ISSN: 2006-1013

The Nigerian Accounting Horizon
Department of Accounting, University of Jos
Website: https://nahjournal.org.ng Volume 10, No. 2, 2025

The Effect of ERP System Adoption on the Profitability of Manufacturing Firms in Plateau State, Nigeria

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Abstract
This study investigates the effect of Enterprise Resource Planning (ERP) system adoption on the profitability of manufacturing firms in Plateau State. Employing a quasi-experimental research design and panel regression analysis, the research analyzes financial data spanning 12 years, including pre- and post-implementation periods. In general, the results indicate that ERP adoption has a beneficial effect on the profitability of manufacturing firms, particularly through improved operational efficiency and strategic decision-making. The descriptive analysis showed general improvements in all profitability metrics post-ERP adoption. The paired sample t-tests confirmed that these differences were statistically significant, suggesting that ERP implementation had a notable impact on the firms' profitability. The fixed effects panel regression further validated these findings, indicating a strong causal effect of ERP adoption and improvements in profitability across the four metrics. Findings indicate a significant positive effect of ERP systems on key profitability indicators such as Return on Assets (ROA), Return on Equity (ROE), and Return on Investment (ROI). Based on the findings, it can be concluded that ERP adoption significantly enhances the profitability of manufacturing firms in Plateau State, particularly in terms of ROA, ROE, and ROI. It was recommended that Manufacturing firms that have not yet adopted ERP systems should be encouraged to do so, as the long-term benefits outweigh the initial investment and implementation challenge. Also, ERP systems should be tailored to suit the operational needs and scale of the manufacturing firms.

Keywords: Enterprise Resource Planning, Profitability, manufacturing firms, operational efficiency

1.0 INTRODUCTION

In today's dynamic global economy, Managers are facing growing pressure to enhance the financial performance, productivity, and profitability of their companies. One approach to boosting profitability is to implement strategies that increase productivity by streamlining processes and cutting business activity costs. Many organizations have invested into new technologies to improve productivity and lower the unit cost of production with the intention of driving profitability. The successful adoption and implementation of new technology should lead to greater operational efficiency, thereby reducing the cost per unit of producing goods and services. Technological advancements have fundamentally transformed the way organizations operate, especially in the manufacturing sector. One of the most significant technological tools that have gained traction over the past few decades is Enterprise

Resource Planning (ERP) systems. Moumane et al. (2023) defined ERP system as a centralized system facilitating interactions among numerous organizational stakeholders. Its main function is to streamline and optimize processes and activities. According to Acar et al. (2017), these systems integrate various organizational processes into a unified platform, enabling firms to streamline operations, improve efficiency, and make data-driven decisions.

At the core of an ERP system is a centralized database, typically hosted on a unified computing platform, which consolidates all business operations and eliminates data duplication. For instance, employee details entered into a training record are automatically available for task assignments, and supplier information entered for requisitions is accessible in accounts payable. A key principle of ERP systems is that each data item has a definitive, current value that is maintained by a specific software component. Any other use of that data item involves referencing or copying this definitive value.

Modern research like (panorama, 2024) identified the 2025 top 10 software's important for ERP solutions and niche applications for data-driven organizations. Here the made mention of Epicor, IFS, Infor, Microsoft, NetSuite, Oracle, Sage, SAP, Priority and Syspro. ERP systems are designed to manage simultaneous operations that affect data, such as inventory updates. To prevent errors like two processes attempting to remove the same item from inventory they employ mechanisms such as locks and critical sections to serialize updates. However, this serialization poses challenges for detached access users. For instance, when remote operations are reconciled with the master database, it may not be immediately clear whether requested changes were valid (e.g., ensuring the items requested were still available in inventory and not already removed during the disconnected operation).

The adoption of Enterprise Resource Planning (ERP) systems has become common in the manufacturing industry, as companies use these systems to improve operations, boost productivity, and enhance decision-making. ERP systems integrate essential business functions like inventory management, production planning, finance, and customer relationship management into a single platform, with the goal of improving efficiency.

However, the impact of ERP adoption on profitability remains unclear. While some companies report financial benefits after implementing ERP systems, others face difficulties in achieving expected outcomes. Challenges such as high implementation costs, long deployment periods, and employee resistance to change often hinder success (Haddara & Moen, 2017)

Manufacturing processes are inherently complex, and disruptions during ERP implementation such as system downtime, high training costs, or integration issues can negatively impact production schedules and profit margins (Nawaz & Channakeshavalu, 2013). For small and medium-sized manufacturing firms, limited financial resources make it even harder to invest in and sustain ERP systems, further compounding these challenges (Svensson & Thoss, 2021). Despite these obstacles, there is limited research on the direct relationship between ERP adoption and profitability in manufacturing firms leading to some identified research gaps which include: limited focus on the post-implementation financial effects, few longitudinal studies analyzing pre-and post-ERP adoption over extended periods and scarcity of research within manufacturing sectors in developing countries, especially Plateau State, Nigeria. The following research questions are stated to guide the study based on the issues raised in the statement of the problem: what is the relationship between adequate infrastructural development and personal income tax evasion? And what is the relationship between government accountability and personal income tax evasion?

2.0 LITERATURE REVIEW

2.1.1 Concept of Enterprise Resource Planning (ERP)

Enterprise Resource Planning **(**ERP) systems consolidate financial data across functions, reducing duplication and ensuring consistent, real-time entries - enhancing data profiling and integrity (Olugbamiye et al., 2023). One of the most popular and most often recommended approaches is the philosophy of Enterprise Resource Planning (ERP) system, simply known as ERP. ERP systems are Information Systems (IS) used by multifunctional companies working in different locations in the

world. ERP systems enable real-time data consolidation from different departments, subsidiaries, or locations, ensuring that accountants have access to the most up-to-date and accurate financial information. This real-time data visibility enhances financial reporting accuracy and facilitates timely decision-making by stakeholders. Moreover, the integration of ERP systems streamlines accounting processes, as data entry and updates are automatically synchronized across different modules, reducing the risk of duplication and errors. (Olugbamiye et al., 2023)

According to Oracle (2023), an ERP system uses software, hardware and network components essential for operating enterprise resource planning to help streamline business processes such as procurement, finance, supply chain, operations, ERP systems eliminate the burden of each department in an organization having to ask for heavy information from other departments all the time. With the ERP system in place, each department will have its system customized for their specific tasks but will be able to access other systems through one application.

2.1.2 Concept of profitability

The term profitability in business is an essential one, it relates to how firm behave in term of its growth and financial stability. A company's profitability is based on the efficiency of the company, which is typically shown in the company's comprehensive income and financial position statement (Eke, 2018). When it comes to profitability, it's all about making as much money as possible, returning as much on your assets as possible, and maximizing shareholder wealth. Profitability refers to the evaluation of how effectively an organization utilizes its assets to generate revenue from its core business activities. It is also commonly used as an overarching indicator of a company’s financial well-being during a specified timeframe. Analysts and investors rely on financial performance metrics to benchmark companies within similar industries or sectors (Gerrit & Mohammad, 2020).

According to Siddikin (2017), profit means the difference between revenue generated from the sale of output and the full opportunity cost of factor used in the production of that output. Normal profit is that minimum amount of profit which a firm must acquire in order to induce the firm to remain in operation. Profitability is a core measure of a business's financial health and performance, reflecting the ability to generate earnings relative to revenue, operational costs, or assets. Profitability metrics, such as net profit margin, return on assets, and return on equity, are essential for evaluating how effectively a business uses its resources. According to Olayinka (2022), profitability is not only a function of income generation but also of cost management, strategic investments, and operational efficiency.

2.2 Theoretical Framework

2.2.1 The Resource-Based View (RBV) Theory

The Resource-Based View (RBV) Theory, introduced by Wernerfelt in 1984, is a strategic management framework that underscores the significance of firm-specific resources and capabilities in achieving competitive advantage and superior performance. RBV posits that a firm's competitive edge arises from its unique bundle of resources and capabilities that are valuable, rare, difficult to imitate, and non-substitutable (VRIN). Resources encompass tangible and intangible assets owned or controlled by the firm, while capabilities represent the firm's ability to deploy these resources effectively to achieve strategic goals. Firms are advised to focus on developing and leveraging internal resources and capabilities to create sustainable advantages that competitors cannot easily replicate. RBV also stresses the importance of dynamic capabilities, enabling firms to adapt and innovate in response to evolving market conditions. In relation to this study, RBV offers insights into the internal factors shaping the adoption of cloud-based, Accounting Information Systems (AIS) and financial reporting practices within Nigerian IT firms. It suggests that firms' adoption of cloud-based AIS is influenced by their unique set of resources and capabilities, including technological infrastructure, human capital, and organizational culture.

This is the underpinning theory. This is because; the RBV provides a theoretical framework for understanding how IT manufacturing firms' internal resources and capabilities influence their adoption and utilization of Profitability of Manufacturing Firms in Plateau State, Nigeria. In the Nigerian IT sector, where firms operate in a highly competitive and rapidly evolving environment, the ERP suggests

that firms with superior technological infrastructure, skilled workforce, and organizational capabilities are more likely to effectively integrate cloud technologies into their accounting systems and leverage them to improve financial reporting quality. By focusing on the firm-specific resources and capabilities that enable effective ERP adoption, this study aims to uncover the mechanisms through which manufacturing firms in Nigeria can enhance their Profitability.

2.3 Empirical Review

Joseph & Olatunji (2025) investigated the effect of Enterprise Resource Planning (ERP) usage on the profitability of Small and Medium Enterprises (SMEs) in Southwestern Nigeria. A descriptive cross-sectional design was adopted. The population comprised 1,390 owners, managers, and junior staff from seven selected companies: Rom Oil Ltd, Nampak Nigeria Ltd, Premier Feeds Mills Ltd, Belloxi Ltd, Drury Industries, Comestar Company Ltd, and Sunsteel Industries Ltd. A sample of 310 respondents was selected using the Taro Yamane sampling technique. Data were collected through a structured four-point Likert-scale questionnaire and analyzed using mean scores for the research questions and ANOVA for hypothesis testing. The findings showed that ERP usage had a significant positive effect on profitability. The study concluded that while ERP systems significantly enhanced SME profitability, their successful implementation required overcoming key organizational and technical barriers. The study recommended employee training, proper budgeting for ERP-related expenses, and improved IT infrastructure supported by change management strategies.

Ugwu & Dieke (2024) examine the relationship between corporate performance and waste reduction, evaluate the relationship between customer service and output of food and beverage manufacturing firms in Enugu State. The area of the study was the SMEs in Enugu State. The study used the descriptive survey design approach. The primary source of data was the administration of questionnaire. A total population of 1232 selected staff of the study organisations. The adequate sample size of two hundred and ninety-three (293) using Freund and William's statistic formula at 5 percent margin of error. Two hundred and fifty-seven (233) staff returned the questionnaire and accurately filled. The hypotheses were analyzed using Pearson correlation(r) test statistic tool. The findings indicated corporate performance had significant positive relationship with waste reduction of food and beverage manufacturing firms in Enugu State. Customer service had significant positive relationship with output of food and beverage manufacturing firms in Enugu State. The study recommended among others the management of food and beverage manufacturing firms should endeavour to maintain corporate performance to ensure that strategic priorities are executed and the key drivers of the business maintained to produce accurate and consistent financial information.

El-Bax et al (2023) examined the Impact of Enterprise Resource Planning (ERP) Implementation on Performance of Firms: A Case to Support Production Process Improvement. This study utilized scale items sourced from the technology adoption literature to assess the identified constructs based on the proposed conceptual model: ERP system (SY), people engaging the ERP system (PE), and implementation strategies (IS). The survey method was employed in this phase to examine the status of ERP system implementation. A pilot study was conducted involving the distribution of 13 questionnaires to owners, managers, and ERP implementers in the Middle East. Participants were requested to provide feedback if they encountered any difficulties in comprehending and responding to the questionnaire. Subsequently, the questionnaire items were reviewed to ensure they were appropriately structured, clear, and linguistically accessible. A questionnaire, distributed via email, serves as the research instrument for this study. The study demonstrates a positive and significant relationship between the ERP system and firm performance. The study emphasizes the significance of the implementation strategy in influencing firm performance.

Barna, et al., (2021) observe the relationship between ERP systems and financial reporting. The role of these systems is to ensure transparency over the financial and non-financial reporting process of an organization. The research method is represented by an archival analysis (organization's annual reports) to highlight the relationship between ERP systems and financial and non-financial reporting, given the impact of ERP systems on the information used to prepare financial and non-financial reports and how the organization changes after implementing these systems. The results highlight the significant role of

ERP systems within an organization, in terms of performance and improvements in financial and non-financial reporting.

David (2020) examined the relationship between enterprise resource planning application and effectiveness of selected manufacturing firms in Port Harcourt. Correlational survey research design was adopted for this study as this study seeks to determine the relationship between the two variables. The population of this study is thirty-two (32) manufacturing companies in Rivers State which are registered with the Rivers State branch of Manufacturers Association of Nigeria (MAN). Three key managers (production manager, marketing manager and logistics manager) were chosen as respondents from each using simple random sampling of the thirty-two firms constitute the study subject. This gave us a total of ninety-two (92) for the study. Structured questionnaire instrument was developed on five-point likert scale. The result of the Cronbach's Alpha reliability test indicates .810 which is above .70 which implies that the items are reliable. Pearson product moment correlation was used to test the hypotheses using SPSS (statistical package social sciences). This study revealed that there is a significant relationship between financial application and resource utilization of selected manufacturing firms in Port Harcourt. There is a significant relationship between human capital management and adaptability of selected manufacturing firms in Port Harcourt. The study recommended that implementing regular workforce planning exercises to forecast future manpower needs based on business growth projections and industry trends.

Zainuddin and Syukriy (2020) examined the effect of human resource capacity, internal control and utilization of accounting information technology on quality of financial statements in Indonesia. Using multiple regressions to analyse the data used for the study, their findings showed that human resource capacity and the use of accounting information technology have positive effects on the quality of financial reporting. They concluded that the better the capacity of the human resources and the use of accounting information technology, the better the quality of financial reporting in an organization.

METHODOLOGY

This study adopts a quasi-experimental research design specifically an ex-post facto approach in analysing the effect of ERP systems adoption on profitability of manufacturing firms in plateau state. The ex post facto design is adopted because the variables used in this study are readily available and obtainable in the audited financial statements of the accessible manufacturing firms without being manipulated or controlled and the variable cannot be studied experimentally but the effect of relationship between the independent variables and the dependent variable can be established. For the success of this paper, personal interviews were conducted to find out if firms had adopted ERP, after which secondary sources of data were utilized due to the nature of variables under the study as a yardstick for profitability measurement.

Table 1
Manufacturing Firms and Population

Strata		Firms
Valid	Breweries	3
	Building materials	8
	Chemicals and paints	5
	Food and beverages	6
	Industrial/domestic products	3
	Total	25

Source: compiled by the researcher from research survey.

For the purpose of this study, the sample size consists of four manufacturing firms within the food and beverage sector. This selection was made using a purposive/judgmental sampling technique, as the survey results indicated that these firms have adopted and are actively using at least one ERP system. Other firms within the target population did not provide usable responses.

The choice of the variables used for the study was primarily guided by previous empirical studies and availability of data. For the purpose of this study, four (4) variables are seen as relevant viz; Return on Asset (ROA), Return on Equity (ROE), Return on Investment and Return on Sales (ROS).

Table 2
Table Showing Variables

S/No	Variables	Measurement
1	ROA	Return on Asset = Operational income/Total Assets
2	ROE	Return on Equity = Net Income/Total Equity
3	ROI	Return on investment =Net Income/ (non-current liabilities +Equity)
4	PAT	Profit after tax = Profit before tax -Tax expense

Source: compiled by the researcher

4.0 Results and Discussion

Table 4.1 Group Statistics by ERP Adoption

ERP Status		Return on Asset (%)	Return on Equity (%)	Return on Investment (%)	Profit After Tax (In millions)
Before	Mean	5.5148	7.7414	7.5719	22.7483
	N	21	21	21	21
	Std. Deviation	3.00503	5.26385	4.84531	15.98314
	Minimum	1.01	1.18	1.19	1.62
	Maximum	12.71	19.00	18.58	60.28
	Std. Error of Mean	.65575	1.14867	1.05733	3.48781
After	Mean	9.2281	17.9300	16.9633	117.1917
	N	27	27	27	27
	Std. Deviation	5.30082	13.19359	11.10909	171.26763
	Minimum	1.75	2.31	2.33	3.62
	Maximum	18.98	45.44	39.98	862.86
	Std. Error of Mean	1.02014	2.53911	2.13794	32.96047
Total	Mean	7.6035	13.4725	12.8546	75.8727
	N	48	48	48	48
	Std. Deviation	4.78041	11.58339	10.02136	136.29749
	Minimum	1.01	1.18	1.19	1.62
	Maximum	18.98	45.44	39.98	862.86
	Std. Error of Mean	.68999	1.67192	1.44646	19.67285

Table 4.2: Paired Sample T-Test

	Paired Differences							
				95% Confidence Interval of the Difference				
	Mean	Std. Deviation	Std. Error Mean	Lower	Upper	t	df	Sig. (2-tailed)
Return on Asset (Before) - Return on Asset (After)	-4.492	5.88922	1.20213	-6.97888	-2.00528	-3.74	23	.001
	-11.92	11.5553	2.35871	-16.7977	-7.03896	-5.05	23	.000

Return on Equity (Before) - Return on Equity (After)	-10.99	10.4900	2.14127	-15.4204	-6.56128	-5.13	23	.000
Return on Investment (Before) - Return on Investment (After)	-105.9	176.108	35.9479	-180.266	-31.5381	-2.95	23	.007
Profit After Tax (Before) - Profit After Tax (After)								

Panel Data Fixed Effects Regression Report
Model ROA

Panel OLS Estimation Summary			
Dep. Variable:	ROA	R-squared:	0.2409
Estimator:	PanelOLS	R-squared (Between):	-0.0901
No. Observations:	48	R-squared (Within):	0.2409
Date:	Tue,Apr 08 2025	R-squared (Overall):	0.1507
Time:	14:28:58	Log-likelihood	-128.45
Cov. Estimator:		Unadjusted	
		F-statistic:	13.650
Entities:	4	P-value	0.0006
Avg Obs:		12.000 Distribution:	F(1,43)
Min Obs:		12.000	
Max Obs:		12.000 F-statistic (robust):	13.650
		P-value	0.0006
Time periods:	12	Distribution:	F(1,43)
Avg Obs:			4.0000
Min Obs:			4.0000
Max Obs:			4.0000

Parameter Estimates

	Parameter	Std. Err.	T-stat	P-value	Lower CI	Upper CI
Intercept	5.3519	0.8116	6.5939	0.0000	3.7151	6.9888
ERP_status	4.0028	1.0834	3.6945	0.0006	1.8179	6.1878

F-test for Probability: 7.6870
P-value: 0.0003
Distribution: F(3,43)

Included effects: Entity

Table 4.7 shows the regression output for ROA, which indicates a statistically significant positive effect of ERP adoption. The ERP-Status coefficient is 4.00, with a p-value of 0.0006 which is lower than 0.005, suggesting that, all else equal, ERP adoption increases return on assets by approximately 4%. The F-statistic of 13.65 affirms the overall significance of the model, emphasizing ERP's contribution to operational efficiency.

Model ROE

Equation: $ROE = \beta 0 + \beta 1 ERP\_Status + \varepsilon it$

Table 4.8: PANEL OLS ESTIMATION SUMMARY FOR ROE

PanelOLS Estimation Summary			
Dep. Variable:	ROE	R-squared:	0.3097

Estimator:	PanelOLS	R-squared (Between):	-0.0303
No. Observations:	48	R-squared (Within):	0.3097
Date:	Tue, Apr 08 2025	R-squared (Overall):	0.1943
Time:	14:28:58	Log-likelihood	-166.33
Cov. Estimator:	Unadjusted	F-statistic:	19.296
Entities:	4	P-value	0.0001
Avg Obs:	12.000	Distribution:	F(1,43)
Min Obs:	12.000		
Max Obs:	12.000	F-statistic (robust):	19.296
		P-value	0.0001
Time periods:	12	Distribution:	F(1,43)
Avg Obs:	4.0000		
Min Obs:	4.0000		
Max Obs:	4.0000		

Parameter Estimates

	Parameter	Std. Err.	T-stat	P-value	Lower CI	Upper CI
Intercept	7.5783	1.7870	4.2408	0.0001	3.9745	11.182
ERP_status	10.479	2.3855	4.3927	0.0001	5.6678	15.289

F-test for Probability: 10.992
P-value: 0.0000
Distribution: F(3,43)

Included effects: Entity

Table 4.8 shows the regression output for ROE model and further supports the positive impact of ERP systems, with an ERP-Status coefficient of 10.48 (p = 0.0001). This implies a 10.48% increase in equity returns following ERP implementation. The model's R-squared of 0.31 shows that 31% of the variation in ROE is explained, highlighting a strong relationship between ERP and shareholder profitability.

Model ROI

Equation: $ROI = \beta 0 + \beta 1 ERP\_Status + \varepsilon it$

Table 4.9: PANEL OLS ESTIMATION SUMMARY FOR

PanelOLS		Estimation	Summary
Dep. Variable:	ROI	R-squared:	0.3105
Estimator:	PanelOLS	R-squared (Between):	-0.0364
No. Observations:	48	R-squared (Within):	0.3105
Date:	Tue, Apr 08 2025	R-squared (Overall):	0.2206
Time:	14:28:58	Log-likelihood	-162.11
Cov. Estimator:	Unadjusted		
F-statistic:			19.364
Entities:	4	P-value	0.0001
Avg Obs:	12.000	Distribution:	F(1,43)
Min Obs:			12.000
Max Obs:	12.000	F-statistic (robust):	19.364
		P-value	0.0001
Time periods:	12	Distribution:	F(1,43)
Avg Obs:			4.0000
Min Obs:	4.0000		
Max Obs:	4.0000		

Parameter Estimates

	Parameter	Std. Err.	T-stat	P-value	Lower CI	Upper CI
Intercept	7.4473	1.6365	4.5508	0.0000	4.1470	10.748
ERP_status	9.6129	2.1845	4.4005	0.0001	5.2074	14.018

F-test for Probability: 7.5330
P-value: 0.0004
Distribution: F(3,43)
Included effects: Entity

Table 4.9 shows the regression output for ROI, the regression yielded a coefficient of 9.61 for ERP-Status (p = 0.0001), indicating that ERP adoption leads to a 9.61% boost in investment returns. The high F-statistic value of 19.36 supports the robustness of the model and suggests that ERP systems enhance firms' return-generating capabilities.

Model PAT

Equation: PAT = β0 + β1ERP_Status + εit

Table 4.10: PANEL OLS ESTIMATION SUMMARY FOR PAT

PanelOLS Estimation Summary			
Dep. Variable:	PAT	R-squared:	0.1303
Estimator:	PanelOLS	R-squared (Between):	0.0247
No. Observations:	48	R-squared (Within):	0.1303
Date:	Tue, Apr 08 2025	R-squared (Overall):	0.1207
Time:	14:28:58	Log-likelihood	-297.87
Cov. Estimator:	Unadjusted		
F-statistic:			6.4425
Entities:	4	P-value	0.0148
Avg Obs:	12.000	Distribution:	F(1,43)
Min Obs:	12.000		
Max Obs:	12.000	F-statistic (robust):	6.4425
		P-value	0.0148
Time periods:	12	Distribution:	F(1,43)
Avg Obs:	4.0000		
Min Obs:	4.0000		
Max Obs:	4.0000		

Parameter Estimates

	Parameter	Std. Err.	T-stat	P-value	Lower CI	Upper CI
Intercept	23.108	27.685	0.8347	0.4085	-32.725	78.941
ERP_status	93.803	36.957	2.5382	0.0148	19.273	168.33

F-test for Poolability: 1.6137
P-value: 0.2001
Distribution: F(3,43)
Included effects: Entity

Table 4.10 shows the regression output for the PAT model, which reports a positive coefficient of ₦93.80 million for ERP-Status, with a p-value of 0.0148. Although the model's R-squared is 0.13—indicating a relatively modest explanatory power—the significance of the coefficient confirms that ERP adoption contributes positively to net profitability in monetary terms.

In general, the results indicate that ERP adoption has a beneficial effect on the profitability of manufacturing firms, particularly through improved operational efficiency and strategic decision-making. The descriptive analysis showed general improvements in all profitability metrics post-ERP adoption. The paired sample t-tests confirmed that these differences were statistically significant, suggesting that ERP implementation had a notable impact on the firms' profitability. The fixed effects panel regression further validated these findings, indicating a strong causal effect of ERP adoption and improvements in profitability across the four metrics.

4.1 Discussion of findings

ERP adoption and it effect on profitability and general performance of a firm cannot be over emphasized. Hence, it is of great importance and no doubt a matter of interest for other researchers interested in further research. Based on the findings, it can be concluded that ERP adoption significantly enhances the profitability of manufacturing firms in Plateau State, particularly in terms of ROA, ROE, and ROI. Although the effect on PAT was not statistically significant, the positive coefficient still suggests an encouraging trend. The adoption of ERP systems enables firms to integrate various business functions, streamline processes, and access to real-time data, all of which contribute to improved financial performance. The study contributes to the growing body of empirical evidence that supports the adoption of ERP systems as a strategic tool for driving business growth and efficiency in developing economies. This is in line with the study of **Ogunyomi & Bruning (2020),** while **Nwankwo & Akinyele (2018) f**ound that 40% of Nigerian firms adopting ERP did not report significant profitability increases.

Manufacturing firms that are yet to adopt ERP systems should consider doing so, as the evidence strongly supports its effectiveness in enhancing profitability. To maximize the benefits of ERP systems, firms should invest in employee training and proper change management strategies to ensure a smooth transition and effective utilization. Again, Policy makers and industry regulators should create frameworks and incentives to support ERP adoption, particularly among small and medium-sized manufacturing firms.

5.0 Conclusion and Recommendation

This study examined the effect of Enterprise Resource Planning (ERP) system adoption on the profitability of manufacturing firms in Plateau State, Nigeria, focusing specifically on three key financial performance indicators: Return on Assets (ROA), Return on Equity (ROE), and Return on Investment (ROI). Based on empirical data and analysis, the findings revealed that ERP system adoption has a **positive and significant effect** on all three profitability metrics, although the degree of influence varies. Firms that have adopted ERP systems reported improved efficiency in resource management, better integration of operations, and enhanced decision-making processes. These improvements translated into increased asset utilization (ROA), better returns for shareholders (ROE), and more effective investment returns (ROI). However, the study also found that the full benefits of ERP systems are often realized over time and depend on proper implementation, staff training, and customization to firm-specific needs.

Based on the conclusions from the results of the study, the following recommendations are suggested

1. Manufacturing firms that have not yet adopted ERP systems should be encouraged to do so, as the long-term benefits outweigh the initial investment and implementation challenge
2. Firms should establish key performance indicators (KPIs) tied to ERP functions and regularly evaluate their profitability metrics to ensure that ERP systems are aligned with strategic business goals
3. ERP systems should be tailored to suit the operational needs and scale of the manufacturing firms.

REFERENCES

Acar, F. M., Tarim, M., & Zaim, S. (2017). Knowledge management and ERP: Complementary or contradictory? *International Journal of Information Management, 7*(14), 703-712

Akkermans, H. A., Bogerd, P., Yücesan, E., & Wassenhove, L. V. (2011). The impact of ERP on supply chain management: Exploratory findings from a European Delphi study. *European journal of operation reseach, 146*(2), 284-301.

Bradley, J. (2008). Management based critical success factors in the implementation of Enterprise Resource Planning systems. *International Journal of Accounting Information Systems, 9*(3), 175-200.

David O. (2020). Enterprise Resource Planning Application and The Effectiveness of Selected Manufacturing Firms In Port Harcourt, *International Journal of Innovations in Accounting and Economics Management, 8*(2), 54-67.

Eke G. (2018). Internal Control and Financial Performance of Hospitality Organizations in Rivers State. *European Journal of Accounting, Auditing, and Finance* Research, *6*(3), 32-52.

El-Baz, Kareem A.; El-Midany, Tawfik T.; Ghattas, Magdy S.; and AbouEleaz, Mona A. (2023). The Impact of Enterprise Resource Planning (ERP) Implementation on Performance of Firms: A Case to Support Production Process Improvement. *Mansoura Engineering Journal, 48*(6), 1-13.

Gerrit, S., & Mohammad, J. A.. (2020). Monitoring effects of the Internal Audit Function. *International Journal of Auditing, 60*(1), 2-20.

Haddara, M., & Moen, H. (2017). User resistance in ERP implementations: A literature review. *Procedia Computer Science, 121*(1), 859-865.

Jiwat , R., David , R. C., & Ming-Lu , W. (2013, september). Enterprise Resource Planning Adoption: Structural Equation Modeling Analysis Of Antecdants. *Computer Information Systems, 54*(1), 53-65.

Joseph D.O. & Olatunji K. (2025). The effect of Enterprise Resource Planning (ERP) usage on SME Profitability in Southwestern Nigeria, *Impact International Journals And Publications, 1*(2), 56-68.

Justin Goldston, P. (2020). A Qualitative Study of Risk Mitigation in Enterprise Resource Planning Implementations. *Global scientific journals, 7*(12), 11 - 22.

Kouriati, A., Bournaris, T., Manos, B., & A., S. (2020, november 11). Critical Success Factors on the Implementation of ERP Systems: Building a Theoretical Framework. *International Journal of Advanced Computer Science and Applications, 11*(11), 1-10.

Law, C. C., & Ngai, E. W. (2007). ERP systems adoption: An exploratory study of the organizational factors and impacts of ERP success. *Information and management, 44*(4), 418-432.

Moumane, K., Chaouni, N., & Rafik, I. (2023, January). An empirical study of Moroccan industrial data: challenges and benefits of an ERP system. *IEEE Congress on Information Science and Technology (CiSt), 1*(1), 566-574.

Monk , E., & Wagner, B. J. (2013). *CONCEPTS IN ENTERPRISEVRESOURCE PLANNING* (4th edition ed.). (J. Sabatino, Ed.) course techology cengage learning, *1*(1), 11-22.

Nawaz, N., & Channakeshavalu. (2013, june). The Impact of Enterprise Resource Planning (ERP) Systems Implementation on Business Performance. *Asia pacific journal of research, 2*(4), 9-10.

Olayinka, A. A. (2022). Financial statement analysis as a tool for investment decisions and assessment of companies' performance. *International Journal of Financial, Accounting, and Management, 4*(1), 49-66

Olugbamiye D.O., Akinadewo I.S., Akpan J.U., & Fagbomedo O.R. (2023). Success Stories of Digital Transformation in Accounting in Nigeria, *International Journal of Research (IJR), 10*(09), 217 – 237.

Oracle (2023). What is ERP. Available at: https://www.oracle.com/erp/what-is-erp/. Accessed 15.5.2023.

Panorama. (2024). *The 2025 Top 10 ERP Systems Report.* panorama consulting groups. Retrieved November 22, 2024, from https://www.panorama-consulting.com/: https://www.panorama-consulting.com/

Ugwu, F.I. & Dieke, C.C. (2024). Enterprise Resource Management practice and performance of food and beverages manufacturing firms in Enugu State, *Academic Journal of Current Practice in Business and Management, 9*(5), 68-86.

Siddikin, A. (2017). Measuring performance through profitability: Evidence from banking sector of Pakistan. *African Journal of Business Management, 55*(1), 1871-1879.

Svensson, A., & Thoss, A. (2021, November 19). Risk Factors When Implementing ERP Systems in Small Companies. (S. Latifi, Ed.) *Information, 12*(11), 478.

Wernerfelt, B. (1984). A resource-based view of the firm. *Strategic Management Journal, 5*(2) 171-180.

Xu, H., Mahenthiran, S., & Rondeau, P. J. (2011). Teaching Case The Challenge of Implementing an ERP System in a Small and Medium Enterprise –A Teaching Case of ERP Project Management. *Journal of Information Systems Education (JISE), 22*(4), 291.

Yajiong, L., Huigang, L., William, R. B., & Charles, A. S. (2005, february). ERP implementation failures in China: case study with implications for ERP vendors. *international journal of production economics,1*(1), 279-295.