

AN ANALYSIS OF THE EFFECTS OF HUMAN RESOURCE UTILIZATION ON ECONOMIC AND FINANCIAL INDICATORS

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ABSTRACT: *Human resources represent a fundamental factor in ensuring the economic and financial performance of organizations. This paper aims to analyze the effects of human resource utilization on selected economic and financial indicators, using specific methods of economic analysis, showing that human resources constitute a strategic asset and an essential driver of value added. The paper highlights the relationship between labor-related indicators and the overall financial performance of an entity, emphasizing the importance of effective human resource utilization in achieving better performance of organizations. Also, the paper aims to analyze the effects of human resource utilization on key economic and financial indicators through a case study of a company in the pharmaceutical industry. The study examines both quantitative and qualitative aspects of human resources and evaluates their impact on labor productivity, average profit per employee, and turnover dynamics. The results of the study contribute to a better understanding of how human resource utilization impacts economic and financial outcomes and provide relevant insights for managerial decision-making.*

KEY WORDS: *human resource utilization, performance indicators, labor productivity, average profit per employee, profitability.*

JEL CLASSIFICATION: *M12, J24, D24.*

1. INTRODUCTION

In the context of a competitive and dynamic economic environment, the efficient utilization of human resources has become a critical determinant of organizational performance. From an economic and financial perspective, human resources are not only a cost factor but also a strategic resource capable of generating added value and competitive advantage. The way in which labor is organized, managed, and utilized is reflected in the evolution of key economic and financial

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indicators, such as turnover, labor productivity, operating costs, profit margins, and return on assets.

Economic and financial analysis provides the appropriate framework for assessing the impact of human resource utilization on organizational performance. By examining the interdependencies between labor-related indicators and financial results, it is possible to identify strengths, weaknesses, and potential areas for improvement in resource allocation and management.

The pharmaceutical industry is particularly dependent on highly qualified human resources, given its strict regulatory framework, technological intensity, and strong emphasis on quality, innovation, and compliance. In this context, the way organizations allocate, develop, and efficiently employ their workforce directly affects operational performance and financial results, including revenue growth and profitability.

Methodologically, the study is based on a longitudinal analysis of company-level data obtained from publicly available financial statements and annual reports. The selected indicators allow for a detailed examination of the relationship between workforce efficiency and economic outcomes over time. The findings are expected to offer relevant insights for managers, policymakers, and researchers by highlighting the importance of strategic human resource utilization in enhancing financial performance and supporting sustainable business growth.

2. ANALYSIS OF HUMAN RESOURCES FROM A QUANTITATIVE AND QUALITATIVE PERSPECTIVE

The pharmaceutical company applies ethical standards in its activity based on the following principles: honesty; integrity; fairness; transparency.

Table 1. Evolution of the average number of employees during 2022 -2024

Year	2022	2023	2024
Number of employees	399	396	373
Absolute deviation	-	-3	-23
Relative deviation	100%	-0.76%	-6.52%

Source: the data from the ABC company's annual reports

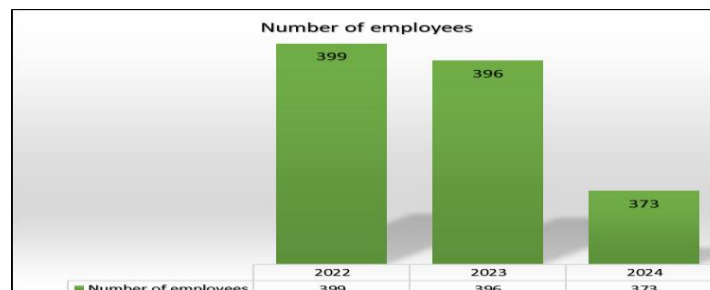


Figure 1. Evolution of the number of employees 2022-2024

The evolution of the average number of employees over the period 2022 -2024 indicates a downward trend in workforce size. In 2023, the average number of employees decreased slightly from 399 to 396, corresponding to an absolute deviation of –3 employees and a relative deviation of –0.76%. The decrease in the number of employees became more pronounced in 2024, when the average number of employees declined to 373. Compared to the base year 2022, this represents an absolute decrease of 23 employees and a relative deviation of –6.52%. Overall, the observed dynamics suggest a strategic rationalization of human resources.

Regarding gender distribution, in 2022 women accounted for 67.67% of the total workforce, in 2023 their share was 65.00%, and in 2024 it increased to 66.90%. The number and gender structure of ABC’s personnel are presented in detail in *Figure 2. Gender structure of employees during 2022 -2024*



Figure 2. Evolution of the gender structure of employees, 2022 -2024

Women represented a significant proportion of the total workforce, with percentages ranging between 65% and 68%. At the same time, men accounted for a smaller share, with percentages between 32.33% and 35%. Although the total number of employees declined slightly over the analyzed period, the gender structure remained stable, with women consistently representing approximately two thirds of the workforce.

With regard to the structure of personnel by level of education and professional training over the period 2022 -2024, ABC company displays a relatively balanced distribution between employees with higher education and those with secondary

education, as illustrated in *Figure 3. Evolution of the personnel structure by level of education, 2022 -2024*

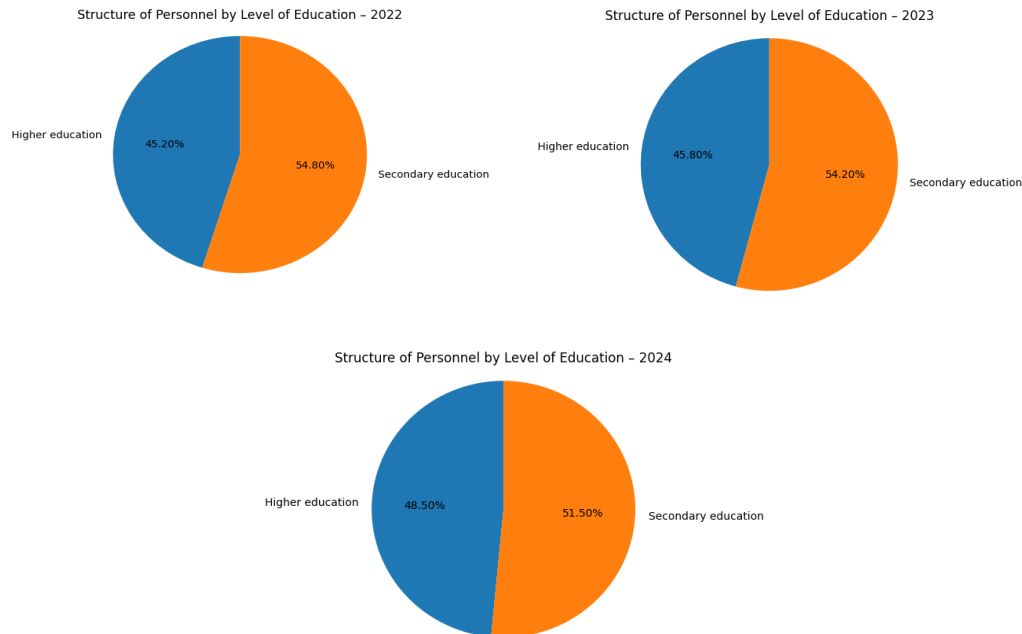


Figure 3. Evolution of the personnel structure by level of education, 2022 -2024

Analyzing the data on the distribution of personnel by level of education during the period 2022 -2024, the following conclusions can be drawn:

- Throughout all three analyzed years, the majority of employees had secondary education, with percentages ranging between 51.50% and 54.80%. The share of employees with higher education increased slightly from 45.20% in 2022 to 48.50% in 2024.
- The data indicate an upward trend in the proportion of employees with higher education within the company over the analyzed period. This may reflect an orientation toward attracting and recruiting personnel with a high level of education and specialized competencies.
- Although the distribution by level of education experienced some variations, the overall proportions of employees with higher education and those with secondary education remained relatively stable during the analyzed period.

It is important to note that the analysis of the distribution by level of education provides valuable insights into the qualifications and educational attainment of the company's workforce. Such information can be used to assess and enhance the potential and competencies of personnel in relation to organizational needs. Depending on the organization's strategies and objectives, employee development programs may be designed, or measures may be implemented to ensure an appropriate balance between employees with different levels of education.

Overall, the data suggest a steady orientation toward strengthening its human capital through a higher proportion of employees with advanced educational qualifications.

With regard to the analysis of personnel efficiency, based on the data provided by the company, a series of indicators can be calculated using the information presented in Table 2.

Table 2. Productivity Analysis Indicators during the period 2022 -2024

Specification	2022	2023	2024
Turnover (lei)	276,982,692	280,288,775	286,771,613
Gross profit (lei)	80,880,310	83,711,318	84,527,400
Net profit (lei)	70,917,262	83,916,815	74,396,967
Personnel expenses (lei)	47,796,973	52,807,548	51,913,220
Number of employees	399	396	373
Average number of working days per year	285	284	286
Number of hours worked per year	2,280	2,272	2,288
Hours per day	8	8	8

Source: authors' processing based on the ABS' annual financial statements for 2022 -2024

Table 3. Evolution of Labor Productivity, 2022 -2024

Year	2022	2023	2024
Turnover (lei)	276,982,692	280,288,775	286,771,613
Number of employees	399	396	373
Wa (lei) - Annual productivity	693,941	707,303	768,806
Absolute deviation of Wa	-	+13,362	+61,503
Wa index	100%	101.93%	108.70%
Wz (lei) - Daily productivity	2,434.88	2,490.50	2,688.13
Absolute deviation of Wz	-	+55.62	+197.63
Wz index	100%	102.28%	107.93%
Wh (lei) - Hourly productivity	304.36	311.31	336.01
Absolute deviation of Wh	-	+6.95	+24.7
Wh index	-	102.30%	108.03%

The analysis of labor productivity indicators for the period 2022 -2024 highlights a clear improvement in workforce efficiency at ABC company, despite the reduction in the total number of employees.

Annual labor productivity (Wa) rose from 693,941 lei per employee in 2022 to 707,303 lei in 2023, representing an absolute increase of 13,362 lei and a productivity index of 101.93%. In 2024, Wa reached 768,806 lei per employee, marking a substantial absolute increase of 61,503 lei compared to the previous year and a

cumulative index of 108.70% relative to 2022. A similar trend is observed in daily labor productivity (Wz). In 2023, Wz increased by 55.62 lei, reaching 2,490.50 lei, corresponding to an index of 102.28%. The upward trend accelerated in 2024, when daily productivity rose to 2,688.13 lei, with an absolute increase of 197.63 lei and an index of 107.93% compared to the base year. Hourly labor productivity (Wh) also registered continuous growth. From 304.36 lei in 2022, Wh increased to 311.31 lei in 2023, with an absolute deviation of 6.95 lei and an index of 102.30%. In 2024, hourly productivity reached 336.01 lei, reflecting an increase of 24.70 lei and an index of 108.03% relative to 2022.

Overall, the results indicate a clear improvement in labour productivity at annual, daily, and hourly levels. This indicates increased efficiency and improved overall company performance during the analyzed period

Table 4. Key Performance Indicators per Employee, 2022 -2024

Year	Turnover per employee (lei)	Gross profit per employee (lei)	Net profit per employee (lei)	Share of personnel expenses in turnover (%)
2022	694,192.21	202,707.54	177,737.50	17,22%
2023	707,799.94	211,392.21	211,911.15	18,84%
2024	768,824.70	226,615.01	199,455.68	18,10%

Gross profit per employee represents the average gross earnings generated by each employee of the company. Thus, in 2022, gross profit per employee amounted to 202,707 lei, increasing slightly each year to 211,392 lei in 2023 (+4.3%), and further rising to 226,615 lei in 2024, representing an increase of 7.2%. This trend indicates an improvement in efficiency and in the performance of each employee in generating company revenues. Economic efficiency per employee improves mainly as a result of the reduction in the number of employees.

Net profit per employee represents the average net earnings generated by each employee of the company. In 2022, net profit per employee was 177,737 lei, increasing to 211,911 lei in 2023, after which it declined in 2024 (-5.9% compared to 2023), reaching 199,455 lei. This evolution reflects changes in the efficiency and performance of each employee in generating the company's net profit. This indicator remained well above the 2022 level, suggesting an overall improvement in profitability per employee during the analyzed period

Turnover per employee recorded a steady upward trend, increasing from 694,192 lei in 2022 to 768,824 lei in 2024. This evolution reflects a significant enhancement in labor productivity, largely attributable to higher turnover levels combined with a declining workforce size.

Overall, the results indicate that ABC company succeeded in enhancing labor productivity and operational efficiency, even in the context of workforce contraction. This suggests a strategic orientation toward optimizing human resources and increasing value added per employee.

Effects of human resource efficiency on turnover

Changes in labor productivity are transmitted both directly and indirectly to overall operational efficiency, as reflected in various indicators such as production volume, number of employees, efficiency in the use of fixed and working capital, cost per unit of output, profit, and others.

Labor productivity primarily influences production volume and, implicitly, turnover. Considering the methods of expressing labor productivity and working time, the relationships between production volume and the level of labor productivity can be expressed through the following relationship:

To distinguish the effects exerted by quantitative or extensive factors from those generated by qualitative or intensive factors on changes in production volume, the chain substitution method is applied.

Tabel 5. Analysis of the economic effects of changes in labor productivity

Indicators	2022	2023	2024
Turnover (lei)	276,982,692	280,288,775	286,771,613
Number of employees	399	396	373
Annual labor productivity (lei)	693,941	707,303	768,806
Absolute deviation of turnover	-	+3,306,083	+6,482,838
Absolute deviation of number of employees	-	-3	-23
Absolute deviation of labor productivity	-	+13,362	+61,503

The data presented in Table 5. highlight the significant role of labor productivity in influencing the evolution of turnover at ABC. during the period 2022 - 2024. Between 2022 and 2023, turnover increased by 3,306,083 lei, despite a slight reduction in the number of employees (-3 persons). During the same period, annual labor productivity rose by 13,362 lei per employee, indicating that the growth in turnover was primarily driven by improvements in workforce efficiency rather than by an expansion in personnel. This suggests a positive contribution of qualitative, or intensive, factors to the company's economic performance. The trend became more pronounced between 2023 and 2024. Turnover recorded a more substantial increase of 6,482,838 lei, while the number of employees declined significantly by 23 persons. At the same time, annual labor productivity increased sharply by 61,503 lei per employee. This strong growth in productivity compensated for the reduction in workforce size and contributed decisively to the expansion of turnover, confirming the effectiveness of human resource utilization.

3. CONCLUSIONS

Overall, the analysis demonstrates that increases in labor productivity had a positive and amplifying effect on turnover throughout the analyzed period. The simultaneous reduction in personnel and increase in turnover indicate a shift toward greater operational efficiency and a stronger reliance on intensive growth factors. Consequently, improvements in labor productivity emerge as a key determinant of

economic performance, supporting the company's capacity to generate higher output and revenue with fewer human resources.

The findings of this study confirm that efficient human resource utilization has a significant positive impact on economic and financial performance. Human resources should therefore be regarded not merely as a cost component, but as a strategic asset and a fundamental generator of value added, capable of supporting long-term organizational sustainability and competitiveness.

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