



Human Resources Intellectual Development and Performance of Small Scale Enterprises in Ondo State, Nigeria

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ABSTRACT

Original Research Article

The study assessed the effect of Human Resources Intellectual Development or HRID, on the performance of Medium Enterprises or SMEs in manufacturing within the Ondo State, Nigeria. The study focused on the relationship between training and development, skills acquisition and educational qualifications of employees and productivity. A survey research design was adopted for the study. The population of the study comprised of 46,433 workers in manufacturing SMEs in Ondo State, Nigeria. Using the Taro Yamane formula, the study selected 397 SMEs as the sample size for the study. Data for the study were collected directly from the owners/managers of the SMEs and their employees using a questionnaire as the research instrument. The study analysed the data using both descriptive and inferential statistics. The data were described using the mean and standard deviation, while multiple regression analysis tested the hypotheses. The study found that training and development, skill acquisition and educational qualifications of employees significantly influenced employee productivity. However, the variables had different levels of influence. The study recommends that managers of SMEs should invest more effort in training and developing their employees, create avenues for acquiring skills through practical training and ensure their employees further their studies to upgrade their educational qualifications to increase their productivity.

Keywords: Employee, Educational Background, Employee Productivity, Human Resource Intellectual Development, Small and Medium Enterprises, Skill Acquisition.

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Introduction

Human resources are considered a substantial organizational factor due to their capacity to make the entity more valuable and functional (Dukorvic, 2019). Such outlook is significant of the Human Resource Intellectual Development (HRID) by virtue of being an agent to increasing organizational value through a consistent enhancement of people. Generally, HRID refers to building up knowledge, skills and competencies of employees in a conscious way. According to Heathfield (2011), HRID is a management directed process of developing employees' capabilities, knowledge and skills by means such as training program, education and structured skill development programs. Similarly, Adeyi et al. (2018) define HRID as a strategic management approach in which

the management through the design for training and development (TD), skills and education provides more to employees.

In this sense, training and development programmes are defined as systematic efforts within or outside an organization to promote employees and managers job-related knowledge and skills (Jayawarna et al., 2017). Coulter and Ziek (1998) pointed out that training and development as the deliberate efforts by an organization to enhance the skills, knowledge, competencies and capability of its workforce through learning so as to improve their current performance on the job or prepare them for future responsibilities. Training and development offer employees opportunities to acquire skills and knowledge that go beyond the immediate

improvement of task performance; these new insights can contribute not only to attaining individual goals but also help them reach the goals of organization (Peteraf, 2023). Therefore, continuous investment in employee development can be an integral part of developing firm-specific capabilities and improving implementation.

On the other hand, skill acquisition entails acquiring practical or productive skills through formal, non-formal, and informal modes of learning. It allows employees to adjust and perfect their skills in relation to the altering needs and openings of the economy. It involves recognizing where skill gaps exist, making an intentional effort to - learn and improve so as to fill those gaps (Ilo et al., 2022). This type of development allows employees to gain the necessary competencies to execute their job roles more efficiently, while being agile enough to respond to changing demands in the workplace and economy.

Educational background of employees is the formal qualifications and certification obtained by employees. Human capital scholars argue that education enhances the cognitive skills thereby increasing productivity and competence. Through investment in education, the cognitive capacities and abilities of an individual are improved. This consequently awakes the innate abilities of such an individual leading to a greater level of reasoning, thinking, attitudes, and performances (Ekundayo & Odhigu, 2016).

Many researchers pointed toward the importance of organizational performance across various domains of business and financial planning (Jat, 2016). It usually means the extent to which a company achieves its stated goals. Organizational performance is generally classified in two ways, which include financial and non-financial performances. Financial performance is determined using monetary methods; however, non-financial performance can be interpreted from methods that are not expressed in monetary terms [13]. For instance, common non-financial indicators include customer satisfaction as the market performance, productivity as an indicator of operational efficiency and innovation performance an organization's innovative capability to develop and implement new processes or ideas.

The concept of employee productivity has attracted different definitions in recent times. Generally, employee productivity refers to proper use of organizational labour to achieved stated set of objectives. In this study, productivity is defined as the quantity and quality of goods and services produced per labour during a particular time at least cost. Employee productivity plays an important mediating role in the impact of human resource intellectual development the performance of manufacturing. Intellectual development variables namely training programs, skill acquisition, and educational background increases the productive capacities of employees. This translates to increase in operational efficiency,

innovation performance and ability of employees to meet or exceed customers satisfaction (Ojukwu & Sajuyigbe, 2021).

SMEs play a vital and indispensable role in promoting economic development; however, the contribution of Human Resource Intellectual Development (HRID) to organisational performance has not been sufficiently examined empirically. One of the major internal challenges confronting SMEs relates to the development, management, and effective utilisation of their human resources. Human capital, encompassing the knowledge, skills, competencies, and capabilities possessed by employees, is widely recognised as an important determinant of organisational performance. Despite this recognition, limited empirical evidence exists regarding how specific dimensions of HRID, particularly training and development programmes, skill acquisition, and employees' educational backgrounds, influence the performance of SMEs in Ondo State, Nigeria. This represents an important gap in the existing literature, partly because relatively few studies have investigated these HRID dimensions within the specific geographical and organisational context of the present study.

In the light of this gap, therefore, the present study aims to investigate how Human Resource Intellectual Development impacts on performance of manufacturing SMEs in Ondo State, Nigeria. This investigation considers three accounting-oriented dimensions of HRID towards governments in order to address employees' training, skills acquisition and educational attainment. As a result, the research is conducted according to the following research questions:

- i. To what extent does training and development programmes affect the employee productivity of manufacturing SMEs in Ondo State?
- ii. How does skill acquisition affect the employee productivity of manufacturing SMEs in Ondo State, Nigeria?
- iii. To what extent does educational background of employee affect employee productivity in the manufacturing SMEs in Ondo State, Nigeria?

Research objectives and hypotheses were stated in line with the research questions for the purpose of providing answers to the questions raised.

Theoretically, this study is significant because it contributes to filling the gap that exist in the past empirical studies. The studies conducted in the past failed to examine how intellectual capital affect the performance of manufacturing SMEs in Ondo State. The study is will also improve the knowledge on the link between intellectual capital and SMEs performance, especially in the manufacturing sector. In addition, the study contributes to theory by using real life data to verify theories which include Resources Based Theory. Practically, this study is beneficial the owners, managers, employees, manufacturing industry and the economy of Ondo State Nigeria. This owners and managers of manufacturing SMEs in Ondo State will benefit from this study as it will

motivate owners and managers to invest in intellectual properties.

The geographical area of the study, Ondo State was examined because many manufacturing SMEs exist there and because there is dearth of empirical studies that specifically focused on the zone. The Ondo State is one of the states in South West in Nigeria that is made up of six states namely Lagos, Ogun, Ondo, Oyo, Ekiti and Ondo.

The independent variable of the study is intellectual capital. The dimension of intellectual capital being focused on is human capital. The variables of intellectual capital being captured in this study include training & development, skills and educational background.

The dimensions of SMEs performance being focused on in this study include operational efficiency, market performance and innovation and growth. Operational efficiency was proxy by productivity, market performance was measured by customer satisfaction while innovation and growth was proxy by new products and process. The sector being covered is small and medium enterprises. The category of SMEs being considered is manufacturing SMEs, the reason for the coverage is due to the fact that they are critical to economic growth and development and at the same time can create employment opportunities.

Literature Review

Conceptual Review

Organizational Performance

Organizational performance has been a subject of interest for researchers in various fields of business and financial management (Jat, 2016). Generally, it refers to the extent to which an organization meets its goals. Performance is also a matter of primary concern to managers and entrepreneurs in all types of enterprises since organizational performance is closely linked with efficient operation and profitability. At the same time, performance is a difficult notion to measure and define. It can be argued that performance is the result of organizational activity, but the indicators to identify performance will differ depending on the type of organization and its goals (Sun & Li, 2006). According to the Encyclopedia of Business (2011), performance can be grouped into two categories: performance indicators reflecting the result of performance, such as competitiveness and financial performance, and indicators characterizing the determinants of performance, namely, quality, flexibility, resource utilization, and innovation. Thus, it can be concluded that performance can be measured from two perspectives, which are the results of performance and performance determinants.

Further, performance can be divided into financial and non-financial performance. The former implies the assessment of an organization based on financial indicators, while the latter refers to the measurement of organizational performance

using non-monetary indicators. The current study will focus on non-financial performance because many aspects of the financial performance of small and medium-sized enterprises (SMEs) are poorly organized, making financial indicators irrelevant and difficult to measure. Accordingly, this study will utilize customer satisfaction as a market performance indicator, productivity, as an indicator of performance, and innovation performance to assess the performance of SMEs.

Productivity (Operational Efficiency)

Productivity refers to the efficient use of available resources in the production process with the objective of minimizing resource costs and maximizing output. It is commonly assessed by relating the quantity of total output generated to the inputs employed in producing it (Bojke, 2012). Thus, productivity provides an indication of the efficiency and effectiveness with which organizational resources are utilized. With specific reference to labour, Mathis and Jackson (2020) describe productivity as an assessment of both the quantity and quality of work accomplished, while taking into consideration the resources expended and the time required to complete the task. A high level of productivity therefore indicates that organizational resources are being utilized efficiently and effectively, with minimal wastage during the production process.

Customer Satisfaction (Market Performance)

Customer satisfaction generally reflects the extent to which consumers' expectations are met or surpassed by the performance of a product or service. Kotler and Keller (2016) define customer satisfaction as an individual's feeling of pleasure or disappointment that arises due to experiencing the actual performance of a product against the expectations of how it should perform. In turn, expectations represent a consumer's belief about the likelihood that a particular product or service possessing certain attributes will deliver the desired outcomes before purchasing. For customers to be satisfied with a purchase, its actual performance should match their expectations, and its performance should delight them. Therefore, in order to achieve satisfaction, companies should make realistic promises and then exceed them by providing customers with greater value than promised (Kotler & Keller, 2012). Tjiptono and Fandy (2015) identify three levels of customer satisfaction based on the performance of a product relative to expectations: dissatisfaction is present when performance is below expectations; satisfaction or happiness occurs when performance matches expectations; and a higher level of delight characterizes the circumstances in which the performance of a product is higher than what was anticipated.

Innovation Performance

Innovation can be understood as the process of converting creative ideas into new or improved goods and services within a business environment (Njeri, 2017). A firm's capacity to remain viable in an increasingly competitive market is strongly influenced by its ability to translate

creative ideas into products and services that respond effectively to evolving customer needs and expectations (Im, Montoya & Workman, 2013). In this context, an innovation strategy provides an organizational framework for developing and implementing new products and services while enabling firms to respond continuously to shifts in market demand (Abdi & Ali, 2023). Accordingly, organizations should pursue innovation on an ongoing basis to refine existing products and processes or introduce new offerings that align with customer requirements; in certain circumstances, this may also involve creating new markets for existing products or developing entirely new products (Ellonen *et al.*, 2021).

Human Resource Intellectual Development

Human Resource Intellectual Development (HRID) has been defined by different scholars as a process through which the human resources of the organization can be reinforced and improved. According to Heathfield (2011), HRID is a management-led process through which the employee's capabilities and potential, knowledge, and skills are enhanced through training, education, and skill development programmes. On the contrary, Adeyi *et al.* (2018) views HRID as an approach through which the management trains and guides the employees to develop their capabilities, knowledge, and skills through training, coaching, mentoring, and appropriate guidance. The importance of human resource intellectual development processes to the organization's effectiveness cannot be underestimated. It enables the employees to perform their tasks more efficiently and enables them to keep up with the new developments in the business environment (Iqbal & Ahmad, 2020). In addition, HRID contributes to the increased employee productivity, reduced level of supervision and employee turnover, and other benefits to the organization (Khan & Khan, 2020).

Training and Development Programs

Training and development programmes have been defined differently by various authors in the literature and generally refer to deliberate efforts that are undertaken either within or outside an organization to improve the job-related knowledge and skills of employees and managers (Jayawarna, Macpherson, & Wilson, 2017). The Industrial Training Fund (2016) also defines training and development as systematic efforts aimed at improving workers' skills, knowledge, and capabilities to improve their present and future job performance. Moreover, Zigon (2012) views training as a learning process by which employees are assisted in updating their knowledge and competencies in response to organizational growth and changes while it serves as a mechanism for modifying employee behaviour. According to Peteraf (2023), training and development provide employees with opportunities to acquire new knowledge and competencies required in attaining organizational objectives and developing competitive advantage. Odor (2018) further argues that effective training and development can reduce

operational errors and enhance employee productivity thus improving organizational performance.

Skill Acquisition

Skill acquisition refers to the process of developing productive competencies through formal, non-formal, and informal avenues of learning. It enables employees to enhance and adapt their existing capabilities in response to the changing demands and opportunities within the economy. The process involves recognizing existing skill deficiencies, acquiring relevant knowledge, and continuously developing and improving competencies to address identified gaps and meet workplace requirements (Ilo, Olewé, & Asogwa, 2022).

Educational Background of Employees

Educational background of employees is the formal qualifications and certification obtained by employees. Human capital scholars argue that education enhances the cognitive skills thereby increasing productivity and competence. Through investment in education, the cognitive capacities and abilities of an individual are improved. This consequently awakes the innate abilities of such an individual leading to a greater level of reasoning, thinking, attitudes, and performances. (Ekundayo & Odhigu, 2016).

Small and Medium Enterprises

Small and Medium Enterprises (SMEs) do not have a universal definition because the criteria used to define them vary from one country to another depending on the level of economic development (Kadiri, 2012). As a result, an enterprise that may be considered small in one country may be considered medium in another country. In Nigeria, enterprise can be classified on the basis of several criteria which include employee strength, financial capacity, sales volume, initial capital, relative size, ownership structure and industry among others. According to the Small and Medium Industries Equity Investment Scheme (SMIEIS) (2015), small and medium-sized enterprises (SMEs) are businesses with total capital employed between ₦1.5 million and ₦200 million, inclusive of working capital but excluding the cost of land. The classification also covers enterprises that employ between 10 and 300 workers. Similarly, Aderemi (2003) describes SMEs as enterprises with an asset base of up to ₦200 million, excluding land and working capital, and a workforce ranging from 10 to 200 employees. These businesses are typically small-scale, owner-operated or family-managed enterprises engaged in the production of basic goods and provision of essential services. Therefore, SMEs encompass a diverse range of business activities and organizational structures, playing an important role in fostering productive and sustainable economic development.

According to Esuh and Adebayo (2012), SMEs mainly arise from the entrepreneurial efforts of individuals and constitute an important class of business activities. SMEs are commonly divided into three (3) categories; micro, small and medium enterprise, where micro enterprises are the smallest of all

enterprises. For instance, Afolabi (2013) argues that businesses that employ less than 9 workers are classified as micro enterprises, while those that employ between 10 and 49 workers are considered as small enterprises. Meanwhile, medium-sized enterprises are characterized by employing between 50 and 199 workers.

For the purpose of this study, the classification of enterprises put forward by the Small and Medium Enterprises Development Agency of Nigeria (SMEDAN) will be employed. In this case, enterprises that employ less than 10 persons are considered as micro enterprises, while those that employ between 10 and 49 persons are classified as small enterprises. On the other hand, enterprises that employ between 50 and 199 are considered as medium enterprises. This is because SMEDAN is the Federal Government agency established to promote, monitor and coordinate the activities of Micro, Small and Medium Enterprises (SMEDAN Act, 2003).

Theoretical Review

Resourced Based Theory

Jay Barney propounded Resource Based theory in 1991. The core argument of the theory is that a corporation can attain and sustain competitive advantage through the exploitation of its resources that are precious, uncommon, unique and non-substitutable. The notion stresses the internal issues as the source of attaining competitive advantage instead of external variables or market conditions. The hypothesis is based on the following essential assumptions:

- (i) Resources are heterogeneous across firms. This means that each firm possess unique resources and capabilities that assist in gaining competitive edge in the market (Barney, 1991).
- (ii) Resources are immobile between firms. This is due to difficulty in transferring or replicating resources by rival firms (Peteraf, 1993).
- (iii) The resources at the disposal of firms are valuable. The implication of firms can use their resources as opportunities in order to counter threats faced in the market, thereby deriving competitive advantage.
- (iv) Another assumption of the theory is that resources are rare. This means that the resources possessed by a firm are not available to rival firms and this scarcity helps an organization to gain competitive advantage.
- (v) Also, the resources a firm possess cannot be imitated or copied by rivals due to the difficulty or cost involved in replication.
- (vi) Resources are not substitutable rules out the possibility of equivalent resources capable of performing the same function or generating the same benefit.

RBT is relevant to this present study because it shows that gaining competitive advantage (Organizational performance) by a firm does not only depend on physical asset but is also the on the availability and utilization intangible assets

(knowledge, skills, reputation) and organizational capabilities (processes, management expertise).

Empirical Review

Okoye et al. (2022) assessed the effect of human capital development on small and medium enterprises (SMEs) performance in South-East Nigeria. The authors focused on the role of training and skill acquisition in the development process. The study employed a survey research design, and data were collected using semi-structured interviews. The collected data were analyzed using descriptive statistics, including frequencies, percentages, and mean scores. In addition, the authors used t-test and z-test statistics to evaluate the hypotheses. The study revealed that employee training and skill acquisition significantly contributed to the performance of SMEs in South-East Nigeria.

Umar (2024) focused on the effect of training and development on employee performance in small and medium enterprises (SMEs) in Maiduguri Metropolis. A survey design was used in the study, and the target population was represented by 250 SMEs. However, only 150 employees were selected to participate in the study by filling out structured questionnaires. The sample size was determined using the Taro Yamane formula, while the author used a regression analysis technique to examine the relationship between the independent and dependent variables. The study found that training and development significantly influenced the performance of SMEs in Maiduguri Metropolis.

Mathew, Elegwa, and George (2015) investigated the effect of training and development on the performance of manufacturing small and medium enterprises (SMEs) in Nigeria. The authors applied the survey research design and collected data from 182 employees selected from a larger audience using structured questionnaires. The study used multiple regression analysis to establish the relationship between the independent and dependent variables. The study found that training and development, employee skills, employee attitudes, and training methods significantly predicted the performance of manufacturing SMEs in Nigeria. The findings from the three studies conducted in different locations and different types of businesses show the significant effect of employee training and development on organizational performance.

Chigozie and Onyia (2018) examined the effect of human capital development on the performance of manufacturing industries in South-East Nigeria. Knowledge and skills promotion were considered as the key aspects of human capital development that significantly predicted product quality and innovation performance, respectively. The study used a survey research design, and the target population was identified as 6,230 employees. However, a sample of 358 respondents was selected using the Ferund and Williams formula. The authors used statistical tests to evaluate the research hypothesis. The study found that knowledge

significantly predicted product quality, while skills promotion significantly predicted innovation performance.

Ilo, Olewe, and Asogwa (2022) established the relationship between human capital development and the performance of public organizations in Anambra State, Nigeria. The study focused on the effect of human capital development on the efficiency of public organizations. Specifically, the authors examined whether skill development and access to knowledge could increase organizational performance. The study used a descriptive survey research design, and the target population was represented by 1,500 staff. A sample of 100 respondents was selected using the Taro Yamane formula. The authors used the mean score to analyze the descriptive data and applied the Z-score test to evaluate the research hypothesis. The study found that skill development significantly improved service delivery, while increased access to knowledge significantly improved organizational efficiency.

Ojo and Adeyemo (2024) investigated the role of intellectual capital in the promotion of innovation among SMEs in Ondo State, Nigeria. Human capital, structural capital, and relational capital were the key predictors of product, process, and service innovation considered in the study. The study used a survey research design, and the target population was represented by 23,290 registered SMEs in Ondo State. A sample of 393 SMEs was selected using a multistage sampling technique, and the data were collected using structured questionnaires administered to the owners and employees of the selected organizations. The authors applied multiple regression analysis to analyze the data and examine the relationship between the independent and dependent variables. The study found that human capital, structural capital, and relational capital significantly influenced product, process, and service innovation, respectively.

Nwamuo (2019) assessed the effect of intellectual capital on organizational productivity in manufacturing firms in South-East Nigeria. The study focused on the effect of human capital, structural capital, and customer capital on organizational productivity. A descriptive survey design was used in the study, and the target population was represented by 1,200 employees. A sample of 300 employees was selected using the Taro Yamane formula, and the data were collected using structured questionnaires. The authors applied regression analysis to determine the effect of variables and evaluate the research hypothesis. The study found that human capital, structural capital, and customer capital significantly influenced the organizational productivity of manufacturing firms in South-East Nigeria.

Ali (2018) examined the effect of educational attainment and work experience on SME performance in Libya. The study established a negative relationship between the independent variables and the dependent variable. The study used a descriptive survey design, and the target population was represented by 18,000 SMEs. A sample of 384 SMEs was

selected and asked to fill out questionnaires, which were later analyzed using multiple regression analysis. Unlike in previous studies, Ali (2018) found that customer complaints and dissatisfaction significantly reduced the performance of SMEs. In addition, the author found that the level of education and work experience of individuals significantly influenced their performance.

Research Gap

Although the existing studies revealed that HRID affected employee performance and the performance of SMEs in general, majority of the studies failed to focus on SMEs in the manufacturing industries in Ondo State. This study is conducted in order to fill the above identified gaps.

Methodology

The study employed a survey research design to obtain primary data from selected owners and employees of manufacturing SMEs in Ondo State, Nigeria. This research design was deemed suitable because it enabled the researcher to collect information directly from respondents in their natural field setting and subsequently assess the relationship between intellectual capital and the performance of manufacturing SMEs in the study area. The design also provided an appropriate framework for obtaining relevant and firsthand information concerning the variables examined in the study.

The population comprised registered manufacturing SMEs in Ondo State, Nigeria. The study specifically focused on the 46,433 staff members recorded in manufacturing SMEs in the state (SMEDAN, 2023). These include the owners, managers, and employees of the selected manufacturing SMEs. A sample size of 397 respondents was selected from the population using the Taro Yamane formula as follows:

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

Where: - n= sample size, N= Population size, e= level of precision required (margin of error) which is represented by 0.05 and 1 = Constant

$$n = \frac{46433}{1 + 46433(0.05)^2}$$

$$n = \frac{46433}{1 + 46433(0.0025)}$$

$$n = 397.$$

Stratified random sampling was employed in selecting respondents for the study, while primary data served as the principal source of information. The primary data were obtained directly from respondents in the field because they were considered more suitable and reliable for the study than secondary sources, particularly given the difficulty associated with obtaining adequate secondary information on SME performance and Human Resource Intellectual Development. Considering the relatively large sample size of 397 respondents, a structured questionnaire was utilized as the

instrument for data collection. The questionnaire was considered appropriate because it provides a relatively quick, convenient, and cost-effective means of obtaining information from a large number of respondents.

Human Resource Intellectual Development (HRID), which constitutes the independent variable, was operationalized using three dimensions: training and development programmes, skill acquisition, and employees' educational background. The dependent variable, SME performance, was assessed through productivity, customer satisfaction, and innovation performance. To establish the appropriateness of the questionnaire in measuring these dimensions, the instrument was submitted to the study supervisor for thorough examination and vetting. The observations and recommendations arising from the review were considered, and the necessary corrections were incorporated into the final version of the questionnaire before its administration.

Reliability refers to the degree to which a research instrument or study produces consistent and repeatable results under similar conditions (Osuala, 2001). An instrument is regarded as reliable when it yields relatively consistent outcomes when applied repeatedly in comparable circumstances. In this study, the internal consistency of the questionnaire was assessed using Cronbach's alpha, which was employed to determine the consistency of the items used to measure the study variables.

The study modified the model of Chigozie and Onyia (2018). They modelled SME performance (proxied by productivity) as a linear function of Knowledge, training and skills.

However, in this study, the performance of SMEs is a function of the development of human resource intellectual capital. The functional form of the model is given by:

$$\text{SMEsP} = f(\text{HRICD}) \quad (1)$$

Where:

SMEsP = SMEs Performance

HRICD = Human Resource Intellectual Capital Development.

However, HRICD is proxied by three metrics including training & development programs, skill acquisition and employee educational background. Furthermore, the model includes staff productivity as a mediating variable and technology infrastructure as a moderating variable. This leads to the creation of two models expressed as:

Model one

This captures the impact of human resources capital development on employee performance.

$$\text{EMP} = f(\text{TDP}, \text{SA}, \text{EDB}) \quad (2)$$

$$\text{EMP} = \alpha + \beta_1 \text{TDP} + \beta_2 \text{SA} + \beta_3 \text{EDB} + e \quad (3)$$

Where:

EMP = Employee Productivity

TDP = Training & Development Programs

SA = Skill acquisition

EDB = Employee Educational Background

Where:

α = Constant

β_1 , β_2 , and β_3 are regression parameters that measure the impact of training & development programs, skill acquisition and educational background of employees.

e = Error term that captures other variables affecting employee performance a part from training & development programs, skill acquisition and educational background of employees that were left out.

The parameters (α , β_1 , β_2 , β_3 , β_4 and β_5) of the model were estimated using Ordinary Least Square (OLS). The choice of OLS was based on the fact that it produces efficient estimates that best, linear and unbiased.

Descriptive and inferential statistics were employed for data analysis. Data summary was conducted using descriptive analysis of mean and standard deviation. The mean displays the average value of data and the spread in the data was measured using standard deviation.

Data Presentation and Analysis

Table 1: Descriptive Statistics (Mean, Standard Deviation, Skewness and Kurtosis)

Variable	N	Min.	Max	Mean	Std. Dev	Skewness	Kurtosis
Training and Development Programs	397	1.00	5.00	3.7960	1.10836	-.798	-.074
Skill Acquisition	397	1.00	5.00	3.6222	1.20743	-.609	-.565
Employee Educational Background	397	1.00	5.00	3.3426	1.18002	-.199	-.822
SMEs Performance	397	1.00	5.00	3.3552	1.25421	-.325	-.932

The descriptive statistics for the dependent variable, SME performance, and the independent variables, namely training and development programmes, skill acquisition, and

employee educational background, are presented in Table 1. The reported mean scores of 3.79, 3.62, and 3.34 are each above the criterion mean of 3.00. This indicates that the

respondents generally agreed that manufacturing SMEs in Ondo State provide training and development programmes, facilitate skill acquisition, and employ human resources with relevant educational backgrounds.

The standard deviation values for the variables range from 1.10 to 1.26, indicating a relatively low level of dispersion in the responses. The limited variation around the respective mean scores suggests that the observed means provide reliable descriptive representations of the responses obtained from the respondents. Thus, the results demonstrate a

reasonable degree of consistency in the data across the variables examined.

The coefficients of skewness for the variables, reported as -0.78, -0.609, -0.199, -0.374, -0.135, and -0.135, are all negative, indicating that the distributions are skewed toward the right relative to their respective mean values. Furthermore, the kurtosis coefficients for all the variables are below 3.0, suggesting that the distributions exhibit relatively flatter peaks and can therefore be characterized as platykurtic distributions.

Table 2: Model Summary (Model 1)

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.796 ^a	.633	.684	.32604
a. Predictors: (Constant), Employee Educational Background, Training and Development Programs, Skill Acquisition				

Table 2 presents the R-squared result for Model One. The coefficient of determination (R^2) of 0.633 indicates that training and development programmes, skill acquisition, and employee educational background jointly account for 63.3% of the variation in employee productivity. The remaining 36.7% of the variation can therefore be attributed to other factors influencing employee productivity that are not included in the specified model.

Table 3: Analysis of Variance (ANOVA) (Model One)

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	594.923	3	198.308	1865.467	.000 ^b
	Residual	41.778	393	.106		
	Total	636.700	396			
a. Dependent Variable: Employee productivity						
b. Predictors: (Constant), Employee Educational Background, Training and Development Programs, Skill Acquisition						

Table 3 shows the Analysis of Variance of Model one. The F-statistic of the model is 1865.467. The estimate is statistically significant at the 5 percent level because the probability (0.00) is smaller than 0.05. That means overall good fit for the model.

Table 4: Regression Coefficients (Model One)

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-.332	.060		-5.530	.000
	Training and Development Programs	.168	.048	.147	3.466	.001
	Skill Acquisition	.325	.051	.309	6.414	.000
	Employee Educational Background	.572	.038	.532	14.868	.000
a. Dependent Variable: Employee productivity						

Table 4 shows the regression coefficients of the independent variables (Training and development programs, skill acquisition and employee educational background). The standardised coefficient value is (0.168) that means training & development has positive effect on staff productivity. The coefficient is significant at 5 percent as evidenced by t-statistic (3.466) which is greater than critical value (1.96). This was further supported by the probability (0.01) which is less than 0.05.

Also, the standardized coefficient of skill acquisition is positive (0.325). This means skill acquisition has positive

effect on employee productivity. The t-statistic (6.414) is greater than critical value (1.96). Moreover, the probability (0.000) is less than 0.05. Both the t-statistic and probability indicate that the effect of skill acquisition on employee productivity is significant at 5 percent.

Moreover, the estimated standardized coefficient of employee educational background is (0.572). The coefficient has positive sign, indicating that educational background improve employee productivity. The t-statistic of the coefficient (14.868) is greater than critical value 1.96. Moreover, the probability (0.000) is less than 0.05. These

show that skill acquisition has significant positive effect on employee productivity.

Analysis and Interpretation of Data (Objective 1)

The first objective of the study was to determine the extent to which training and development influence employees' performance in manufacturing SMEs in Ondo State. The regression results presented in Table 4.3 reveal that training and development have a positive effect on employee productivity. Specifically, the analysis demonstrates that every increase in the independent variable (by one unit) leads to an increase in the dependent variable (employee productivity) by 0.147 while controlling for other influencing factors. This further means that, all things being equal, better training and development practices such as teamwork and sharing ideas and information improve employee productivity in terms of quantity and quality of work done ($\beta = 0.147$; $t = 3.466$; $p = 0.001$).

Analysis and Interpretation of Data (Objective 2)

The second objective of the study was to determine the extent to which skill acquisition affects employee productivity in manufacturing small and medium enterprises (SMEs) in Ondo State, Nigeria. Regression analysis revealed that the standardized coefficient was 0.309, t-statistic 6.414, and a probability of 0.000. The result indicates a positive relationship between skill acquisition and employee productivity in manufacturing SMEs. This implies that improving employees' skills increases the employees' performance through the improvement of the quantity and quality of the work produced by manufacturing SMEs in Ondo State.

Analysis and Interpretation of Data (Objective 3)

The third objective of the study was to assess the effect of employees' educational background on employee productivity of manufacturing SMEs in Ondo State. From the regression analysis result, it was observed that employees' educational background had a positive influence on employee productivity of the manufacturing SMEs in Ondo State. This is evidenced by the standardized coefficient, which is 0.532, t-statistic of 14.868, and p-value of 0.000. The result implies that employees' educational background has a positive effect on the quality and quantity of work of the employees in manufacturing SMEs in Ondo State.

Testing of Hypothesis

Hypothesis 1: There is no significant relationship between training & development programs and employee productivity of manufacturing SMEs in Ondo State, Nigeria.

The t-statistic of the estimated coefficient of training & development programs as shown in table 4.3 is t-statistic

(0.147). The t-statistic is greater than critical value (1.96). Moreover, the probability (0.001) is less than 0.05. Based on these, we have sufficient evidence to reject hypothesis one.

Hypothesis 2: There is no significant relationship between skill acquisition and employee productivity in the manufacturing SMEs in Ondo State, Nigeria.

The t-statistic (6.414) of skill acquisition as presented in table 4.3 is greater than critical value (1.96). In addition, the probability of the t-statistic (0.000) is less than 0.05. Based on the t-statistic and its corresponding probability, we have adequate evidence to reject hypothesis two.

Hypothesis 3: There is no significant relationship between employee educational background and employee productivity in the manufacturing SMEs in Ondo State, Nigeria.

The t-statistic of employee educational background as shown in table 4.3 is t-statistic (14.868). The statistic is greater than critical value (1.96). Its probability (0.000) is less than 0.05 indicating that safety employee educational background has significant effect on employee productivity. Based on the t-statistics and the corresponding probability, there is sufficient evidence to reject hypothesis three.

Discussion on Objective 1

The results of this study demonstrated that training and development programmes have a significant impact on employees' productivity levels. This implies that apart from increasing knowledge and skills, job training, and development activities conducted by small and medium-sized enterprises (SMEs) in the manufacturing sector in Ondo State, Nigeria, improve employee productivity. The result is in accordance with the Resource-Based Theory because it acknowledges the need for investment in building human resources as valuable resources. Furthermore, it agrees with Umar (2024), whose work established that job training and development activities significantly increased the productivity of employees in SMEs in Maiduguri, Nigeria.

Discussion on Objective 2

The above claim was further substantiated by the fact that skill acquisition had a positive effect on employee productivity. The result obtained from the study was an indication that the acquisition of managerial, entrepreneurial, leadership, accounting, ICT, and other skills would improve employee productivity in manufacturing small and medium-sized enterprises (SMEs) in Ondo State, Nigeria. The result was in line with the Resource-Based Theory which posited that the improvement and development of valuable and skilled human resources could lead to an increase in the performance of employees. The result was also in tandem with the findings of Ilo, Olewe, and Asogwa (2022) who found that skill acquisition had a significant improvement on the performance of employees in SMEs in Anambra State, Nigeria.

Discussion on Objective 3

The findings of the study further established that employees' educational background has a significant positive effect on employee productivity. This suggests that the educational qualifications and professional certifications attained by employees contribute to improvements in both the quantity and quality of work performed. The finding is consistent with the Resource-Based Theory, which recognizes human resources and their developed capabilities as important sources of organizational performance. It is also supported by Ali (2018), whose study found that inadequate educational qualifications contributed to the poor performance of SMEs in Libya.

Conclusion and Recommendations

This study assessed the effect of Human Resource Intellectual Capital Development (HRID) on the performance of Small and Medium Enterprises (SMEs) in the selected manufacturing industries in Ondo State, Nigeria. Specifically, this study evaluated the extent to which training and development programmes, skill acquisition, and employees' educational background influence SME performance. In addition, since HRID might not directly enhance the performance of SMEs, this study also examined the mediating role of employee productivity in the relationship between HRID and SME performance. This study further investigated if technology infrastructure moderates the effect of HRID on SME performance.

The results of this study revealed that training and development programmes, skill acquisition, and employees' educational background each significantly positively influenced employee productivity. Nevertheless, the extent of their effect varied. The results further revealed that employee productivity significantly positively affected SME performance. This implies that investment in employees' skills, knowledge, and competencies raises their productivity, which, in turn, enhances the performance of SMEs. Thus, developing the intellectual capabilities of human resources creates productivity gains that eventually enhance organizational performance in the manufacturing SME sector.

Regarding the magnitudes of the effects of the HRICD variables, employee educational background has the highest effect. This was followed by skill acquisition and the least was training & development programs.

Based on findings the study concluded that HRICD improved the performance of SMEs in the selected manufacturing industries in Ondo State, Nigeria. This implies that increase in investment in human development (skills, knowledge and competencies of employees) will produce higher performance.

Base on the study, the study recommends the following:

- i. Employees should be expose to more training and development in the business mostly the 21st century

training as such will increase the productivity of the employees at the large.

- ii. More relevant skills acquisition should be acquired by the employees on the job as that will foster greater opportunities for the future.
- iii. In terms of education background, more relevant studies should be incorporated into the system as such will improve the relevance of the employees at the same time create more solution to the problem solving skills and incompetence on the job.

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