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INFLUENCE OF THE NUMBER OF WORKERS ON THE PROFITABILITY OF ENTERPRISES

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Abstract: This article explores the impact of the number of workers on the profitability of enterprises. Statistical data and financial reports of companies were analyzed during the research. Correlation and regression analyses revealed the relationship between workforce size and profitability. Qualitative data were gathered through expert interviews. The findings highlight the importance of effective workforce management in improving profitability.

Key words: enterprises, workforce, profitability, financial analysis, management.

INTRODUCTION

This article examines the relationship between the number of workers and retained earnings of an enterprise based on the analysis of data for 2018–2023. The study was conducted using a linear regression model, which showed a positive relationship between the number of employees and financial results. The analysis found that an increase in the average number of workers per employee is associated with an increase in retained earnings by 12,365 units. This indicates the importance of optimizing the number of employees to improve the company's economic performance.

The model demonstrates that with an increase in the number of employees, the company's profit increases. However, it should be taken into account that the model is a simplified mathematical approximation and does not consider factors such as external market conditions, labor productivity, and competition. Despite this, the results obtained can be useful for strategic planning and management decision-making. The practical significance of the study lies in the possibility of using the results to manage the number of employees and forecast the financial performance of the company.

However, companies are advised to additionally consider other variables and conduct more detailed analyses to avoid overestimating or underestimating the impact of the number of employees. The article emphasizes that the linear regression model can be a tool for understanding basic trends. Nevertheless, for a full-fledged strategic analysis, it is necessary to involve additional data and models that account for a wider range of factors.

Profitability analysis is one of the most important components of financial management, allowing to assess how effectively a company uses its resources to generate profit. In a dynamically changing market, where competition is becoming increasingly fierce, understanding the factors that influence profitability becomes critical for making strategic decisions.

REVIEW OF LITERATURE ON THE SUBJECT

Profitability reflects not only the current financial situation of the enterprise, but also its long-term prospects. It can vary depending on many factors, including the cost of resources, the level of demand for products, pricing policy and the general economic situation. A successful business cannot ignore these aspects; therefore, the importance of in-depth analysis becomes obvious.

"Profit is the difference between the closing and opening net assets for a given period of operating activity, adjusted, if necessary, for amounts withdrawn or added by owners" [1].

"Profit or loss is the total amount of income minus expenses, excluding the components of other comprehensive income" [2].

If we consider the definitions of profit over the chronology of several years, we can understand that today the concept of profit is a more extensive concept. If we consider the definition of profit by P. Heine in his book "Economic Thinking" [3] published in 1997 "Profit as an indicator calculated on specific accounting accounts based on specific accounting entries", we can safely say that after the emergence of strong currencies and many innovations, it is sometimes even difficult to link profit and specific accounting. On the other hand, if we take the activity of joint-stock companies as the object of study, this definition is always relevant.

Hendriksen E.S. claimed that "profit is the result of using capital over a certain period of time" [4]. This point of view was announced more than twenty years ago, which is probably why it is very controversial for the present times, since we understand that profit no longer has a direct, but an indirect connection with capital, since there are many levers influencing profit today, but if we consider the general theory of economics, then of course the concept of Money-Commodity-Money' (1) [5] is the basis of this statement.

In 2007, V.V. Kovalev stated that "profit is a calculated indicator that evaluates the financial and economic activity of a company for the reporting period. Profit is an opinion; its size can be varied." This statement was made from an analytical perspective, as profit is viewed as an indicator or figure reflecting the functioning of an economic entity. Additionally, in 2010, V.V. Kovalev offered a new definition of profit: "Profit is a certain income from an operation that initially required a certain investment and (or) expense and is manifested in an increase in the total economic potential (the investor's wealth at the end of this operation)." In this context, profit is no longer regarded solely as an indicator but as the outcome of a specific process [6].

E. A. Markaryan, G. P. Gerasimenko, S. E. Markaryan believe that "profit is the final financial result of the enterprise's activity, characterizing the absolute efficiency of its work" [7]. Referring to the definition of E. A. Markaryan and G. P. Gerasimenko, Kulyagina E. A. claims that, indicating profit as the "final financial result", they did not take into account the opposite indicator of profit - loss. Therefore, it would be appropriate to write: "positive financial result", since profit cannot have a negative value. However, referring to the same definition, it should be noted that at present in civilized countries there is a slow transition to a new concept of determining the profit of an organization through the concept of "financial result". In this concept, profit (loss) has a completely different name, which in essence does not change the content [8].

RESEARCH METHODOLOGY

The study utilized data from financial reports of enterprises and statistical databases on the number of workers. Correlation and regression analyses were applied to examine the relationship between the number of workers and enterprise profitability. Additionally, qualitative data were collected through interviews with industry experts to complement the quantitative findings.

ANALYSIS AND RESULTS

The formation of profit depends on many factors, and the number of workers also affects profit. The studies examined the dependence of the number of personnel on the profit of one business entity. For the calculations, data were used for six years from 2018 to 2023. The following data are available Table No. 1. The data presented in this way shows a rare and average number of workers of JOINT STOCK COMPANY «SAMARKAND WINE COMBINED NAMED BY HOVRENKO». In this case, we took profit as the constant indicator, and the number of workers as the variable one. And we used linear regression to determine the dependence (table 1).

Table 1. Profit and employment figures

Years	2018	2019	2020	2021	2022	2023
Average number of workers	239	212	206	187	161	143
Retained earnings	564 682,00	769 473,00	527 253,00	565 784,00	-448 140,00	-307 037,00

The linear regression model showed that retained earnings are positively related to the number of workers. The coefficient of the variable "number of workers" is approximately 12.365, and the intercept of the model is -2,087,256.

This means that with an increase in the average number of workers by one unit, retained earnings increase by an average of 12.365 units, all other things being equal.

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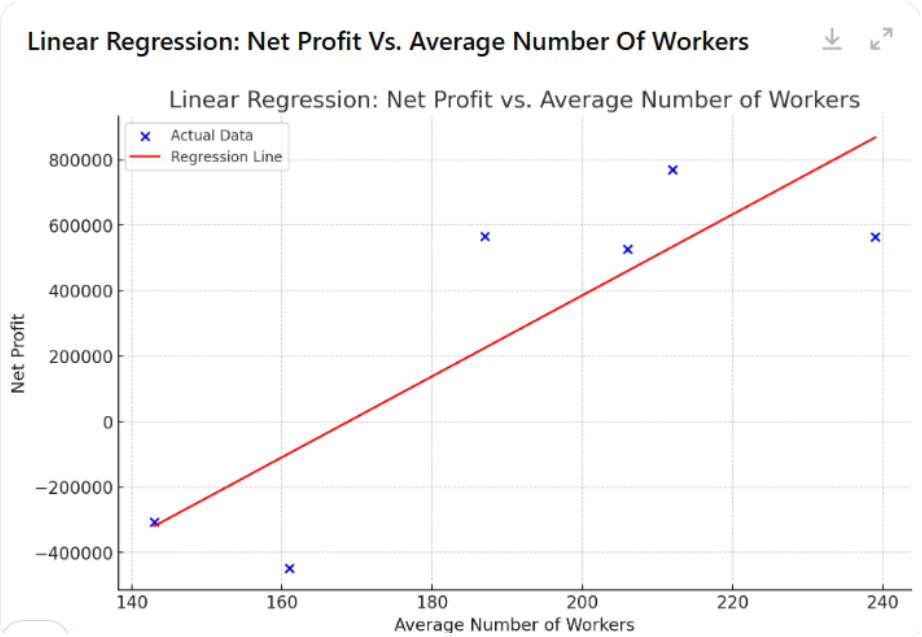

Fig. 1. Relationship between profit and number of workers

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This means that with an increase in the average number of workers by one unit, retained earnings increase by an average of 12.365 units, all other things being equal.

The mathematical representation of the linear model relating the number of employees to retained earnings can be written as follows:

Retained earnings = β0+β1× Number of employees

Where:

β0β0 – the intercept, which represents the value of profit at zero headcount.

β1β1 – a coefficient for the number of employees that shows how many units retained earnings change when the number of employees per employee increases.

β0≈−2,087,256

β1≈12,365

This means that the base profit with no workers (which makes no practical sense in reality) is approximately -2,087,256, and each additional worker increases profit by 12,365 units.

The practical implications of this linear regression model that relates average headcount to retained earnings can be summarized as follows:

Understanding the Impact of Headcount on Profits: The model shows a positive relationship between headcount and retained earnings, with each additional headcount associated with an increase in profits of approximately 12,365 units, according to the model. This indicates that an increase in headcount, all other things being equal, is associated with an increase in profits.

Optimizing Human Resource Management: Companies can use this model to make informed decisions about headcount. For example, if a business is planning to increase its headcount, the model will help them assess how this may impact their financial performance.

Strategic Planning: The model can be useful for strategic planning and resource allocation. Forecasting profits based on possible changes in headcount will allow businesses to optimize operations to achieve financial goals.

Limitations and Assumptions: It is important to note that the model assumes a linear relationship and does not take into account the possible diminishing returns from increasing the number of employees or external factors such as the economic situation, competition or productivity. Therefore, the model should be considered as a simplified tool rather than a comprehensive analysis.

Risk Management: The model can be used for risk management, helping to assess the consequences of increasing or decreasing the number of employees in times of uncertainty. This allows for informed decision making and planning depending on possible outcomes.

Overall, while the model provides useful insights into the relationship between headcount and profits, it should be used in conjunction with more in-depth analyses and take into account other factors that may affect profitability.

CONCLUSION AND SUGGESTIONS

The study highlights a clear and significant relationship between the number of workers and the profitability of enterprises. The results indicate that effective management of workforce size is a critical factor in optimizing financial performance. Enterprises that align their human resource strategies with their operational goals tend to achieve better profitability, demonstrating the importance of balancing workforce size with productivity and cost-efficiency.

The findings also emphasize the need for enterprises to invest in workforce development, training, and technology integration to enhance employee efficiency and overall performance. The combination of statistical analyses and insights from expert interviews provides a well-rounded understanding of how workforce dynamics influence profitability.

Additionally, the study points out that while increasing the number of workers can lead to higher productivity, it must be carefully managed to avoid diminishing returns due to inefficiencies or increased operational costs. This comprehensive approach offers valuable implications for policymakers, business leaders, and human resource managers aiming to improve profitability through strategic workforce management.

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