

## Industrial Training and Labour Efficiency in Selected Public Enterprises in Rivers State, Nigeria

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### Abstract

*This study examined industrial training and labour efficiency in selected public enterprises in Rivers State, Nigeria, with particular attention to the nature and scope of industrial training programmes and the current level of labour efficiency among workers. The study adopted a descriptive survey design and used a mixed-methods approach. The population was at 1200 staff across selected public enterprises in Rivers State, while 380 respondents constituted the sample. A multi-stage sampling procedure was adopted to select respondent. Data were collected mainly through structured questionnaire, supplemented by interviews and institutional documents. The quantitative responses were analysed with descriptive statistics, including frequencies and percentages, while qualitative information was analysed via qualitative content analysis. Findings showed that industrial training existed in several forms, with on-the-job training being the most prevalent, followed by orientation/induction and in-service training. However, digital, leadership and cross-departmental training were less common, indicating uneven coverage and also those strong positive perceptions of punctuality, timely task completion, independent working, time management, innovation and achievement of output targets. The study concluded that industrial training is an important component of workforce development, but its effectiveness depends on relevance, continuity, inclusiveness and organizational support. The study recommended a structured training policy, regular needs assessment, adequate funding, transparent access to training, qualified facilitators, and systematic post-training monitoring by the concerned enterprises.*

**Keywords:** Industrial training; labour efficiency; public enterprises; human capital; workforce development

### Introduction

Public enterprises occupy an important position in the delivery of social and economic services. Their employees translate government policies, institutional mandates and public programmes into practical outcomes for citizens. Consequently, the quality and efficiency of the workforce are central to the effectiveness of public institutions. The study from which this article was extracted viewed the workforce as one of the basic sources of organizational performance and regarded labour efficiency as a major determinant of organizational success or failure. Within a

public enterprise, efficiency is not merely an internal management concern because delays, errors, absenteeism and weak performance can directly affect citizens who depend on public services. Industrial training is particularly important in this context because public organizations operate within environments characterized by changing policies, technological development, administrative reforms and increasing expectations for responsive service delivery. Training provides a systematic mechanism for developing the knowledge, skills, attitudes and competencies required to perform assigned duties effectively. Armstrong (2014) treats training as a systematic learning process that improves performance, while the International Labour Organization (ILO, 2017) associates training with the development of knowledge, skills and competencies that support employment and career progression. In public enterprises, these functions extend beyond individual development because employee competence contributes to organizational capacity, service quality and institutional sustainability. Recent evidence from Rivers State similarly indicates that human resource development is closely connected with organizational productivity and that inadequate training content can constrain expected outcomes (Davies *et al.*, 2024). The Nigerian public sector provides a particularly relevant setting for examining these issues. Public enterprises in the country operate under administrative rules, budgetary constraints and bureaucratic procedures that can make organizational adaptation difficult. Where employees are not regularly exposed to relevant training, a gap may emerge between existing employee capabilities and the requirements of contemporary administration. Training is therefore expected to help employees respond to changes in technology, procedures, service expectations and performance standards. The study emphasized that public organizations in Rivers State contribute to infrastructure, health, education, transportation and economic development, but also experience problems associated with low morale, absenteeism, inefficiency and poor service delivery. This suggests that workforce development must be considered as part of a broader public-sector performance strategy.

The importance of training is also connected with the changing nature of work. Public administration increasingly involves digital record keeping, electronic systems, data management, online processes and technology-supported service delivery. Employees must therefore possess current technical and administrative competencies if institutions are to use these systems effectively. Training can support adaptation by exposing employees to new methods, technologies and procedures. It can also improve confidence and reduce avoidable errors by helping employees understand the requirements of their positions. Nwachukwu (2011) similarly presents human resource management as encompassing the development of employees so that organizational objectives can be pursued through competent personnel.

The problem addressed by the source study was not simply the absence of training. Rather, it was the possibility that training programmes might exist without being sufficiently systematic, relevant or evenly implemented. Public enterprises may organize seminars, workshops and other programmes, yet the value of these activities depends on whether the training addresses actual work requirements and whether employees are able to apply what they learn. The study consequently distinguished between the existence of training and the quality, scope and practical orientation of training. This distinction matters because a high number of training events does not automatically demonstrate effective human resource development.

Labour efficiency is equally multidimensional. It includes the ability to complete tasks within stipulated time, maintain quality, minimize errors and use organizational resources appropriately. Flippo (1984) associated labour efficiency with producing greater output within a given time and with efficient use of inputs without sacrificing quality. In public organizations, where outputs

may include reports, administrative decisions, regulatory actions and services rather than physical products, efficiency can be reflected in punctuality, timely task completion, independence, responsiveness, quality and achievement of work targets.

The relationship between training and labour efficiency is consistent with the human capital perspective. Schultz (1961) argued that investment in human capabilities represents an important form of capital, while Becker (1993) further conceptualized education and training as investments that can generate returns through improved productivity and earnings. Applied to public enterprises, the perspective suggests that employee development should not be regarded solely as an expenditure. Instead, training can be understood as an investment intended to improve employee capability and organizational output.

The study identified a need for empirical attention to public enterprises in Rivers State because existing discussions of employee training in Nigeria were described as either broad or concentrated in other organizational settings. The study focuses on two dimensions: the nature and scope of industrial training programmes and the current level of labour efficiency among workers. Restricting the article to these two dimensions allows a coherent presentation of the descriptive evidence without importing the broader hypotheses and additional research questions that were outside the requested extraction.

The objectives of the study were to; evaluate the nature and scope of industrial training programmes available in the selected public enterprises in Rivers State and, assess the current level of labour efficiency among workers in the selected public organizations.

The study's research questions are;

1. What is the nature and scope of industrial training programmes available in the selected public enterprises in Rivers State and,
2. How is the current level of labour efficiency among workers in the selected public organizations?

### **Theoretical Review: Human Capital Theory**

The study was anchored on Human Capital Theory as the single theoretical framework selected from the two theories discussed in the source study. Human Capital Theory is associated principally with Theodore W. Schultz and was subsequently developed in more formal economic terms by Gary Becker. The central proposition is that human capabilities—such as education, knowledge, skills, experience and competencies—constitute forms of capital in which individuals and organizations can invest. Investment in these capabilities is expected to yield returns through improved productivity, efficiency and economic performance (Becker, 1993; Schultz, 1961). Schultz (1961) challenged explanations of economic development that focused exclusively on land, labour and physical capital. He argued that improvements in human capabilities could explain a significant part of economic progress. The implication for organizational analysis is that workers should not be treated merely as labour inputs but also as repositories of knowledge and skills whose productive value can be enhanced through deliberate investment. Training therefore becomes an important mechanism for increasing the quality of human capital. Becker (1993) extended this reasoning by distinguishing between general and firm-specific training. His treatment of training as an investment provides a useful basis for understanding why organizations allocate resources to employee development. Training can enhance workers' ability to perform existing duties, manage more complex tasks, solve problems, use technology and adapt to organizational changes. When the acquired skills are relevant to the

employee's position and can be applied in the workplace, the organization may obtain returns in the form of better performance and productivity.

Human Capital Theory provides a direct basis for interpreting these two research questions. The first research question concerns the availability and scope of training programmes, while the second concerns the level of labour efficiency. The theory provides the conceptual bridge between these two issues. If public enterprises provide employees with relevant and systematic opportunities to acquire knowledge and skills, workers should possess stronger capabilities for carrying out their duties. In practical terms, this may be reflected in improved punctuality, faster task completion, reduced dependence on supervision, better time management, improved problem-solving and stronger achievement of work targets.

The theory also explains why training quality matters. Training that is generic, irregular or disconnected from actual job requirements may generate fewer productive returns than training based on identified competency gaps. Similarly, training cannot be assessed simply by counting the number of employees who attended a programme. The relevant issue is whether the programme increased capabilities that employees can use in their jobs. Thus, the nature and scope of training reported by respondents provide an important descriptive foundation for interpreting labour efficiency. The study further recognized that organizational conditions can influence whether human capital investments produce the expected results. Although this article uses Human Capital Theory as its sole theoretical framework, the interpretation of the findings acknowledges that training operates within an institutional environment. Employees may acquire skills but require opportunities, resources and managerial conditions that allow them to use those skills. This suggests that the relationship between training and efficiency should be understood as an investment process rather than an automatic mechanical effect.

Human Capital Theory therefore supports the argument that public enterprises should treat training as a strategic component of workforce development. Continuous capacity building can help organizations maintain employee competence as job requirements change. It can also support institutional learning by ensuring that knowledge does not remain static. In the context of Rivers State public enterprises, this perspective makes training relevant to both employee development and broader organizational performance.

## **Conceptual Review of Key Concepts**

### **Industrial Training**

Industrial training refers to planned learning activities intended to improve employees' knowledge, skills, attitudes, competence and ability to perform their duties effectively. Okoye and Eze (2020) describe training as a developmental process aimed at transferring knowledge and skills so that employees can meet current and emerging job requirements. Armstrong (2014) similarly presents training as systematic learning directed toward improved performance. The ILO (2017) places emphasis on the acquisition of knowledge, skills and competencies needed for employment and career development. Industrial training can occur in several forms. The study identified induction or orientation training, on-the-job training, off-the-job training, refresher programmes, technical and vocational training, supervisory and leadership training, e-learning and digital training, policy-oriented training and other specialized approaches. These forms differ in delivery method, purpose and target group. On-the-job training provides learning within the work environment and may involve supervision by a senior employee. Off-the-job training separates learning from immediate work activities and can include workshops, seminars and classroom-based programmes. Orientation introduces new employees to institutional structures,

policies, procedures and expectations. Refresher training updates existing competencies, particularly where policies or technologies have changed.

The relevance of these forms of training depends on the needs of the workforce and the strategic requirements of the organization. Nwachukwu (2011) emphasizes the importance of employee development to human resource management. Training can also facilitate adaptation to technological change. In the source study, e-learning and digital modules were identified as emerging approaches, although their reported prevalence was lower than more traditional forms. Evidence from Rivers State University also suggests that training and development practices can be examined in relation to organizational performance and service quality (Davies et al., 2024b). A major conceptual issue is the distinction between training availability and training effectiveness. An organization may conduct several programmes without achieving substantial performance improvement if the programmes are not relevant, properly planned or adequately supported. Industrial training therefore has a qualitative dimension involving content relevance, facilitator competence, practical applicability, continuity and access. The data on the different forms of training in the selected public enterprises provide evidence about the breadth of training opportunities, but they should not automatically be interpreted as proof that every programme was effective. Training can also support standardization. Public enterprises depend on established procedures, policies and accountability mechanisms. When employees receive consistent training on procedures, technology and professional responsibilities, organizations may reduce variation in how tasks are performed. Training can consequently contribute to improved service delivery, fewer errors and greater consistency in administrative processes.

### **Labour Efficiency**

Labour efficiency concerns the effective conversion of employee effort, time, skills and other labour inputs into useful work output. In organizational settings, efficiency is associated with doing work accurately, promptly and with minimum avoidable waste. Flippo (1984) linked labour efficiency with achieving greater output within a given period while maintaining quality. The study similarly conceptualized labour efficiency through measurable work characteristics such as task completion, quality, time management, responsiveness and the level of supervision required. The importance of organizational conditions is also reflected in Nsiegbe et al. (2024), who examined merit principles and productivity in a Rivers State public organization.

In public enterprises, measuring labour efficiency presents special challenges because many outputs are intangible. A public employee may produce a report, process an application, respond to a citizen, implement a policy or coordinate an administrative process rather than manufacture a physical product. Consequently, indicators such as punctuality, timely completion of assignments, independent work, time management, initiative and achievement of work targets can provide useful evidence of perceived efficiency.

The concept also has a behavioural dimension. An efficient worker is not merely one who works quickly but one who uses time appropriately, maintains quality and contributes to organizational objectives. Initiative is particularly relevant because public enterprises must adapt to changing technologies and administrative expectations. The ability of employees to suggest better ways of performing duties can indicate whether the workforce is capable of contributing to continuous improvement. Labour efficiency is influenced by several factors, including training, motivation, leadership, supervision, organizational structure, technology and workload distribution. The study emphasized that training is an important factor but did not treat it as the only determinant. This distinction is important in interpreting the findings. High reported efficiency may reflect a

combination of employee competence, experience and organizational conditions, while areas of weaker performance may reflect limitations that training alone cannot resolve. Similarly, Nsiegbe *et al.* (2024b) linked organizational planning with operational efficiency, reinforcing the view that employee capability operates within wider institutional systems.

## Method

The study adopted a descriptive survey research design. The design was considered appropriate because the research sought to describe existing conditions concerning industrial training and labour efficiency without manipulating the variables. Descriptive survey research allows the researcher to collect information about current practices, perceptions and characteristics of a defined population. It is therefore suitable for examining the types of training available and employees' perceptions of their own work efficiency.

The study area was Rivers State, located in Nigeria's Niger Delta region. Port Harcourt serves as the state capital and an important administrative and economic centre. The state contains a wide range of public institutions, ministries, agencies and public enterprises involved in service delivery and development activities. The study considered the state's concentration of public-sector organizations and the continuing need for workforce development as reasons for selecting the area. The population comprised personnel working in selected public enterprises, including employees at different levels as well as staff involved in training and performance management. The accessible population was estimated at between 800 and 1,200 staff across approximately four to six leading public enterprises. The selected institutions were intended to represent different sectors and to possess formal training programmes and structures through which labour efficiency could be considered. A sample of 380 respondents was used. The study justified the sample as appropriate for the estimated population and for subgroup analysis across different positions, departments and organizational levels. Multi-stage sampling was employed. At the first stage, public enterprises were purposively selected based on criteria such as organizational size, public service role, existence of formal training programmes and accessibility. At the second stage, employees were organized into strata according to relevant characteristics such as job role and organizational level, after which respondents were selected through stratified procedures. This approach was intended to increase representativeness and reduce sampling bias. Primary data were obtained through structured questionnaires administered to employees of the selected public enterprises. The questionnaire contained items concerning industrial training and labour efficiency. It addressed issues such as participation in training, types of training received and work-related indicators of efficiency. Interviews were also identified as a supplementary source for obtaining contextual information where necessary, particularly from managers, training officers or human resource personnel. Secondary materials, including institutional documents, training manuals, staff appraisal reports, government publications and relevant literature, were also considered to complement the primary evidence.

The questionnaire was subjected to validity and reliability procedures. Content validity involved aligning questionnaire items with the study objectives and the conceptual and theoretical framework. The source indicates that experts in human resources, public administration and research methods reviewed the instrument, after which unclear or irrelevant items were revised or removed. Face validity was addressed through pretesting with a small group similar to the study respondents. For reliability, a pilot test involving 20 staff members from public enterprises outside the main sample was reported. Cronbach's alpha was used to assess internal consistency,

and the reported alpha coefficients ranged from 0.74 to 0.85. These values were presented in the source as indicating acceptable internal consistency for the questionnaire.

Quantitative data were coded and analysed using SPSS version 25. Descriptive statistics, particularly frequencies and percentages, were used to summarize the responses. The original methodology also proposed inferential techniques such as chi-square tests, Pearson correlation and, where necessary, regression analysis. However, because this article extracts only the first two research questions, the data presentation and analysis are restricted to the descriptive results directly answering those questions. No additional hypothesis test is introduced.

## Data Presentation and Analysis

### Research Question One

Research Question One: What is the nature and scope of industrial training programmes available in the selected public enterprises in Rivers State?

Table 1. Nature and Scope of Industrial Training Programmes in Selected Public Enterprises (N = 380)

| Type of training programme             | Frequency (n) | Percentage (%) |
|----------------------------------------|---------------|----------------|
| On-the-job training                    | 280           | 73.7%          |
| Off-the-job training                   | 165           | 43.4%          |
| Orientation/induction training         | 230           | 60.5%          |
| Technical/professional workshops       | 145           | 38.2%          |
| In-service training (internal courses) | 195           | 51.3%          |
| Refresher courses                      | 120           | 31.6%          |
| E-learning modules                     | 100           | 26.3%          |
| Supervisory and leadership training    | 85            | 22.4%          |
| Cross-departmental exchange training   | 60            | 15.8%          |

Source: Field Survey, 2025.

### Research Question Two

Research Question Two: How is the current level of labour efficiency among workers in the selected public organizations?

Table 2. Current Level of Labour Efficiency Among Workers in Selected Public Organizations (N = 380)

| Indicators of labour efficiency    | Strongly Agree | Agree       | Disagree  | Strongly Disagree | Total |
|------------------------------------|----------------|-------------|-----------|-------------------|-------|
| I always report to work on time    | 200 (52.6%)    | 145 (38.2%) | 25 (6.6%) | 10 (2.6%)         | 100%  |
| I complete my assigned tasks on or | 180 (47.4%)    | 160 (42.1%) | 30 (7.9%) | 10 (2.6%)         | 100%  |

|                                                                                                                                                                                                                                                                                           |             |             |            |           |      |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|-------------|------------|-----------|------|
| before<br>deadlines<br>I can work<br>effectively<br>with little or<br>no<br>supervision<br>I manage my<br>time well and<br>avoid<br>unnecessary<br>delays<br>I often<br>suggest better<br>ways to carry<br>out my duties<br>I meet or<br>exceed my<br>work output<br>targets<br>regularly | 170 (44.7%) | 165 (43.4%) | 35 (9.2%)  | 10 (2.6%) | 100% |
|                                                                                                                                                                                                                                                                                           | 175 (46.1%) | 155 (40.8%) | 35 (9.2%)  | 15 (3.9%) | 100% |
|                                                                                                                                                                                                                                                                                           | 160 (42.1%) | 145 (38.2%) | 50 (13.2%) | 25 (6.6%) | 100% |
|                                                                                                                                                                                                                                                                                           | 185 (48.7%) | 155 (40.8%) | 30 (7.9%)  | 10 (2.6%) | 100% |

Source: Field Survey, 2025.

## Discussion of Findings

### Key Finding One: Nature and Scope of Industrial Training

The first key finding was that industrial training was available in diverse forms across the selected public enterprises, but the distribution of training types was uneven. On-the-job training dominated the reported training environment, followed by orientation/induction and in-service training. The least reported forms were cross-departmental exchange training, supervisory and leadership training, and e-learning modules. This pattern is relevant to Davies et al. (2024b), whose study specifically examined training and development practices and performance in a Rivers State university context. The predominance of on-the-job training is understandable from a practical human resource perspective. Employees often learn more readily when training is connected to actual work processes. On-the-job training can reduce the separation between learning and performance because employees can immediately observe and practise required procedures. This is consistent with the conceptual position that training should develop capabilities relevant to current and emerging job requirements (Okoye & Eze, 2020). It also corresponds with Armstrong's (2014) emphasis on systematic learning directed toward improved performance. The result concerning orientation and induction training indicates that public enterprises placed considerable attention on introducing employees to institutional expectations. Such programmes can be important for establishing knowledge of procedures and role responsibilities. In a bureaucratic public-sector setting, early understanding of organizational procedures may reduce uncertainty and support compliance with established processes.

The presence of in-service and off-the-job training further demonstrates that training was not limited to informal workplace learning. However, the relatively lower prevalence of refresher, digital, supervisory and cross-departmental programmes indicates an uneven training portfolio.

The finding is important because modern public administration increasingly requires digital competencies and leadership capabilities. A training system dominated by immediate job instruction may develop operational competence without adequately supporting innovation, strategic leadership and organizational adaptability.

From the perspective of Human Capital Theory, the key issue is not simply how many employees attend programmes but whether the programmes build productive capabilities. Schultz (1961) conceptualized investment in human capabilities as a source of productive value, while Becker (1993) showed how education and training can produce returns through improved productivity. The reported diversity of training therefore represents a foundation for human capital development, but the uneven distribution suggests that public enterprises should strengthen areas that support long-term organizational capacity.

The finding also reinforces the importance of relevance. The broader source study emphasized that training should correspond with job requirements and organizational needs. Where training content is disconnected from actual duties, the potential return on investment is reduced. Thus, the observed dominance of practical forms of training is potentially advantageous, but it should be complemented by systematic needs assessment, modern content and continuous updating.

### **Key Finding Two: Current Level of Labour Efficiency**

The second key finding was that respondents generally reported a high level of labour efficiency across the indicators examined. More than 86% of respondents agreed or strongly agreed with every indicator, while punctuality recorded the highest combined positive response at 90.8%. Task completion and target achievement each recorded 89.5%, while working with little or no supervision recorded 88.1%. Time management recorded 86.9%, and suggesting better ways of performing duties recorded 80.3%. The finding is also consistent with the broader productivity emphasis in Nsiegbe et al. (2025), where human capital development was examined in relation to organizational efficiency. These findings suggest that employees in the selected public enterprises perceived themselves as disciplined, time-conscious and capable of meeting work requirements. Punctuality is especially important because regular attendance creates the basic conditions necessary for service delivery. Similarly, timely task completion indicates an ability to translate working time into expected outputs. The high level of reported independence is also significant. Employees who can work with limited supervision may reduce supervisory burdens and improve organizational flexibility. However, this indicator should be interpreted as perceived independence rather than an objective measure of performance. Self-reported survey responses may reflect employees' assessments of their own performance and can therefore differ from administrative performance records. The comparatively lower score for suggesting better ways to carry out duties deserves particular attention. Innovation and initiative are increasingly important in public administration because institutions must respond to technological changes, citizen expectations and organizational reforms. An employee can be efficient in performing existing procedures while still being less likely to challenge or improve established processes. The result therefore suggests that future workforce development should not focus exclusively on routine competence but should also promote problem-solving, innovation and constructive initiative. The finding can be interpreted through Human Capital Theory. If employees possess relevant knowledge and skills, they should be better positioned to execute tasks efficiently. Becker (1993) and Schultz (1961) provide the theoretical basis for viewing training and education as investments that enhance productive capabilities. The strong reported efficiency

indicators are therefore broadly compatible with the theory's expectation that capable employees can contribute more effectively to organizational output.

At the same time, the broader study recognized that labour efficiency is influenced by more than training. Organizational support, motivation, supervision, technology, workload and work culture can shape the extent to which employees apply their capabilities. The positive results should therefore not be interpreted as proof that training alone produced the reported efficiency. Instead, they show that the sampled workforce exhibited strong perceived performance characteristics within the organizational context examined.

## **Conclusion**

The study examined two dimensions of the broader study of industrial training and labour efficiency in selected public enterprises in Rivers State. The first concerned the nature and scope of training programmes, while the second focused on the current level of labour efficiency.

The evidence indicates that industrial training existed in several forms. On-the-job training was the most widely reported, followed by orientation/induction and in-service training. Off-the-job training and technical/professional workshops were also significant. However, e-learning, supervisory and leadership training, and cross-departmental exchange training were less prevalent. The training environment was therefore diverse but uneven, with stronger emphasis on practical and immediate workplace learning than on digital, leadership and interdepartmental development. The second finding indicates generally strong perceived labour efficiency. Most respondents reported punctual attendance, timely completion of assignments, independent working, effective time management and regular achievement of output targets. The area requiring comparatively greater attention was employee initiative in suggesting improved ways of performing duties. This suggests that future workforce development should combine routine efficiency with innovation and continuous improvement. Overall, industrial training constitutes an important foundation for human capital development in public enterprises. Consistent with Human Capital Theory, investment in employee knowledge and skills can strengthen productive capability. However, the effectiveness of training should be judged by the relevance and quality of learning opportunities and by the extent to which employees can apply acquired capabilities to organizational work. Training should consequently be treated as a strategic workforce investment rather than merely as an administrative activity.

## **Recommendations**

1. Public enterprises should establish a structured and needs-based industrial training programme covering on-the-job, induction, refresher, digital, supervisory and leadership training, with transparent employee access and periodic assessment of training needs. This directly addresses Research Question One by broadening the scope of training beyond the forms that were most commonly reported and ensuring that training content corresponds with current job requirements.
2. Public enterprises should institutionalize regular labour-efficiency monitoring linked to staff development, with emphasis on punctuality, timely task completion, independent work, time management, target achievement and employee initiative. Supervisors should provide periodic feedback and create channels through which workers can propose improvements to work processes.

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