the Central Bank of Nigeria's statistical bulletins for the relevant years under study. This approach is supported by Wahua, et al. (2023a; 2023b).

The time series secondary data collected for the equations for empirical modelling were analysed using ordinary least square (OLS) technique. The use of OLS circumvents bias and helps to obtain relevant association of the variables measured (Wahua, et al. 2023c). The analysis of data and testing of hypotheses were based on multiple regression technique.

Models Specification

Exchange Rate Equation:

This equation ascertains the extent to which exchange rate volatility influenced the profitability of M & B Plc.

$$P = f(\text{Exp} + \text{Imp} + \text{Gdp} + \text{Inv} + \text{Exchr})\mu$$

In its full estimable expression we have:

$$P = a_0, a_1 \text{Exchr}, a_2 \text{Exp}, a_3 \text{Imp}, a_4 \text{Gdp}, a_5 \text{Inv}, \mu$$

Where:

μ	=	Stochastic term,
a_0 - a_5	=	Parameter estimates,
P	=	Profit,
Exchr	=	Exchange rate,
Exp	=	Export,
Imp	=	Import,
Gdp	=	Gross domestic product
Inv	=	Investment.

Exchange rate is the price at which one country's currency can be exchanged for another country's currency (Ezeilo & Ike, 2024). The exchange rate, as one of the important economic variables, has the capacity to influence the performance of pharmaceutical companies given the industry's heavy dependence on imported raw materials. Profitability is the key intent of going into business for many Pharmaceutical companies and instability in exchange rate can influence this intention (Enemuo & Akpan, 2017). The stability of exchange rate in a country characterises the quality of monetary and fiscal policies in the country. Poor exchange rate policies can result in exchange rate volatility which influence industrial output, imports and exports, pharmaceutical investments, and economic growth of the country (Enemuo & Akpan, 2017). Thus, this model shows how the exchange rate and other related variables influence the profitability of Pharmaceutical companies in Nigeria.

Taxation Equation

This equation examines the influence of taxation on profitability of M & B Plc.

$P = f(\text{Tax} + \text{Indpro} + \text{Infl} + \text{Exchr} + \text{Inv})\mu$
 In its full estimable expression we have,
 $P = b_0 + b_1\text{Tax} + b_2\text{Indpro} + b_3\text{Infl} + b_4\text{Exchr} + b_5\text{Inv} + \mu$

H0₁: Exchange rate volatility has no significant influence on the profitability of May & Baker Nigeria Plc.

Where:

- μ = Stochastic term
- b_0 - b_5 = Parameter estimates
- P = Profit
- Tax = Tax
- Indpro= Industrial production
- Infl = Inflation
- Exchr = Exchange rate
- Inv = Investment

This model examines the influence of taxation on the profitability of M&B Nigeria Plc. Profitability is used in this equation to assess the performance of the firms. Profitability keeps businesses financially buoyant and healthy. High tax rate can lead to inflation, reduction in investments and industrial growth. Therefore, variables such as high rate of taxation and other related variables are examined here to ascertain their effects on the profitability of M&B Nigeria Plc within the period covered.

The results of Hypothesis 1 are contained in Table 1 (exchange rate volatility and profitability). Table 1 presents the regression result of the influence of exchange rate on the profitability of M&B Nigeria Plc for 2010 - 2022. The equation regresses profitability on exchange rate, exports, imports, gross domestic product and investments. The R statistic indicates that the independent variables have a 99.8% significant positive effect on profitability within the period under study. The R-square and the adjusted R-square show that the Model used in the multiple regression analysis accounted for 99.6% when the error term is not controlled and 99.3% when it is controlled. All of these indicate that the model is very strong in testing Hypothesis 1. Finally, the F-statistic of 328.015 is significant with a p-value of 0.001, thereby implying that the model used in the multiple regression is a good fit for the analysis (Wahua & Ezeilo, 2021).

Presentation of Results
Test of Hypothesis 1

Table 1:
Results of Hypothesis 1: Exchange rate volatility and profitability

Variable	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	-334811.779	163510.875		-2.048	0.080
Exchange Rate	9244.453	1801.348	0.503	5.132	0.001
Exports	0.975	0.138	0.394	7.086	0.001
Imports	0.193	0.029	0.459	6.587	0.001
GDP	-22.305	6.314	-0.456	-3.533	0.010
Investment	7.451	0.773	0.331	9.640	0.001
R	0.998				
R Square	0.996				
Adjusted R Square	0.993				
F-statistic	328.015				
Prob.(F-statistic)	0.001				
Dependent Variable	Profitability				

Source: Authors (2024)

Table 1 contains the following statistical findings:

- i. Exchange rate volatility has 50.3% significant positive effect on the profitability of

- May & Baker Nigeria Plc within 2010-2022. This statistically implies that as the exchange rate increased, the profitability of May & Baker increased by half annually within the period covered in the study.
- ii. Exports have 39.4% significant positive effect on the profitability of May & Baker Nigeria Plc within 2010-2022. This statistically implies that as exports increased, the profitability of May & Baker increased by circa 39% annually within the period covered in the study and vice versa.
 - iii. Imports have 45.9% significant positive effect on the profitability of May & Baker Nigeria Plc within 2010-2022. This statistically implies that as imports increased, the profitability of May & Baker increased by circa 46% annually within the period covered in the study.
 - iv. Economic growth (measured by GDP) has 45.6% significant negative effect on the profitability of May & Baker Nigeria Plc within 2010-2022. This statistically implies that as economic growth of Nigeria increased, the profitability of May & Baker decreased by circa 46% annually within the period covered in the study and vice versa. This is a counterproductive finding as May & Baker's profitability only increased within the period when the economy of Nigeria decreased.
 - v. Investment has 33.1% significant positive effect on the profitability of May & Baker Nigeria Plc within 2010-2022. This statistically implies

that as investment increased, the profitability of May & Baker increased by circa 33% annually within the period covered in the study and vice versa.

In conclusion, Hypothesis 1, which states that exchange rate volatility has no significant influence on the profitability of May & Baker Nigeria Plc, is hereby rejected, and the alternative hypothesis is accepted, as exchange rate volatility has 50% significant positive influence on the profitability of May & Baker Nigeria Plc.

Test of Hypothesis 2

H₀₂: Taxation has no significant influence on the profitability of May and Baker Nigeria Plc

The results of Hypothesis 2 are contained in Table 2 (taxation and profitability). Table 2 presents the regression result of the influence of taxation on the profitability of M&B Nigeria Plc for the years 2010 - 2022. The equation regresses profitability on taxation, industrial production, inflation, exchange rate and investments. The R statistic indicates that the independent variables have 95.8% cumulative significant positive effect on profitability within the period under study. The R-square and the adjusted R-square show that the model used in the multiple regression analysis accounted for 92% of the changes in the dependent variable when error term is not controlled; and 86% of the changes in the dependent variable when error term is controlled. These indicate that the model is very strong in testing Hypothesis 2. Finally, the F-statistic of 15.706 is significant with a p-value of 0.001, thereby implying that the model used in the multiple regression is a good fit for the analysis (Wahua & Ezeilo, 2021).

Table 2 presents the following statistical findings:

- i. Taxation has 47.2% significant positive effect on the

- profitability of May & Baker Nigeria Plc within 2010 – 2022. This statistically implies that as taxation increased, the profitability of May & Baker increased by circa 47% annually within the period covered in the study. Conversely, as taxation decreased the profitability of May & Baker also decreased by circa 47%.
- ii. Industrial production has 11% nonsignificant negative effect on the profitability of May & Baker Nigeria Plc within 2010-2022. This statistically implies that as industrial production decreased, the profitability of May & Baker increased by circa 22% annually within the period covered in the study. Conversely, as industrial production increased the profitability of May & Baker Plc decreased by 11% within the same period under review. The chance of this happening is very low (nonsignificant).
- iii. Inflation has 43.7% significant positive effect on the profitability of May & Baker Nigeria Plc within 2010-2022. This statistically implies that as inflation increased, the profitability of May & Baker increased by circa 44% annually within the period covered in the study.
- Conversely, as inflation decreased, the profitability of May & Baker decreased significantly by 44% within the same period under study.
- iv. Exchange rate has 42.9% significant positive effect on the profitability of May & Baker Nigeria Plc within 2010-2022. This statistically implies that as exchange rate of Nigeria increased, the profitability of May & Baker increased by circa 43% annually within the period covered in the study. Conversely, as the exchange rate of Nigeria decreased the profitability of May & Baker decreased by 43%.
- v. Investment has a 70.8% significant positive effect on the profitability of May & Baker Nigeria Plc within 2010-2022. This statistically implies that as investment increased, the profitability of May & Baker increased by circa 71% annually within the period covered in the study and vice versa.
- In conclusion, Hypothesis Two (2) which states that taxation has no significant influence on the profitability of May & Baker Nigeria Plc is hereby rejected; and the alternative hypothesis is hereby accepted as taxation has a 71% significant positive influence on the profitability of May & Baker Nigeria Plc.

Tables 2:
Results of Hypothesis 2: Taxation and profitability

Variable	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	-840.541	227.912		-3.688	0.008
Taxation	0.082	0.030	0.472	2.703	0.030
Ind. Production	-0.018	0.020	-0.110	-.928	0.385
Inflation	25.858	9.121	0.437	2.835	0.025
Exchange rate	0.007	0.004	0.429	2.750	0.028
Investment	0.001	0.001	0.708	4.970	0.002
R	0.958				
R Square	0.918				
Adjusted R Square	0.860				
F-statistic	15.706				
Prob.(F-statistic)	0.001				
Dependent Variable	Profitability				

Source: Authors (2024)

Discussion of Findings

A cursory look at the results shows that exchange rate volatility has a 50.3% significant positive effect on the profitability of May & Baker Nigeria Plc within 2010 – 2022. The implication is that exchange rate instability significantly increases the profitability of pharmaceutical firms in Nigeria in general. This is in line with the findings of Enemuand Akpan (2017) who found exchange rate volatility as a key variable affecting the profitability of manufacturing firms in Nigeria. This indicates that manufacturing firms need to constantly monitor their economic environment to stay abreast of changes that may affect their profitability.

The result also showed that Exports and Imports have 39.4% and 46% significant positive effects on the profitability of May & Baker Nigeria Plc within 2010-2022 respectively. The implication of this result is that exports and imports in connection with exchange rate volatilities significantly influenced the profitability of pharmaceutical firms in Nigeria positively.

A closer look at the results shows that economic growth (measured by GDP) has a significant negative effect on the profitability of May & Baker Nigeria Plc

within 2010-2022. This statistically means that May & Baker's profitability increased with decreased economic growth, which is against a priori expectation.

The results also show that Investment in association with exchange rate instability has 33.1% significant positive effect while investment in association with taxation has 70.8% significant positive effect on the profitability of May & Baker Nigeria Plc within 2010-2022. The implication is that investment activities influence profit of Pharmaceutical firms; and increased investment results in increased profitability for May & Baker Nigeria Plc. This is in line with the findings of Akpan, Ikon, Okereke and Momoh (2016), and Adegboyega, Onikoyi, Adetunji, Wasiu and Odeh (2022) who found that investment in the manufacturing sub-sector leads to greater profit after tax a given conducive economic environment.

Taxation and inflation also have statistical effects on the profitability of May & Baker Nigeria Plc. The implication is that an increase in profits leads to an increase in tax. Consequently, changes in the rates of taxation and inflation result in a significant change in the performance of manufacturing firms. This finding is also supported by Enemuand Akpan (2017) who argued that taxation and inflation

have significant effects on the profitability of manufacturing firms.

SUMMARY OF FINDINGS, CONCLUSION AND RECOMMENDATIONS

Summary of Findings

This study centred on examining how Pharmaceutical organisations can align their organisation to their environment through environmental scanning. It examined the many variables within the environment of Pharmaceutical firms so as to identify the factors that has the most influence on their performance. To achieve this, the variables in the economic environments were captured in the models formed to probe their influence on the performance of Pharmaceutical firms. Performance was assessed using financial metrics. Based on the empirical results, the findings of the study are summarised as follows:

- i. Exchange rate, taxation, exports, inflation, imports, and investment have significant positive effects on the profitability of May & Baker Nigeria Plc within 2010-2022.
- ii. The economic growth of Nigeria (measured by gross domestic product, GDP) has a significant negative effect on the profitability of May & Baker Nigeria Plc within 2010-2022.
- iii. Industrial production has non-significant negative effect on the profitability of May & Baker Nigeria Plc within the period of 2010-2022
- iv. Investment (71%) and exchange rate volatility (50%) have the strongest significant positive effects on the

profitability of May & Baker Nigeria Plc within the period covered in this study (2010-2022).

Conclusion

From the findings of this study, taxation and exchange rates were found to strongly influence the investment activities of pharmaceutical firms. It also highlights the importance of environmental scanning of economic factors in the performance of pharmaceutical firms. Results further revealed that economic variables like exchange rates, taxation and inflation can help or hinder growth if the organisation is caught off-guard. Economic information can help keep the organisation ready for changes in these and other related issues. Thus, economic information should be monitored for changes in these variables because it is germane for an organisation to have a precise knowledge and understanding of the economic climate in which it operates to avoid being unprepared for sudden changes that may also be accompanied by changes in existing economic policies.

Recommendations

Complexities should be removed from the tax and exchange rate system by the Nigerian government to reduce the weight which high taxation and exchange rate volatilities impose on manufacturing firms. This would be advantageous to the pharmaceutical firms in particular and the Nigerian economy in general, as the manufacturing sector is an engine of economic progress. Secondly, for increased profitability, pharmaceutical firms need to engage in continuous environmental scanning to enable them to understand the changes that occur in their operating environment.

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