



مجلة في البحوث المستدامة في العلوم الإنسانية

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## The Role Of Training In Improving Employee Performance Efficiency In Libyan National Oil Corporation-Libya

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### Abstract

This study investigates the direct impact of training on employee performance efficiency within the Libyan National Oil Corporation (LNOC), a cornerstone of Libya's economy. In modern industries, particularly resource-dependent sectors like oil and gas, employee performance plays a pivotal role in achieving organizational objectives. Training equips employees with essential skills, knowledge, and attitudes that enhance their productivity and adaptability. This research adopts a descriptive analytical approach, using structured questionnaires to collect data from 344 LNOC employees. The analysis, conducted using SPSS.24 and AMOS.25, confirms that training significantly influences performance efficiency at a statistical significance level of  $\alpha \leq 0.05$ . Results indicate that training has a statistically significant direct impact on employees' performance efficiency. These findings underscore the need for Libyan National Oil Corporation (LNOC) to invest in well-designed and targeted training programs tailored to workforce needs. Recommendations include developing customized training modules, encouraging employee feedback, and adopting continuous learning strategies to enhance adaptability to industry advancements. This research provides actionable insights for Libyan National Oil Corporation (LNOC) and similar organizations in resource-driven industries to optimize their training initiatives. Future studies should explore the longitudinal effects of training and the mediating roles of factors such as job satisfaction and organizational culture. Keywords: Training, Employees' Performance Efficiency.

## المخلص

تبحث هذه الدراسة في التأثير المباشر للتدريب على كفاءة أداء الموظفين داخل المؤسسة الوطنية للنفط الليبية، وهي حجر الزاوية في اقتصاد ليبيا. في الصناعات الحديثة، وخاصة القطاعات التي تعتمد على الموارد مثل النفط والغاز، يلعب أداء الموظفين دوراً محورياً في تحقيق الأهداف التنظيمية. يزود التدريب الموظفين بالمهارات والمعرفة والمواقف الأساسية التي تعزز إنتاجيتهم وقدرتهم على التكيف. يتبنى هذا البحث نهجاً تحليلياً وصفيًا، باستخدام استبيانات منظمة لجمع البيانات من 344 موظفًا في المؤسسة الوطنية للنفط. يؤكد التحليل، الذي أجري باستخدام SPSS.24 و AMOS.25، أن التدريب يؤثر بشكل كبير على كفاءة الأداء عند مستوى دلالة إحصائية  $\alpha \leq 0.05$  تشير النتائج إلى أن التدريب له تأثير مباشر ذي دلالة إحصائية على كفاءة أداء الموظفين. تؤكد هذه النتائج على الحاجة إلى أن تستثمر المؤسسة الوطنية للنفط الليبية في برامج تدريبية مصممة جيدًا ومستهدفة ومصممة خصيصًا لتلبية احتياجات القوى العاملة. تشمل التوصيات تطوير وحدات تدريبية مخصصة، وتشجيع ردود أفعال الموظفين، وتبني استراتيجيات التعلم المستمر لتعزيز القدرة على التكيف مع التقدم الصناعي. يقدم هذا البحث رؤى عملية للمؤسسة الوطنية للنفط الليبية ( LNOC) والمنظمات المماثلة في الصناعات التي تعتمد على الموارد لتحسين مبادرات التدريب الخاصة بها. يجب أن تستكشف الدراسات المستقبلية التأثيرات الطويلة للتدريب والأدوار الوسيطة لعوامل مثل رضا الوظيفة والثقافة التنظيمية.

الكلمات المفتاحية: التدريب، كفاءة أداء الموظفين.

## Introduction

In today's dynamic and competitive global environment, the ability of organizations to adapt and thrive largely depends on their workforce's efficiency and productivity. Training is a cornerstone of employee development, offering organizations a way to enhance employee capabilities, align performance with organizational objectives, and foster a culture of continuous improvement. This is particularly relevant in the oil and gas sector, where technological advancements and operational complexities necessitate a skilled and adaptable workforce. (Nashash, 2020, P.64).

The Libyan National Oil Corporation (LNOC), a major driver of Libya's economy, is a significant case study for examining the role of training in improving employee performance efficiency. The Libyan National Oil Corporation (LNOC) contributes approximately 95% of the nation's export revenue and over 50% of its GDP, making it essential to national and global energy markets. However, like many organizations in resource-dependent industries, Libyan National Oil Corporation (LNOC) faces challenges such as skill gaps, insufficient training content, and a lack of alignment between training programs and job

requirements. These issues often result in underutilized employee potential, low

productivity, and inefficiencies in operational processes.

Training within Libyan National Oil Corporation (LNOC) holds the potential to address these gaps by equipping employees with the knowledge, skills, and behaviors needed to meet organizational objectives. Past research has demonstrated that effective training can directly enhance performance by improving task accuracy, reducing resource wastage, and fostering adaptability to new technologies. Despite its recognized importance, gaps remain in understanding the direct impact of training on performance efficiency in resource-dependent organizations such as Libyan National Oil Corporation (LNOC).

This paper aims to explore the direct relationship between training and employee performance efficiency, addressing Hypothesis 1 (H1): "There is no statistically significant direct impact of training on improving employee performance efficiency at a significance level of  $\alpha \leq 0.05$  in LNOC-Libya." The study employs a descriptive analytical approach, leveraging data collected from Libyan National Oil

Corporation (LNOC) employees through structured questionnaires. By examining these relationships, this research provides actionable insights for Libyan National Oil Corporation (LNOC) to optimize its training initiatives and serves as a reference for similar organizations in the oil and gas industry. Ultimately, the findings contribute to the broader understanding of workforce development in resource-dependent sectors.

## 2. Literature Review

Employee performance efficiency, defined as the effective use of resources to achieve desired outcomes, is a critical determinant of organizational success. It involves maximizing productivity while minimizing resource wastage, a goal that hinges on factors such as employee skills, motivation, and organizational support (Krismiyati, 2021, p.5762). Training emerges as a pivotal factor in achieving these outcomes, equipping employees with the competencies required to perform their roles effectively (Kaya et al., 2020, p. 45). Several studies underscore the transformative impact of training on employee performance, particularly in resource-intensive industries like oil and gas.

Fragouli and Ilia (2019) argue that training reduces inefficiencies by equipping employees with the technical and behavioral

skills needed to perform their tasks accurately and efficiently. In industries marked by rapid technological advancements, such as oil and gas, training is essential for ensuring that employees remain current with new systems and methodologies. Sheeba and Christopher (2020) highlight that training not only enhances technical proficiency but also contributes to job satisfaction, which indirectly boosts performance. Employees who feel valued and supported through training are more likely to exhibit higher engagement and productivity.

Hafeez and Akbar (2015) emphasize the role of training in organizational development, noting that it fosters a culture of continuous improvement. By providing employees with opportunities to enhance their skills, organizations can improve operational processes and adapt to changing market demands. In the context of Libyan National Oil Corporation (LNOC), Ayalew (2017) highlights the importance of technical training in optimizing operational processes. Libyan National Oil Corporation (LNOC) operates in a highly technical and resource-dependent industry where employee expertise directly impacts efficiency and productivity.

Despite these insights, gaps remain in understanding the specific mechanisms

through which training impacts performance efficiency in organizations such as Libyan National Oil Corporation (LNOC). For example, while it is evident that training enhances skills and knowledge, the extent to which it influences key performance metrics such as task accuracy, resource utilization, and adaptability to technological changes requires further exploration. Additionally, the role of training components—such as objectives, methods, trainee selection, and duration—in shaping these outcomes is often underexplored.

This study addresses these gaps by analyzing the direct impact of training on performance efficiency within Libyan National Oil Corporation (LNOC). It considers the unique challenges faced by resource-dependent industries, offering a nuanced understanding of how targeted training initiatives can drive organizational success. By bridging these gaps, the research contributes to the broader literature on workforce development and provides practical recommendations for LNOC and similar organizations.

### **3. Methodology**

This study adopts a descriptive analytical approach to examine the direct impact of training on employee performance efficiency within Libyan National Oil Corporation (LNOC). The methodology involves a

systematic collection and analysis of quantitative data to test the hypothesis and provide actionable insights. The primary data collection instrument was a structured questionnaire designed to capture employee perceptions of training and its impact on their performance.

The study targeted employees across various departments within Libyan National Oil Corporation (LNOC) to ensure a representative sample. A total of 381 questionnaires were distributed, with 344 valid responses received, representing a 90% validity rate. The questionnaire comprised multiple sections, each focusing on key training components such as objectives, methods, trainee selection, and duration. Performance efficiency was measured through indicators such as task completion rates, productivity metrics, and adaptability to new technologies.

The collected data were analyzed using SPSS.24 for descriptive statistics and AMOS.25 for Structural Equation Modeling (SEM). Descriptive statistics provided an overview of sample demographics, such as age, job title, and years of experience, which were used to identify potential moderating factors in the training-performance relationship. SEM was employed to test the direct impact of training on employees' performance efficiency, offering insights into

the strength and significance of the relationship.

Main variables were operationalized as follows:

- **Training Variables:** Training objectives, methods, trainee choice, and duration.
- **Employees' Performance Efficiency Variables:** Task accuracy, resource utilization, and adaptability to technological changes.

## Results and Discussion

The results of this study confirm the significant impact of training on employee performance efficiency at Libyan National Oil Corporation (LNOC). Using AMOS.25 for Structural Equation Modeling (SEM), the analysis revealed a strong and positive direct relationship between training and employees' performance efficiency.

Table (1): Summary of simple regression analysis of between training and employees' performance efficiency

- **Linear Regression Analysis**

The analysis revealed a statistically significant direct impact of training on employees' performance efficiency ( $\alpha \leq 0.05$ ). As shown in table (1), it is found that R (simple linear correlation) is 0.671, this result indicates a good degree of association between training and employees' performance efficiency. The  $R^2$  value of 0.457 indicates that 45.70% of the variation in employees' performance efficiency can be explained by training. In addition to that, the value of F (232.205, sig=000) which is equal to the ratio of two mean square values of training and employees' performance efficiency is large. Furthermore, the value of beta is 0.673 which means there is a strong positive effect of training on employees' performance efficiency. Based on the information indicated in the table below, the research rejects the null hypothesis and accepts the alternative hypothesis. Therefore, it is concluded that training is correlated with employees' performance efficiency in a positive, strong, and causal relationship.

Description	Sig.	Output Table	Value	Output
Positive, moderate, and Significant	.000	Regression	.6710	<b>Pearson Correlation R</b>
Moderate degree of variance interpretation		Regression	0.457 45.70%	<b>R- Square R<sup>2</sup></b>
Regression model fits the data well.	.000	ANOVA	232.205	<b>F- Test</b>
Regression coefficient positive and statistically significant.	.000	Coefficients	.673	<b>Regression Coefficientβ</b>

• **Structural Equation Modeling Analysis**

Using AMOS.25 for Structural Equation Modeling (SEM), the analysis revealed a strong and positive direct relationship between training and performance efficiency SEM was employed to evaluate the direct impact of training on employee employees' performance efficiency at Libyan National Oil Corporation (LNOC). Model fit indices (Table 2) further validated the robustness of

the findings. The Comparative Fit Index (CFI) improved from 0.89 to 0.95 after modifications that is, indicating an excellent fit, while the Root Mean Square Error of Approximation (RMSEA) decreased from 0.08 to 0.05, indicating an excellent model fit and Goodness of Fit Index (GFI) increased from 0.86 to 0.93, further confirming model adequacy. These indices highlight the effectiveness of training as a predictor of employees' performance efficiency within Libyan National Oil Corporation (LNOC).

Table (2): Model fit indices

Fit Index	Before Modification	After Modification	Threshold
Comparative Fit Index (CFI)	0.89	0.95	> 0.90
Root Mean Square Error of Approximation (RMSEA)	0.08	0.05	< 0.08

Goodness of Fit Index (GFI)	0.86	0.93	> 0.90
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These indices confirm that the SEM model accurately captures the relationship between training and performance efficiency. Improvements in fit indices after minor model adjustments validate the robustness of the hypothesized structure.

**Implications**

The findings underscore the critical role of training in enhancing performance efficiency. Libyan National Oil Corporation (LNOC) can leverage these insights by:

1. Developing Targeted Training Programs: Tailoring content to address specific skill gaps and industry advancements.
2. Investing in Continuous Learning: Ensuring regular updates to training modules to reflect technological progress.
3. Encouraging Employee Feedback: Using feedback mechanisms to refine training delivery methods.

Additionally, organizations in similar sectors can adopt these strategies to foster a culture of continuous improvement and adaptability.

**Conclusion**

This study substantiates the direct impact of training on employee performance efficiency within Libyan National Oil Corporation (LNOC). The statistically significant findings highlight the importance of structured training programs in driving organizational success. Specifically, the study demonstrated that training positively influences key performance metrics such as task accuracy, resource utilization, and adaptability to technological changes. By rejecting the null hypothesis, this research reaffirms that well-designed training initiatives are integral to enhancing workforce productivity and achieving organizational goals. The findings emphasize that Libyan National Oil Corporation (LNOC) can significantly benefit from tailored training modules that address specific skill gaps and align with the dynamic demands of the oil and gas industry. Moreover, the study underscores the importance of continuous learning and regular updates to training programs to ensure their relevance in the face of rapid technological advancements. Encouraging employee feedback and incorporating it into the design and delivery of training initiatives can further enhance their effectiveness. Organizations in similar resource-driven industries can draw on these insights to foster a culture of continuous improvement,



adaptability, and innovation. Future research should explore the longitudinal effects of

training to understand its sustained impact over time and investigate additional mediating variables, such as job satisfaction and organizational culture, to provide a more comprehensive understanding of training outcomes. The evidence presented in this study establishes a strong case for prioritizing employee development as a strategic imperative for organizational success.

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