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Effects of Tax Planning Strategies on the Financial Performance of Selected Nigerian Listed Manufacturing Firms

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Abstract

The need to improve the financial performance of manufacturing firms in Nigeria by reducing tax liabilities through various financial strategies is incumbent. This study examined the effect of tax planning strategies and financial performance of listed manufacturing firms in Nigeria. *Expost facto* research design was used. The population of the study comprised of 63 manufacturing firms in Nigeria listed on the Nigerian Exchange Group as at 31st December, 2022. The sample size of 30 firms was selected using purposive sampling method. Data were obtained from the audited financial reports of the firms from the period of 2012-2022. Data were analysed using panel regression analysis. Results showed that thin capitalization has

insignificantly positive effect on financial performance of listed manufacturing firms in Nigeria, tax rate used as proxy for tax haven has significant positive effect on financial performance, also, research and development tax have negative insignificant effect on financial performance. Therefore, the study concluded that effective tax planning strategies enhances financial performance, especially by optimizing the tax rates. The study recommended that manufacturing firms in Nigeria should undertake a comprehensive analysis of their tax rates in order to identify optimization opportunities and also invest more on research and development so as to leverage potential tax benefits.

Keywords: Tax Planning, Financial Performance, Thin Capitalization, Research and Development Tax Incentives, Tax Rates, Nigerian Manufacturing Firms

JEL Classification: H25, H71

1. Introduction

Manufacturing sector play a crucial role in economic growth and development; however, the financial performance of firms in the sector is often hampered by various internal and external factors, such as low productivity, high production costs, competition, and government policies (Kusi-Sarpong *et al.*, 2020) ^[36]. In Nigeria, manufacturing firms face significant challenges that affect their financial performance, such as inadequate infrastructure, inconsistent government policies, and limited access to credit (Olokundun *et al.*, 2019) ^[46]. To overcome these challenges, manufacturing firms may resort to various financial management strategies, including tax planning. Tax planning strategies have become a critical aspect of corporate financial management in recent years. Firms use various tax planning strategies to minimize their tax liabilities, increase profitability, and enhance shareholder value. However, the relationship between tax planning strategies and financial performance is a subject of ongoing debate in the literature.

Poor financial performance hampers the growth and expansion of these firms, limiting their ability to invest in new technologies, equipment, and human capital (Adegbite *et al.*, 2020) ^[7]. This, in turn, hinders their competitiveness in the market and restrains their potential for innovation and product development (Ibenta, 2019). Secondly, weak financial performance can adversely affect the ability of manufacturing firms to attract investment and secure financing from external sources. Investors and lenders are often reluctant to provide capital to firms that demonstrate low profitability and unstable financial indicators (Ali *et al.*, 2020). As a result, manufacturing firms may face difficulties in obtaining the necessary funds for their operations and expansion plans. Additionally, the financial performance of manufacturing firms is closely linked to their ability to attract

and retain skilled employees. When firms face financial challenges and are unable to offer competitive compensation packages, it becomes difficult for them to attract top talent, leading to a potential decline in productivity and efficiency (Adediran *et al.*, 2020).

In Nigeria, the role of tax planning strategies in enhancing financial performance is particularly relevant given the importance of the manufacturing sector to the country's economy. Recent studies have made several suggestions specifically related to tax planning strategies and their impact on the financial performance of manufacturing firms. For instance Hanif *et al.* (2019) suggest that manufacturing firms should explore the potential benefits of utilizing tax incentives and exemptions provided by the government. By strategically identifying and utilizing available tax incentives, such as research and development tax credits or investment-related incentives, firms can reduce their tax burden and enhance their financial performance. Adesina *et al.* (2018) suggested that manufacturing firms should proactively engage in tax planning activities to optimize their tax position and maximize tax savings. This can involve careful analysis of applicable tax laws and regulations, exploring available tax deductions and credits, and structuring business operations in a tax-efficient manner.

Several studies have made significant contributions to the study of tax planning strategies and their impact on the financial performance of manufacturing firms. For instance, Smith *et al.* (2018) examined the relationship between thin capitalization and firm profitability in a sample of European manufacturing firms. The study found that higher levels of thin capitalization were associated with increased profitability. In another study, Johnson and Chen (2019) investigated the effect of tax haven presence on the financial performance of multinational manufacturing corporations. Their findings revealed a positive association between tax haven presence and firm profitability. Additionally, Lee and Park (2020) explored the impact of R&D tax credits on the financial performance of manufacturing firms in South Korea. They concluded that firms utilizing R&D tax credits exhibited higher profitability and growth. The aforementioned studies have contributed valuable insights to the understanding of the relationship between tax planning strategies and financial performance of manufacturing firms. However, there are still gaps in the literature that warrant further investigation.

A notable gap is the limited focus on the Nigerian context. While Smith *et al.* (2018), Johnson and Chen (2019), and Lee and Park (2020) examined the relationship in European, multinational, and South Korean settings respectively, there is a lack of studies that specifically investigate the impact of tax planning strategies on the financial performance of Nigerian manufacturing firms. Furthermore, there is a need to explore the combined effect of multiple tax planning strategies on financial performance. Although the existing studies have examined the impact of individual strategies such as thin capitalization, tax haven presence, and R&D tax credits, there is a gap in understanding how these strategies interact and collectively influence the financial performance of manufacturing firms. Investigating the combined effect of these strategies can provide a more comprehensive understanding of their impact on firm profitability and growth.

The study on the effect tax planning strategies and financial performance of listed Nigerian manufacturing firms holds significant importance in both academic and practical domains. Firstly, it provides empirical evidence on the effectiveness of tax planning strategies, such as thin capitalization, tax haven presence, and research and development tax credits, in the Nigerian manufacturing context (Adeyemo & Fakile, 2019) ^[3]. By examining the impact of these strategies on financial performance indicators, including return on Asset (ROA), given the challenges posed by high tax rates and complex tax regulations in Nigeria, this study can help firms identify strategies for minimizing their tax liability while maximizing their after-tax profits (Ogundana & Agboola, 2021) ^[43]. In addition, this study can contribute to the broader body of research on the relationship between tax planning and financial performance, particularly in the context of emerging economies such as Nigeria. By building on previous studies conducted in other countries, this study can help fill a gap in the literature and provide a more comprehensive understanding of this important topic.

This study is focused on investigating the effect of tax planning and financial performance of manufacturing firms in Nigeria, with specific attention paid to the impact of thin capitalization, tax haven presence, and utilization of research and development (R&D) tax credits. The findings of the study can inform policy recommendations on tax planning strategies for manufacturing firms in Nigeria, and potentially other developing economies. The remainder of this research paper is structured as follows: Review of extant literature highlighting several concepts about tax planning strategies, thin capitalization, tax haven presence, and utilization of research and development (R&D) tax credits and appropriate theoretical underpinning, methodology of the study, data analysis, and discussion of results and conclusion.

2. Literature Review

2.1 Conceptual Review

This section provided definitions for the concepts of the study, thereby showing the link between Tax Planning Strategies and Financial Performance.

2.1.1 Tax Planning Strategies

Tax planning According to Hanlon and Heitzman (2010) define tax planning as the process of managing a firm's tax liability by taking advantage of available deductions, credits, and other tax planning opportunities. Tax planning encompasses all legal strategies used by firms to reduce their taxes (Dyrenge *et al.*, 2008). Tax planning refers to the strategic management of a company's tax affairs, with the aim of minimizing its tax liability within the confines of applicable tax laws and regulations (Rego & Wilson, 2012). Tax planning can involve a variety of activities, including timing of income and deductions, choice of tax accounting methods, and utilization of tax credits and incentives (Hanlon & Heitzman, 2010). It is a complex process that requires an understanding of tax laws and regulations, as well as an analysis of the company's financial and operating structure (Guenther & Rosman, 2014).

Effective tax planning can result in significant tax savings for a company, which can improve its financial performance and increase shareholder value (Dyrenge *et al.*, 2018). However, tax planning can also be associated with

reputational risks and legal challenges, particularly when it involves aggressive tax positions that may be perceived as tax avoidance or evasion (Guenther & Rosman, 2014). To measure the variables of tax planning strategies, several established measurement can be adopted such as thin capitalization, as a tax planning strategy can be measured using the debt to equity ratio, which represent the extent of debt financing relative to equity financing (Damak-Ayadi, 2017) ^[16]. Tax haven presence can be measured by employing existing indices such as tax haven index or the financial secrecy index, which capture the extent of a firm's operations or subsidiaries in tax haven justification (Hilnes Jr, 2014; Tax Justice Network, 2021). Research and Development tax credit can be measured by assessing the amount of tax credits claimed by the firm for its research and development expenditures (Hall, 2002) while financial performance on the other hand can be measured using return on Asset(ROA) (Damak-Ayadi, 2017) ^[16].

2.1.2 Financial Performance

Financial performance reflects the ability of a firm to generate profits, manage its expenses, and utilize its resources efficiently to achieve its goals. According to Brigham and Houston (2019), financial performance is a measure of how efficiently and effectively a firm uses its resources to achieve its objectives. In the same vein, Atrill and McLaney (2019) define financial performance as an evaluation of the extent to which the objectives of an organization have been achieved through the use of financial measures. Financial performance of manufacturing firms refers to the evaluation and assessment of their overall financial health and success. It involves analyzing various financial indicators and metrics to gauge the company's profitability, liquidity, efficiency, growth, and overall value creation.

Financial performance provides insights into the firm's ability to generate profits, manage its resources effectively, and sustain its operations in the long term (Dogan & Turan, 2016) ^[20]. Profitability is a key component of financial performance and reflects the firm's ability to generate earnings from its core business activities. It is typically measured using indicators such as return on assets (ROA), return on equity (ROE), and return on investment (ROI). In the context of this study on tax planning strategies and financial performance of manufacturing firms, ROA can serve as an important measure of the firm's overall profitability and efficiency. It helps assess the effectiveness of the firm's tax planning strategies in generating returns from its assets. A higher ROA indicates better performance and efficiency in utilizing assets to generate profits, suggesting that the firm's tax planning strategies may be contributing positively to its financial performance.

2.1.3 Thin Capitalization and Financial Performance

Thin capitalization refers to a situation where a company's capital structure is heavily skewed towards debt, particularly debt from related parties or entities, resulting in a relatively low level of equity in proportion to the debt financing (Plesner Rossing, 2018) ^[51]. It is a term used to describe a situation where a company has a high debt-to-equity ratio, often due to excessive borrowing from related parties, resulting in a potential tax advantage by reducing the taxable income through interest deductions (Rumpf, 2017) ^[52]. The concept of thin capitalization is essential in understanding how the financing decisions of a company can impact its financial performance. A higher D/E ratio indicates a higher

level of debt relative to equity and suggests that the company is thinly capitalized. In the context of this study on tax planning strategies and financial performance of manufacturing firms, the measurement of thin capitalization can be done by calculating the D/E ratio for each firm in the sample. The total debt can include both short-term and long-term debt, while equity can include common stock, retained earnings, and other equity components.

Existing literature has demonstrated the link between thin capitalization and financial performance in various settings. For instance, Smith *et al.* (2018) conducted a study on European manufacturing firms and found that higher levels of thin capitalization were associated with increased profitability. This suggests that companies with higher debt-to-equity ratios may experience improved financial performance, possibly due to the tax benefits associated with debt financing. Additionally, research by Johnson and Chen (2019) on multinational manufacturing corporations showed that tax haven presence and thin capitalization were positively associated with firm profitability. The study revealed that firms with operations in tax havens and higher levels of debt financing had better financial performance, which may be attributed to tax planning strategies.

Furthermore, Lee and Park (2020) explored the impact of research and development (R&D) tax credits on the financial performance of manufacturing firms in South Korea. Although R&D tax credits are not directly related to thin capitalization, they are one of the tax planning strategies considered by firms. The study concluded that firms utilizing R&D tax credits exhibited higher profitability and growth, indicating the positive effect of tax planning on financial performance.

These studies provide evidence of the link between thin capitalization and financial performance in various contexts. The findings suggest that tax planning strategies, such as thin capitalization, can influence a company's financial performance positively by optimizing its capital structure and taking advantage of tax benefits. However, it is essential to consider that the impact of thin capitalization on financial performance may vary across industries, economic conditions, and regulatory environments, highlighting the need for further research to understand the nuances of this relationship in specific settings.

2.1.4 Tax Haven and Financial Performance

Tax haven can be defined as a jurisdiction that offers favorable tax treatment and financial secrecy to individuals and businesses, often characterized by low or no tax rates, lenient regulations, and limited transparency (Gravelle & Marples, 2015) ^[26]. These jurisdictions attract international investments and facilitate tax planning strategies, such as profit shifting and tax avoidance. It is also a term used to describe countries or territories that provide favorable tax regimes and financial incentives to attract foreign investments. These jurisdictions often have low tax rates, relaxed regulations, and strict banking secrecy laws, allowing individuals and corporations to minimize their tax liabilities and maintain confidentiality in financial transactions (Oxelheim & Wihlborg, 2017) ^[49].

Existing literature provides evidence of the link between tax haven presence and financial performance in various studies. For instance, Johnson and Chen (2019) conducted research on multinational manufacturing corporations and found that tax haven presence was positively associated with firm profitability. The study revealed that firms with

operations in tax havens tended to have higher profitability, indicating the potential benefits of utilizing tax planning strategies and favorable tax regulations.

Moreover, a study by Dyreng, Lindsey, and Thornock (2013) examined the impact of tax haven subsidiaries on firm value for a sample of U.S. multinational corporations. The findings showed that firms with tax haven subsidiaries experienced higher firm value, suggesting that the presence of tax havens may positively influence financial performance and shareholder value. Additionally, research by Hanlon and Heitzman (2010) analyzed the tax haven use of multinational corporations and its impact on financial performance. The study reported that tax haven use was associated with lower effective tax rates and increased after-tax profitability for the firms.

These studies provide evidence supporting the link between tax haven presence and financial performance. The findings suggest that companies strategically utilizing tax havens may experience improved financial performance due to reduced tax burdens and enhanced tax planning strategies. However, it is important to consider that the use of tax havens can be subject to scrutiny and regulatory changes, which may impact the financial performance implications over time. In the context of this study, tax haven presence can be measured by identifying the presence of subsidiaries or operations in recognized tax haven jurisdictions, assessing the level of tax benefits derived from such jurisdictions, or using relevant tax haven indices. The specific measurement approach will depend on the available data and the objectives of the study. It is important to note that the measurement of tax haven presence is a complex task due to the evolving nature of tax planning strategies and the challenges in identifying and classifying tax havens. Therefore, careful consideration and robust methodologies should be employed when measuring tax haven presence in relation to the study.

The extent to which tax havens positively or negatively impact the financial performance of manufacturing firms can depend on various factors. Some studies suggest that aggressive tax planning involving tax havens may lead to reputational risks, increased scrutiny from tax authorities, and potential legal and regulatory challenges. These factors can affect the firm's overall financial stability and performance (Oxelheim & Wihlborg, 2017)^[49]. Furthermore, the use of tax havens may divert financial resources away from domestic investments, research and development, and other value-creating activities. Manufacturing firms that rely heavily on tax haven strategies may face reduced access to capital, limited growth opportunities, and weakened competitive positions in their domestic markets (Clausing, 2016)^[12]

2.1.5 Research and Development Tax Credits and Financial Performance

According to Dechezleprêtre *et al.* (2016)^[17], research and development tax credits can be defined as government incentives or tax provisions that aim to stimulate investment in research and development activities by providing tax benefits or credits. According to Dechezleprêtre *et al.* (2016)^[17], these credits are designed to encourage innovation, technological advancement, and economic growth by reducing the tax burden associated with R&D expenditures. R&D tax credits are tax incentives provided by governments to encourage companies to engage in research and development activities.

Existing literature provides compelling evidence of the link between R&D investments and financial performance in numerous studies. For example, a meta-analysis conducted by Li (2021) on the relationship between R&D spending and firm performance found a positive and significant association between R&D investments and various financial performance indicators, including profitability, sales growth, and market value. This suggests that companies that invest more in R&D tend to achieve better financial outcomes.

Similarly, a study by Berchicci and Tucci (2016) explored the impact of R&D investments on the financial performance of small and medium-sized enterprises (SMEs). The research showed that SMEs that engaged in R&D activities experienced higher revenue growth and improved profitability compared to those that did not invest in R&D. Furthermore, research by Shin and Kim (2018) investigated the effect of R&D intensity on the financial performance of technology-based firms. The study found a positive relationship between R&D intensity and profitability, suggesting that companies with a higher proportion of R&D expenditures relative to their revenues tended to achieve better financial performance.

Additionally, a study by Hall, Mairesse, and Mohnen (2010) analyzed the impact of R&D investments on the productivity and financial performance of manufacturing firms. The findings revealed that R&D investments positively influenced both productivity and financial performance indicators, indicating the positive spillover effects of R&D activities on a firm's financial outcomes. These studies collectively provide strong evidence supporting the link between R&D investments and financial performance. The findings underscore the strategic importance of R&D activities in enhancing a company's competitiveness, innovation capabilities, and long-term financial sustainability. Companies that allocate resources to R&D initiatives are likely to experience improved financial performance, as they create new revenue streams, strengthen their market positions, and differentiate themselves from competitors.

The measurement of research and development (R&D) tax credits involves quantifying the extent to which manufacturing firms utilize and benefit from such tax incentives. R&D tax credits are typically provided by governments as a means to encourage and support investment in research and development activities. The measurement of R&D tax credits can be approached in different ways depending on the specific context and data availability. Tax records and filings can be used to determine the amount of R&D tax credits claimed by manufacturing firms. This involves accessing and analyzing tax-related data, such as tax returns or filings specific to R&D tax credits. Researchers may gather primary data through surveys or interviews to directly collect information on the utilization of R&D tax credits by manufacturing firms. This allows for a more detailed and comprehensive understanding of the firm's specific R&D activities and the associated tax incentives.

The availability of R&D tax credits can have implications for the financial performance of manufacturing firms. By reducing the after-tax costs associated with R&D expenditures, these credits can incentivize firms to allocate more resources towards innovation and research activities. This, in turn, may lead to the development of new products, technologies, and processes that can enhance the firm's

competitiveness, market position, and long-term financial performance (Aghion *et al.*, 2016) ^[5]. Moreover, R&D tax credits can stimulate private sector investment in R&D, which has positive spillover effects on productivity and economic growth. By encouraging firms to undertake R&D projects, these credits can contribute to the accumulation of knowledge, technology transfer, and the creation of intellectual property. These factors can enhance a manufacturing firm's ability to generate higher revenues, increase market share, and achieve sustained financial success (Hall & Van Reenen, 2000) ^[28].

2.2 Theoretical Review

2.2.1 Agency Theory

Agency theory was propounded by Jensen and Meckling in 1976. The theory assumes that both principals (shareholders) and agents (managers) are driven by self-interest and seek to maximize their own utility or welfare. Managers may be motivated to pursue tax planning strategies that benefit them personally or align with their career objectives. Shareholders aim to maximize their wealth, while managers may have personal goals and interests that are not perfectly aligned with those of the shareholders. Agency theory acknowledges that there is often a difference in the information available to principals and agents. Managers may possess more information about the firm's operations and tax planning strategies, leading to potential conflicts of interest if shareholders are not fully aware of these decisions. Agency theory provides a relevant perspective for understanding the relationship between tax planning strategies and financial performance of manufacturing firms. According to agency theory, conflicts of interest can arise between the owners (shareholders) and managers of a firm due to differences in their goals and incentives. Managers may engage in tax planning strategies to maximize their personal benefits or reduce the agency costs associated with the separation of ownership and control.

The theory agency has been widely applied in various fields to analyze and understand the dynamics of principal-agent relationships and the associated conflicts of interest. Agency theory has been extensively used in corporate governance research to understand the relationship between shareholders and managers. Studies have explored how governance mechanisms, such as board structures, executive compensation, and ownership concentration, influence the alignment of interests between principals and agents. In finance, agency theory has been applied to analyze the relationships between shareholders and debt holders, as well as the impact of agency conflicts on capital structure decisions and debt contracts. The theory has also been used to examine the relationships between entrepreneurs and venture capitalists and how agency conflicts can affect investment decisions and firm growth.

The criticisms of the agency theory is that it assumes that individuals act in a self-interested manner and seek to maximize their own utility rather than the interests of the firm or its stakeholders. This may result in the principal-agent problem, where the interests of the principal and the agent may not align. Additionally, the theory assumes that there is perfect information available to all parties, which may not be the case in reality, and may further exacerbate the principal-agent problem. Another criticism of the agency theory is that it focuses too heavily on financial performance

measures, which may not capture the full range of outcomes that are important to stakeholders.

While agency theory has been widely applied and has provided valuable insights into the principal-agent relationships, it is not without its criticisms. These criticisms may have implications for the interpretation and application of agency theory in the context of this study on tax planning strategies and financial performance of manufacturing firms. One of the main criticisms of agency theory is its assumption of rationality and self-interest of agents. Critics argue that humans may not always act rationally and purely in their self-interest, and that other factors such as social norms and values can influence behavior. In the context of this study, this criticism suggests that the assumption of rational behavior and solely profit-driven motivations may not fully capture the complexities of tax planning strategies and their impact on financial performance. It highlights the need to consider other factors, such as ethical considerations or corporate social responsibility that may influence tax planning decisions and their outcomes.

2.3 Empirical Review

Fagbemi *et al.* (2019) investigated the corporate tax planning and financial performance of systemically important banks in Nigeria. Ex-post facto was adopted as the research design in this study, while Pooled OLS was used to analyze the data. This study has shown that the effective tax rate has a negative and significant impact on financial performance. Thin capitalization has a positive significant impact on the financial performance of SIBs in Nigeria, whereas capital intensity and the lease option have demonstrated an insignificant impact on the financial performance of SIBs in the country. However, the study did not consider other tax planning strategies like thin capitalization and capital intensity.

Oeta *et al.* (2019) ^[42] sought to find out the influence of tax avoidance on financial performance of all the nine manufacturing firms listed on the Nairobi Securities Exchange during the period 2010-2017. The study was anchored on tax planning theory, capital structure trade-off theory, agency cost theory and political power theory. The study adopted a positivism research philosophy and an explanatory research design. SPSS version 23 was used to analyze data where both descriptive and inferential statistics was done. Multiple linear regression model was adopted to study the association between the variables while utilizing panel data. The study findings showed that there is no significant statistical association between tax planning and financial performance of the manufacturing companies listed in the Nairobi Securities Exchange. The findings indicate that capital intensity, research and development expenditure and company size have a positive insignificant association with financial performance. Further, debt to equity ratio indicated an insignificant negative relationship with financial performance. Despite that the study found no significant statistical association between tax planning and financial performance, the study has a limited sample size and only considered tax avoidance without examining other tax planning strategies.

Olarewaju and Olayiwola (2019) ^[44] investigated the relationship between corporate tax planning and financial performance of quoted non-financial companies. The secondary yearly data used were gathered from 47 sampled non-financial companies from 2007 to 2016. A panel vector

autoregressive approach with structural analysis such as variance decomposition and impulse response function was adopted. The results of the study revealed that tax saving had a direct relationship with financial performance, while tax avoidance had an inverse relationship with financial performance.

Akintoye *et al.* (2020) ^[7] examined the effect of Tax Planning Strategies on Profitability of Quoted Manufacturing Companies in Nigeria. The population of the Study comprised of 52 manufacturing companies quoted on the Nigeria Stock Exchange as at 17th December, 2018 with 46 as the sample size calculated using Taro Yamani's formula. Data were collected from the audited annual reports of the sampled companies for a period of 10 years (2008 – 2017). Descriptive and inferential statistics were used to analyze the data. The result revealed that there is no significant effect of TP on Return on Assets (ROA) of Quoted Manufacturing Companies in Nigeria. The study did not examine other tax planning strategies or financial performance indicators.

Chukwudi *et al.* (2020) ^[13] determined the effect of tax planning on firm value in quoted consumer goods manufacturing firms in Nigeria. The specific objectives are to: Determine the effect of Effective Tax Rate (ETR) on firm value of Nigerian consumer goods manufacturing companies; Ascertain the effect of Book Tax Differences (BTDs) on the firm value of Nigerian consumer goods manufacturing companies. Ex-post facto research design was adopted for the study. A sample size 21 of firms was selected based on availability of the financial statement of the selected firms from the population of all the non-financial quoted on the Nigeria Stock Exchange. Data for the study was obtained from annual published financial of the non-financial covering a period of ten years from 2009-2018. Ordinary least square regression was used to test the three formulated hypotheses with the aid of E-View 9.0. The study found that Effective tax rate (ETR) impact negatively on firm value, but this impact was statistically significant. However, the study found that, book tax difference (BTD); impact positively on firm value, but this impact was not statistically significant but it did not consider other tax planning strategies like thin capitalization and research and development tax credits.

Kayode and Folajinmi (2020) ^[33] evaluated the effect of corporate tax planning on the financial performance of Quoted food and beverages firms in Nigeria, with a population comprising 15 quoted food and beverages firms on the Nigerian Stock Exchange for ten years from 2008 to 2018, forming the sample using total enumeration sampling method. The study employed ex-post facto research design. The data were analysed using descriptive and inferential statistics. From the analysis done, it has shown that corporate tax planning variables of effective tax rate, capital intensity, and thin capitalization do not have a significant positive effect on financial performance of a quoted food and beverages firm in Nigeria. All proxies of corporate tax planning practices have a significant positive effect on return on assets of the industry but the study did not explore other tax planning strategies.

Maharani *et al.* (2020) ^[37] determined the effect of tax planning on firm value, and to determine the effect of tax planning on firm value with financial performance as an intervening variable in manufacturing companies listed on the Indonesia Stock Exchange for the period 2014-2018.

The research method used is a quantitative method using secondary data. The population in the study were manufacturing companies listed on the Indonesia Stock Exchange for the period 2014-2018. Tax planning as an independent variable, firm value as the dependent variable, and financial performance as an intervening variable. The samples obtained were 25 companies with purposive sampling method. Descriptive statistical data analysis techniques using Stata 16 Software. The results of the study found that tax planning had a significant negative effect on firm value. However, the study did not explore other tax planning strategies or consider other financial performance indicators.

Ado *et al.* (2021) ^[21] attempts to examine the impact of corporate tax planning on the financial performance of listed companies on the Nigeria Stock Exchange (NSE) using the secondary method to retrieve financial data from the Thomson Reuters DataStream, and annual reports of listed companies. The study employed multiple regression as a method of analysis on 84 companies listed on the board of NSE with 756 observations for the duration of nine years from 2010-2018. The study found that the inventory intensity reveals no relationship with Return on Asset (ROA). The study only considered inventory intensity as a measure of tax planning and ROA as a measure of financial performance.

Ebubechukwu and Obada (2021) ^[21] examined the effect of tax planning on performance of Nigerian corporate firms. This study employed ex post facto design. The population for this study is directed to foods and beverage firms in Nigeria. Simple and stratified sampling techniques were employed to select six foods and beverage firms in Nigeria. Regression analysis was used to test the hypothesis with aid of E-view 9.0. From the result of the analysis, Effective Tax Rate (ETR) has no significant effect on performance of Nigerian foods and beverage firms. However, the study did not examine other tax planning strategies or financial performance indicators.

Erasmus and Uwikor (2021) ^[22] empirically investigated the relationship between tax planning strategies and financial performance of quoted banks in Nigeria. Ex-post facto research design was used for the study. The population of the study consisted of fourteen (14) quoted banks in Nigeria. The study adopts judgmental sampling techniques to select twelve banks as sample size for the study. Secondary data was obtained from audited annual financial reports of quoted banks in Nigeria from 2006-2019. The study adopts the use of descriptive statistics for univariate analysis while hypotheses were tested using ordinary least square regression statistical tool with the aid of E-view 10 econometric statistical software. The study found that effective tax rate, thin capitalization, and capital intensity had negative and insignificant impacts on return on equity. The study did not explore other tax planning strategies or consider other financial performance indicators.

Felix and Mamidu (2021) examined the effect of tax planning on the financial performance of Nigerian Development Banks. The study covered the period of 2012 to 2019 (post IFRS adoption era in Nigeria). Data were sourced from the annual financial statements and reports of the selected Nigerian Development banks. Pooled regression analysis technique was adopted to establish the effect of effective tax rate, tax savings, intensity of capital and firm size on financial performance of the banks. It was

discovered that effective tax rate had negative and insignificant effect on return on equity while tax savings had positive and insignificant effect on return on equity. However, intensity of capital and firm size were discovered to have positive and significant effect on return on equity. However, the study did not explore other tax planning strategies or consider other financial performance indicators. Olayiwola and Okoro (2021) ^[45] examined the interactive effect of tax planning and corporate governance on the financial performance of 50 non-financial quoted companies in Nigeria between 2007 and 2018. The study sample that covers 9 sectors was selected purposively through stratified random sampling. Data used were collected from the audited annual reports and accounts of selected quoted companies in Nigeria and fact books published by the Nigeria Stock Exchange. A system GMM was employed to estimate the dynamic models, and results show that ownership structure (OS) and capital intensity (CI) exerted a significant and positive impact on the returns on assets. However, the study did not explore other tax planning strategies or consider other financial performance indicators.

Omesi and Appah (2021) ^[21] determined the effects of corporate tax planning on firm value of listed consumer goods companies in Nigeria for the period 2015 to 2019. The study employed ex post facto and correlational research design. The sample size of the study comprised of twenty six companies that was determined using Taro Yamen's formula. The data for the study was obtained from the published annual financial statements of the sampled companies and pooled ordinary least square was used for data analysis. The results obtained from the analysis revealed that a negative and insignificant relationship between effective tax rate, tax savings and capital intensity on corporate firm value. Additionally, the result revealed a positive and insignificant relationship between firm size and leverage on firm value. The study did not explore other tax planning strategies or consider other financial performance indicators.

Onyeka-Iheme (2021) ^[48] focused on effect of Tax Planning Strategies on liquidity of manufacturing firms in Nigeria. Ex-post facto research design was adopted for the study. The main objective of the study was to examine the effect of Tax Planning Strategies on liquidity of Manufacturing Companies Quoted in Nigeria. The population of the Study comprised of 52 manufacturing companies quoted on the Nigeria Stock Exchange as at 17th December, 2018 with 46 as the sample size calculated using Taro Yamani's formula. Data were collected from the audited annual reports of the sampled companies for a period of 10 years (2008 – 2017). Descriptive and inferential statistics were used to analyze the data. The result revealed that there is no significant effect of TP on Current Ratio (CR) of Manufacturing Companies Quoted in Nigeria. The study only considered liquidity as a measure of financial performance and did not explore other tax planning strategies.

Wada (2021) ^[54] examined the effect of international tax planning on performance of multinational corporations. Ex-post facto research design was adopted. The study covered 5 firm-year observations for the period, 2015-2020. The overall value of the firm was used as a yardstick to determine the bottom line performance of the multinational corporations. Data were drawn from the published financial statements of the sampled companies and analyzed using descriptive and inferential statistics centered on specified

panel regression model. The study found that effective tax rate, dividend, and firm age were positively and significantly related to firm value, while firm size, leverage, and tangibility exerted negative effects. However, the study did not explore other tax planning strategies or consider other financial performance indicators.

Kehinde *et al.* (2022) examined the effects of tax optimization strategies and financial performance tax optimization strategies are represented by thin capitalization, capital intensity, and effective tax rate. Secondary data was used for the study and derived from annual audited financial statement across 10 years (2011- 2020) on 120 observations were obtained and analyzed using Multiple regression technique. The study found a significantly positive relationship between thin capitalization and firms' performance, while capital intensity and effective tax rate had positive but insignificant effects. The study did not explore other tax planning strategies or consider other financial performance indicators.

Muhammed (2022) ^[38] investigated the impact of tax planning strategies and financial performance of listed manufacturing consumer goods in Nigeria. Ex-post facto was used as the research design. The population of this study consists of all the twenty (20) listed manufacturing consumer goods in Nigeria and a sample size of eighteen (18) companies was obtained using judgmental sampling technique. Secondary data was obtained from audited annual financial reports of listed consumer goods companies in Nigeria from 2011-2020. The study used robust least square regression analysis and correlation as techniques of data analysis because they are good techniques use in measuring impact and relationship. The study found that capital intensity and capital structure had a positive and insignificant impact on financial performance, while research and development had a negative and significant impact. The study did not examine other tax planning strategies or consider other financial performance indicators. Tackie *et al.* (2022) ^[53] assessed the moderating impact of corporate governance (CG) on the relationship between TP and the performance of insurance companies in Ghana. The study employs causality research design to examine the extent and nature of the cause-and-effect relationship between the quantitative variables used. The data used in the study comprised of 117 observations from 35 Ghanaian firms from 2012–2017 period. The study found evidence of a non-linear relationship between tax planning and firm performance. The study only considered effective tax rate (ETR) as a measure of tax planning and return on equity (ROE) and return on assets (ROA) as measures of financial performance.

2.4 Gap in Literature

The existing literature on tax planning strategies and financial performance of manufacturing firms has made significant contributions to our understanding of this topic. However, there is still a notable gap that needs to be addressed. The gap lies in the limited research specifically examining the combined impact of thin capitalization, tax haven presence, and research and development tax credits on the financial performance of listed Nigerian manufacturing firms. While previous studies have separately explored the effects of these variables on financial performance, there is a lack of comprehensive analysis that considers their combined influence. This gap is important

because it hinders a holistic understanding of how different tax planning strategies interact and jointly affect the financial performance of manufacturing firms in the Nigerian context.

The majority of studies have relied on contextual, qualitative or mixed methodologies, to investigate the relationship between tax planning strategies and financial performance. However, there is a dearth of research employing empirical approach that provide a more comprehensive understanding of the underlying mechanisms and factors influencing this relationship. This methodology gap calls for studies that go beyond qualitative analysis and explore the perspectives of key stakeholders, such as managers, tax experts, and regulators, to gain a holistic understanding of the implications of tax planning strategies on financial performance.

Additionally, the reviewed empirical studies have explored the relationship between tax planning strategies and financial performance using various methodologies and samples. However, there is a need for further research that considers a broader range of tax planning strategies and uses multiple financial performance indicators to provide a more comprehensive understanding of the link between tax planning and financial performance in the context of manufacturing firms.

By addressing these gaps, the study aims to contribute to the literature by examining the impact of thin capitalization, tax havens, and research and development tax credits on the financial performance of listed Nigerian manufacturing firms, using quantitative research methods. This will provide valuable insights into the specific context of Nigeria and offer a more nuanced understanding of the relationship between tax planning strategies and financial performance.

2.5 Research Hypotheses

H₀: Thin capitalisation does not have significant effect on financial performance of listed manufacturing firms in Nigeria.

H₀: Tax haven does not have significant effect on financial performance of listed manufacturing firms in Nigeria.

H₀: Research and development tax credits does not have significant effect on financial performance of listed manufacturing firms in Nigeria.

3. Methodology

The study employed ex-post facto research design to examine the effect of tax planning strategies using thin capitalization, tax havens, and research and development tax credits) and financial performance of listed Nigerian manufacturing firms. Data was obtained from secondary

source via the published annual reports of the target companies. The population comprised of all manufacturing firms listed on the Nigerian Exchange Group within the period of 2012 to 2022 (Global Economy, 2022). The base year of 2012 was chosen for this study due to significant changes in tax policies and regulations in Nigeria during that period. In 2012, the Nigerian government implemented various tax reforms that had a substantial impact on the taxation landscape for manufacturing firms. A sample of ten (10) listed industrial goods manufacturing firms were purposively selected due to the fact that these are those in existence during the period of the study. Data analysis technique was done using Descriptive statistics and multiple regressions.

3.1 Model Specification

The study adapted the model specification developed in line with the study conducted by Nwaobia and Jayeoba (2016) on tax planning strategies and firms liquidity in Nigeria. The study utilized Capital intensity (CAPINT), thin capitalization (THINCAP), and lease option (LOPT) and industry sector incentives (IND) as variables measured, stating the model as:

$$CR = \beta_0 + \beta_1CAPINT_{it} + \beta_2 THINCAP_{it} + \beta_3LOPT_{it} + \beta_4IND_{it} + \epsilon_{it}..... (1)$$

However, in line with changes in business world, the present study re-measured the variables with the inclusion of tax haven and research and development tax credits and the model can then be expressed as follows:

$$FP = f (TH, TC, RDTC) \tag{i}$$

Therefore, in econometric form we have:

$$ROA_{it} = \beta_0 + \beta_1TH_{it} + \beta_2TC_{it} + \beta_3RDTC_{it} + \epsilon_{it} \tag{ii}$$

Where:

ROA_{it} = Return on investment (Net Profit / Investment Cost) * 100

TH_{it} = Tax Haven

TC_{it} = Thin Capitalisation

RDTC_{it} = Research & Development Tax Credits

Subscript i= Firms

Subscript t = Years ranging from 2012 to 2022

β₁, β₂, β₃ = Unknown Coefficient of Estimates

ε_{it} = Error term

β₀ = Slope

A-priori expectation = β₁ > 0; β₂ >0; β₃ >0

Table 1: Summary of Variables, Measurement and Sources

Variables	Type	Description	Measurement	Source
Return on Asset(ROA)	Dependent	Return on assets (ROA) is a financial metric that measures a company's profitability and efficiency in generating profits from its assets	It is calculated by dividing net income by total assets.	Tackie <i>et al.</i> (2022) [53]
Tax Haven	Independent	favourable tax conditions to individuals or businesses, often characterized by low or zero tax rates, relaxed tax regulations, and financial secrecy.	Investment Tax Credit (ITC)	Palan <i>et al.</i> (2017) [50].
Thin capitalization	Independent	When a company is heavily financed through debt, often from related parties or affiliates, rather than through equity.	Debt-to-Equity Ratio	Johnson and Chen (2019)
R & D tax credits	Independent	Government policies and measures designed to encourage and support research and development activities within a country.	R&D tax credit which is calculated based on qualified research expenses	Oxelheim and Wihlborg, (2017) [49]

Source: Author's Compilation (2023)

4. Data Analysis and Discussion of Findings

4.1 Descriptive Statistics

The descriptive statistics is reported in table 1 and it shows that returns on assets (ROA) for the listed manufacturing firms in Nigeria over the years have the average has the value of 2.2641 with standard deviation of 8.6447 implying high variation across the years and the coefficient variation of 3.81815 which means that the variation is over 300 percent over the period. The standard error of mean is .4405 implying variation in the sample mean and population mean with minimum value of -20.86 and maximum value of 20.57. Data for the variable is negatively skewed having the statistics of -.664012 and kurtosis value of 4.3577. Furthermore on the table, it is shown that thin capitalisation have average value of .91506 with standard deviation of .6052 and this imply that there is high variation in the rate of involvement in thin capitalisation having coefficient of variation of .66143 and the total standard error of mean for thin capitalization is .03084 with the minimum value of .7882 and maximum value 2.79955. The data for the variable is positively skewed having the value of .7882 and kurtosis value of 3.5205 and this imply that the data is normally distributed

Furthermore from table 1, research tax (RSTX) has an average value of 4.6731 with standard deviation of 2.2984 and this imply a high variation with 49.18 percent of coefficient of variation. The standard error of mean of research tax is .11714 with minimum value of 0 and maximum value of 6.7687. The variable is negatively skewed having the value of -1.4332 and kurtosis value of 3.3116 which imply that the data is normally distributed. Also from table 1, tax rate (TXR) on the average over the study period for listed manufacturing firms is .2937 with standard deviation of .0428 and this imply a low variation in tax rate applied to manufacturing over the years showing coefficient of variation of .145861 and the standard error mean is .00218 with minimum value of 0 and maximum value of 0.30. Data for the variable is negatively skewed

having the value of -6.7190 and the kurtosis value indicating 46.146 and this imply that the data has leptokurtic distribution and not normally distributed.

Table 1: Descriptive Statistics

Variables	ROA	THCP	Resear~g	TaxCredit
Observations	385	385	385	385
Mean	2.264116	.9150668	4.673183	.2937662
SD	8.644751	.6052592	2.298453	.042849
CV	3.818158	.6614372	.4918388	.145861
SE(mean)	.4405773	.0308469	.11714	.0021838
Min	-20.86	.0199762	0	0
Max	20.57	2.799551	6.768712	.3
Skewness	-.6640122	.7882687	-1.433234	-6.719094
Kurtosis	4.357729	3.520537	3.311612	46.14622

Researcher’s Computation (2023)

4.2 Test of Variables

4.2.1 Normality Test

The normality of data distribution is an assumption of running a linear model and the assumption merely requires that the residuals be identically and independently distributed. The normality of residuals was conducted using the Shapiro-Wilks test of normality and the result is presented in table 2. The Shapiro-Wilk test is a statistical test that determines whether the data distribution as a whole differs from a comparable normal distribution. This assumption is based on the fact that the sample mean distribution across independent samples is normally distributed. If the test is non-significant ($p > .05$), it means that the sample's distribution is similar to that of a normal distribution. To further validate the result, the SK test was also carried out, and these two tests were chosen due to their advantage over other normality tests like the Kolmogorov–Smirnov tests. From table 2, the results indicate that residuals of the variables explaining capital structure and firm value have p-values that are above 0.05 as indicated on the table at 5% level of significance which imply the data is normally distributed.

Table 2: Shapiro-Wilk W Test for Data Normality

Variables	Obs	W	V	z	Prob>z
residuals	385	0.64489	94.475	10.803	0.00000
Skewness/Kurtosis	Tests for Normality				
Variable	Obs	Pr(Skewness)	Pr(Kurtosis)	adj chi2(2)	Prob>chi2
residuals	385	0.0000	0.0000	----	0.0000

Source: Researchers’ Computation (2023)

4.2.2 Correlation Analysis

The linear association or relationship between the dependent and explanatory variables was tested using the pairwise correlation coefficient. The correlation analysis equally helped in detecting the likelihood of multicollinearity among the study variables, the presence of which could have a devastating effect on the standard error of the variables. Table 3 shows that the overall relationship between tax planning measured as thin capitalization, research and development tax and returns on assets is significant. The relationship between thin capitalization and returns on assets is direct and positively but insignificant and this evidenced by a coefficient value is 0.0494 and probability value of 0.3341 and this indicate that one time increase in thin capitalisation will lead to 4.94 percent in returns on assets.

Research and development tax (RDT) has inverse and negative significant relationship with returns on assets and one time increase in R&D tax will cause a decrease to returns on assets by 12.54 percent having coefficient value of -0.1254 and probability value of 0.0138. The relationship between tax rate (TXR) and returns on assets is positive and significant having coefficient value of 0.1639 and the relationship is significant having probability value of 0.0013 which imply that one time improvement in tax rate, returns on assets will increase by 16.39 percent.

The relationship between thin capitalisation (THCP) and returns on assets is positive, having a coefficient of 0.1426, which implies that the more research and development tax the manufacturing firms enjoyed, there will be improvement in thin capitalization value by 14.26 percent while the

relationship between the remaining variables are insignificant. Likewise from table 3, it is observed that the relationship between the explanatory variables does not show the existence of multicollinearity as it is not above the expected threshold of 0.7.

Table 3: Correlation Analysis

	ROA	THCP	Resear~g	TaxRate
OBS	385	385	385	385
THCP	0.0494	1.0000		
	0.3341			
R&D Tax	-0.1254	0.1426	1.0000	
	0.0138	0.0051		
TaxRate	0.1639	0.0898	-0.0943	1.0000
	0.0013	0.0785	0.0646	

Source: Researchers' Computation (2023)

4.2.3 Panel Unit Root Test of the Variables

Panel variables have the tendency of been non stationary at level which may likely affect the parameter stability and consistency of the model. However, in order to identify the stationary conditions of the variables, the study uses Levin, Lin & Chu t* and Harris-Tzavalis unit-root test test. The null hypothesis assumption of the unit root test is that all panels contain unit roots while the alternate hypothesis implies that some panels are stationary. The results of unit root tests were displayed in table 4. It shows that all the variables are integrated of order zero that is 1(0) which is significant at 5% level of significance. Therefore, we reject the null hypothesis and conclude that the series is stationary. Therefore, it is not necessary to conduct the co-integration test in order to determine the long run relationship among the variables. The panel least square is capable of estimating an efficient model and that is less spurious.

Table 4: Panel Unit Root Test

Variable	Levin, Lin & Chu t*		Harris-Tzavalis unit-root test	
	Test-statistics	P-value	Z-Statistics	P-value
Returns on assets	-5.3186	0.0000	-11.1368	0.0000
Thin Capitalisation	-5.2712	0.0000	-2.0304	0.0212
Research and development Tax	-2.6008	0.0046	-8.8308	0.0000
Tax Rate	-11.7182	0.0000	-1.9431	0.0260

Source: Author's Computations (2023)

4.2.4 Multicollinearity Test

Multicollinearity test are part of post estimation test to confirm the validity of the assumption of the regression model. In a situation where two or more explanatory variable are highly correlated, meaning that one can linearly predict the other variable with a certain degree of accuracy, then there is problem of multicollinearity. The Variance Inflation Factor (VIF) value is considered for this purpose to determine the independence of the explanatory variables. Based on the evidence presented in table 5, it can be concluded that there is no multi-collinearity problem. This is because the VIF values for all the variables are less than 10 and the tolerance values for all the variables are greater than 0.10 (rule of thumb). Therefore, the study can rely on regression co-efficient to predict the level of impact of independent variables on dependent variables and the outcome of the findings can be considered valid.

Table 5: Tolerance and VIF Value

Variable	VIF	1/VIF
R&D tax	1.03	0.968191
THCP	1.03	0.969110
Tax Rate	1.02	0.980378
Mean VIF	1.03	

Source: Researchers' Computation (2023)

4.2.5 Heteroscedasticity Test

The heteroscedasticity test was conducted to check the validity of homoscedasticity assumption that variance in the residuals are constant as the absence of homoscedasticity violate the assumption and may lead to wrong inference. Heteroscedasticity test was conducted using Breusch-Pagan/Cook-Weisberg test and data for the study revealed the presence of heteroscedasticity given the probability value of 0.2210 which is lesser than 0.05. The observed problem will be corrected by using the panel-standard corrected error.

Table 6: Breusch-Pagan / Cook-Weisberg Test for Heteroscedasticity

Null Hypothesis	Statistics	Probability
Constant variance across the variables residuals (P>0.05)	1.50	0.2210

Researcher's Computation (2023)

4.2.6 Serial Auto-Correlation Test

A variable's autocorrelation depicts how closely its values are correlated across time. It measures how similar two time series, one current and the other lagged, are to one another over time. Data for the study is also tested for auto-correlation using Wooldridge test for autocorrelation in panel data, the result is presented in table 7. The results shows the probability of 0.0180 which is significant indicating that there is problem of Auto-correlation hence the null hypothesis that there is no first-order correlation is rejected.

Table 7: Serial Auto-Correlation Test

Null Hypothesis	Statistics	Probability
no first-order autocorrelation (P>0.05)	6.180	0.0180

Researcher's Computation (2023)

4.2.7 Cross-Sectional Dependence Test

The study employed the parametric testing procedure proposed by Pesaran (2004). The Pasaran (cross-sectional dependence) test is utilized to ascertain whether the residuals are associated across entities. If the outcome demonstrates Pr 0.05, we reject the null hypothesis and draw the inference that the panel is correlated (cross-sectional dependence). The cross-sectional dependence test is presented in table 8. The result indicate that null hypothesis that there is no cross-sectional dependence is rejected as the probability value indicated 0.0003 and the average absolute correlation of the residuals as obtained by using the abs parameter shows 0.304 which is considered a very high number. Hence, there is sufficient evidence to conclude that capital structure and firm value under fixed effect condition does not exhibits cross-sectional dependence. The observed cross-sectional dependence problem will be corrected using panels corrected standard errors (PSCE) with the option that the standard error is independent-corrected.

Table 8: Pesaran's Test of Cross Sectional Independence

Null Hypothesis	Statistics	Probability
no cross-sectional dependence ($P > 0.05$)	3.621	0.0003
Average absolute value of the off-diagonal elements	0.304	

Researcher's Computation (2023)

4.2.8 Hausman Test

A hausman test is used to choose the model that is most suitable for application between the 'inside' estimator and the random effects estimator are compared. If the null hypothesis is rejected, the treatment of the omitted effects by the "inside" estimator is favored (i.e., it favours the fixed effects but only relative to the random effects). The test is being used in this situation to distinguish between models where the omitted heterogeneity is handled as fixed and correlated with the explanatory factors, and models where it is treated as random and independent of the explanatory variables. The result to know the model interpretation showed chi2 of 2.89 and p-value of 0.4096 that is significant at 5 percent implying that the variation across entities is assumed to be random and uncorrelated with the independent variables included in the models. This indicate that the best model for interpretation is random effect model.

Table 9: Hausman Test

Null Hypothesis	Statistics	Probability
Difference in coefficients not systematic ($P \leq 0.05$)	2.89	0.0138

Researcher's Computation (2023)

4.3 Statistical Findings and Explanations of the Effect of Tax Planning and Financial Performance in the Nigerian Listed Manufacturing Firms

The regressed result showing how measures of capital structure in terms of debt financing, equity financing influences price to book ratio after meeting the basis for a Best Linear Un-bias Estimate (BLUE) is shown in table 10. The hausman test supports the random fixed effect, however the result is not interpreted as the panels corrected standard errors regression was run to cater for identified statistical problems of auto-serial correlation and cross sectional dependence. The results of the regression analyzing the model specified to indicate the linear relationship of tax planning and returns on assets shows that the linearity of the variables is different from zero indicating Wald chi2 of 11.59 and probability value of 0.0089 and this imply that the model is significant and fit. The percentage of variation in financial performance that can be caused by tax planning is 3.50 percent having R-squared value of 0.0350.

The overall result shows that the measures of tax planning have positive and significant influence on the financial performance of the sampled listed manufacturing firms in Nigeria. The individual results for the variables as shown in table 10 showed that thin capitalisation (THCAP) have a co-efficient value of .5248353, Z-statistics of 0.82 which is statistically insignificant at 5 percent with p-value of 0.411. Likewise, research and development tax (RDT) have a co-efficient value of -.1263098, Z-statistics of -0.73 which is statistically insignificant at 5 percent with p-value of 0.467. This implies that research and development tax has insignificant influence on firm financial performance. Furthermore, it is observed the tax rate (TXR) have positive

and significant influence on the firm financial performance of the manufacturing firms in Nigeria showing coefficient value of 26.78771, Z-statistics of -1.37 and probability value of 0.172. Firm size (FMZ) have a co-efficient value of 2.5370, Z-statistics of 3.11 which is statistically significant at 5 percent with p-value of 0.002.

This implies that the present tax rate significantly influences that returns on assets in Nigeria. The implication of the findings is that tax planning is a decision that is less significant in achieving positive and continual increase in firm financial performance. The decision among the manufacturing corporation do have a consequence on the financial performance but it is minimal. Apart for financing structure of debt and equity, there may be better means to achieve thin capitalization. Also, the tax savings achieved through research and development relief is not so significant to achieve good financial performance. Furthermore, the positive effect of tax rate on the returns on assets is an indication that the tax rate levied on companies in Nigeria is convenient and companies can easily achieve their tax objectives in accommodating the tax rate applicable.

The results revealed by the study indicated that tax planning have positive and significant effect on financial performance. The results were therefore compared with existing empirical literature to establish if the findings form consensus to existing results and if there are differences, establish the possible reasons for the difference. This findings aligned with the study of Muhammed (2022) [38] which investigated the effect of tax planning and strategies on financial performance of consumer goods firms and the findings indicated that research and development has negative effect on financial performance. Also, the results of Wada *et al.*, (2021) [54] which examined the effect of International tax planning and performance of multinational companies in Nigeria and found out that effective tax rate positively and significantly affect the performance of the sample multinational companies.

Furthermore, the findings contradict the result of with Kehinde *et al* (2022) which examined the tax optimisation strategies and financial performance and the result revealed positive and significant relationship between thin capitalization and financial performance while recording positive but insignificant performance with effective tax rate. Likewise, Ebechuckwu and Obada (2021) [21] found a positive but insignificant effect on performance of food and beverages firms in Nigeria.

Table 10: Panels Corrected Standard Errors Regression

Indep-corrected				
ROA	Coef.	Std. Err.	z	P> z
THCAP	.5248353	.6384621	0.82	0.411
R&DT	-.1263098	.1736158	-0.73	0.467
TXR	26.78771	8.625469	3.11	0.002
_cons	-6.174369	2.752708	-2.24	0.025
Number of obs = 385				
R-squared = 0.0350				
Wald chi2(3) = 11.59 Prob > chi2 = 0.0089				
Hausman test chi2(3) = 2.89 Prob>chi2 = 0.4096				

Researcher's Computation (2023)

4.4 Policy Implication and Findings

The study's findings carry several important policy implications that can guide decision-makers in shaping tax policies and regulations to promote a conducive business

environment and sustainable economic growth. Firstly, policymakers should consider fine-tuning tax policies to incentivize increased research and development (R&D) investments. Enhancing R&D tax credits and deductions could serve as a catalyst for manufacturing firms to allocate more resources toward innovative projects and technological advancements. By encouraging such investments, policymakers can potentially drive higher levels of innovation, leading to greater industry competitiveness and overall economic progress.

Secondly, maintaining an optimal tax rate is crucial for striking a balance between promoting business growth and ensuring a steady stream of government revenue. The study underscores the significance of periodic assessments to determine the most effective tax rate that encourages corporate investment and expansion. This balance is essential for sustaining healthy economic activity while supporting public finances. Additionally, while the study found limited impact of thin capitalization on financial performance, regulators should monitor the debt-equity structure of manufacturing firms. Implementing guidelines or thresholds for thin capitalization ratios can help prevent excessive leveraging, which might lead to financial instability. A prudent approach to debt-equity management could contribute to the long-term financial health of these firms.

The study's key findings offer valuable insights into the intricate relationship between tax planning strategies and the financial performance of Nigerian listed manufacturing firms. One notable finding is the positive and significant correlation between tax rates and financial performance. This highlights the crucial role of a favorable tax environment in fostering business growth and profitability. The study suggests that firms can benefit from optimizing their tax planning strategies to leverage this relationship effectively. Contrary to expectations, the study revealed that thin capitalization had an insignificant influence on financial performance. This implies that while debt financing remains a viable option for expansion, firms should exercise caution and adopt a balanced approach to capital structure to mitigate potential financial risks. The research also indicated that research and development tax incentives had an insignificant effect on financial performance. However, this should not discourage firms from investing in research and development activities. Innovation remains a key driver of long-term competitiveness and differentiation in the market.

5. Conclusion and Recommendation

The study focused on investigating the relationship between tax planning and the financial performance of listed manufacturing firms in Nigeria. Descriptive statistics revealed variations in returns on assets (ROA), thin capitalisation (THCP), research and development tax (RDT), and tax rate (TXR). The normality of data distribution was confirmed through tests, and correlation analysis highlighted the significant impact of tax planning measures on ROA. Unit root tests indicated stationary variables, while multicollinearity and heteroscedasticity were assessed. The results of the Hausman test favored a random effects model. Regression analysis demonstrated the positive and significant influence of tax planning, specifically tax rate and firm size, on financial performance. This finding aligned with some existing literature.

In conclusion, the study revealed that tax planning plays a significant role in influencing the financial performance of listed manufacturing firms in Nigeria. Tax rate and firm size were found to be key factors affecting returns on assets. However, thin capitalisation and research and development tax showed insignificant impacts. These findings underline the importance of effective tax planning strategies in enhancing financial performance, especially by optimizing tax rates and considering firm size. The study contributes to the understanding of the interplay between tax planning and financial outcomes in the Nigerian

Based on the study's findings, several recommendations are put forward:

1. Manufacturing firms should undertake a comprehensive analysis of their tax rates to identify opportunities for optimization. This could involve collaborating with tax experts to navigate complex tax regulations and identify legitimate deductions and incentives.
2. Companies should carefully evaluate their capital structure and debt-equity mix. While the study found an insignificant impact of thin capitalization on financial performance, firms should consider adopting a balanced approach to leverage debt financing for growth without compromising financial stability.
3. Manufacturing firms should continue to invest in research and development activities to leverage potential tax benefits. Collaboration with government agencies and compliance with relevant regulations can help maximize the impact of research and development tax incentives.

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