

Modern approaches to assessing the structure of enterprise assets in the context of business digitalisation: Tools, approaches, and practical application

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Abstract. The relevance of the study was determined by the growing need for accurate and timely financial analysis for effective management decisions. In the context of business digitalisation, it was particularly important to integrate classical analytical approaches with the latest technological solutions. The aim of the study was to summarise the theoretical foundations, assess the effectiveness of methods for analysing the dynamics of enterprise assets, and determine the possibilities for applying modern digital tools in financial accounting. The study used methods of horizontal, vertical and ratio analysis, as well as the analytical functions of tabular and visualisation programs. Using these methods, the structure and dynamics of the enterprise's assets and liabilities were analysed, key financial ratios were calculated, and the results were compared at different time intervals. It was found that horizontal analysis allows identifying trends in changes in the property status of the enterprise, while vertical analysis allows assessing the structural proportions of assets and liabilities. The impact of liquidity, profitability and return ratios on overall financial stability was analysed. The effectiveness of using digital tools such as Power BI and enterprise resource planning (ERP) systems for automating analytics, building dynamic reports, and operational monitoring of indicators was determined. An applied solution for comprehensive analysis of financial statements was developed using a real enterprise as an example, which made it possible to demonstrate the integrated use of several methods for deeper analysis. The practical value lies in the possibility of applying the research results by financial analysts, accountants, and managers to make informed management and investment decisions, as well as to improve the efficiency of the enterprise's financial planning

Keywords: asset valuation; liability dynamics; horizontal analysis method; vertical analysis method; ratio analysis system; digital financial analytics tools; interpretation of financial ratios

Introduction

The analysis of a enterprise's assets is a critical element of financial management, as it provides an objective assessment of its financial condition, liquidity, solvency, and efficiency of resource utilisation. In conditions of economic instability, market globalisation and digital business transformation, it is becoming increasingly important not only to apply classical analytical approaches, but also to adapt them

to the requirements of the modern economy. The growing volume of information, the speed of decision-making and high demands on the accuracy of analysis create a need for the use of the latest digital tools and methods of financial data processing. The research problem lies in the selection of effective, adaptive methods for analysing the assets and liabilities of an enterprise that allow accurate results to be

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obtained in a short time and are compatible with modern information technologies.

According to O. Zakharchenko & O. Lukianchuk (2023), a correlation-regression analysis model was developed to predict changes in the structure of enterprise liabilities depending on external macroeconomic factors. The model proved to be effective in unstable market conditions, but needs to be further adapted to the specifics of small and medium-sized businesses. S. Yeluri *et al.* (2024) emphasised in their work that the use of Business Intelligence systems allows for the rapid retrieval of information in the form of interactive dashboards, which greatly simplifies the monitoring of key financial indicators and management decision-making. The authors' conclusions support the idea that financial management should be based on convenient and flexible analysis tools that can be adapted to the needs of the business.

Researcher K. Semenova (2021) noted that the use of artificial intelligence (AI) in financial analysis allows not only to automate the processing of large data sets, but also to form scenarios for the development of the financial condition of an enterprise with a high degree of accuracy. The author emphasised the importance of training machine learning models based on historical data from companies in various industries. The article by O.S. Shaban & A. Omoush (2025) examined how the introduction of artificial intelligence into financial reporting affects transparency, corporate governance effectiveness and stakeholder engagement, using Jordanian enterprises as an example. Using structural modelling, the authors found that AI significantly improves the quality of financial information, risk management and investor confidence, but there are challenges related to algorithm bias, data protection and low digital literacy among staff. The study highlighted the need to combine technological development with ethical and regulatory standards in the financial sector.

The work of O. Koval & O. Tomchuk (2024) examined the practical aspects of assessing the financial stability of an enterprise in conditions of war and economic turbulence. The authors analysed the adaptability of ratio analysis in extreme conditions and developed approaches to risk reassessment based on changes in asset structure. Despite the significant contribution of these scientists, it should be noted that the analysed publications do not sufficiently cover the issue of the integrated application of several analysis methods simultaneously in order to improve the accuracy of assessing the financial condition of an enterprise. There was also a lack of a comprehensive approach to comparing the effectiveness of manual and automated analysis tools, in particular using AI and ERP systems. In view of the above, the aim of this study was to improve the methods of assessing the financial condition of an enterprise by combining classical approaches to financial analysis with digital tools that facilitate effective management decisions in a dynamic business environment.

Materials and Methods

A range of analytical, statistical, and general scientific methods were used during the research to ensure a systematic approach to assessing a company's financial position. The use of each method was determined by the need to ensure the objectivity of the analysis and to achieve the set goal of the study – to improve traditional approaches to financial accounting in the context of digital transformation. Horizontal analysis was chosen to examine changes in the composition and structure of the enterprise's assets and liabilities over several reporting periods. This method was applied to identify financial trends, determine the dynamics of growth or decrease in key indicators, and provide a reasoned assessment of the company's development, considering changes over time. Vertical analysis was used to study the internal structure of the financial statements, which made it possible to determine what share each element constitutes of the total amount of assets, capital, or expenses. Ratio analysis involved calculating key financial ratios, including profitability, liquidity, solvency, and business activity, which made it possible to assess the effectiveness of the company's operations and its capacity for sustainable development.

The theoretical basis of the study was the works of scholars dedicated to improving financial analysis methods in the digital economy (Semenova, 2021; Antonienko, 2025). General scientific methods were also used during the research – analysis, synthesis, induction, deduction, systematisation, comparison, and generalisation. These approaches contributed to the structuring of scientific information, the formation of a logical sequence of analysis, and the substantiation of conclusions. The material basis of the study was the official financial statements of a real enterprise. The period from 2023-2024 was chosen to assess the financial position. The financial information, namely the annual reports of ATB-Market LLC used in the study, was obtained from the open-source service Clarity Project (n.d.). Specifically, Form No. 1 (balance sheet), Form No. 2 (statement of financial results), Form No. 3 (cash flow statement), and additional analytical tables containing detailed financial indicators were used. These data were obtained from the 1C:Enterprise ERP system, which is actively used in practice for accounting, financial control, and internal reporting (Clarity Project, n.d.).

During the study, an analysis methodology was consistently implemented that included data collection and preparation, horizontal, vertical, and ratio analysis, and the formation of analytical conclusions based on the integration of traditional and digital tools. This approach ensured the comprehensiveness and reliability of the assessment of the enterprise's financial position in the context of the digital transformation of financial management. To illustrate the effectiveness of the methods used, a comparative analysis of the advantages and disadvantages of financial position assessment methods was performed (Table 1).

Table 1. Analysis of the selected methods

Method	Advantages	Disadvantages
Horizontal analysis	Assessment of dynamics. Analysis of changes. Convenience for strategic planning.	Dependence on statistical data from previous years. Possible complications when comparing.
Vertical analysis	Structural understanding of financial reporting. Comparison between periods and companies. Simplicity and convenience for analysing large amounts of data.	Does not show changes in dynamics. Does not allow for the assessment of changes in absolute values.
Ratio analysis	Speed and simplicity of calculations. Clear interpretation. Assessment of various aspects. Comparison with industry standards. Forecasting.	Dependence on the quality of reporting. Does not take external factors into account. Does not provide a complete description. Difficulties in comparison with industry standards. Does not reveal cause-and-effect relationships.

Source: developed by the authors based on research by scientists K. Semenova (2021), L. Maliuga *et al.* (2023), Y. Nikolchuk *et al.* (2023), O. Koval & O. Tomchuk (2024), S.M. Kanyhin (2024), N.V. Antonienko (2025)

The coefficient method is useful for the initial analysis of the financial condition of ATB-Market LLC. However, for a more in-depth analysis, it was combined with other methods. Horizontal analysis allowed assessing the company's development trends, while vertical analysis allowed assessing the structure of financial statements at a specific point in time. The choice of these methods for ATB-Market LLC was justified by the need to obtain both dynamic (horizontal) and structural (vertical) information, which allows making informed decisions for strategic and operational management of the enterprise. These methods are complementary.

Results and Discussion

Analysis of the financial condition of enterprises is traditionally an important component of financial management, allowing for the assessment of asset utilisation efficiency, identification of potential risks, and formulation of recommendations for improving financial performance. Classic analysis methods, such as horizontal, vertical and ratio analysis, remain the basis of financial assessment. Horizontal analysis allows tracking the dynamics of changes in financial indicators over time, which helps to identify trends

in the development of an enterprise (Gogineni *et al.*, 2021). Vertical analysis aims to assess the internal structure of assets and liabilities within a single reporting period, which makes it possible to identify the relationship between individual balance sheet items (Anggraini, 2022). Ratio analysis is used to assess the liquidity, solvency, profitability and financial stability of an enterprise, which is critical for determining its growth potential (Zhang *et al.*, 2022). In the context of the digital transformation of financial analysis, there is a need not only to apply classical methods of assessing the financial condition of enterprises, but also to actively integrate innovative technologies that improve the quality, accuracy and speed of data processing. The calculations of the horizontal and vertical analysis of ATB-Market LLC are presented in Table 2. For a visual comparison of the analysis results, a summary diagram (Fig. 1) was created, which reflects changes in the main financial indicators of ATB-Market LLC for the period under review. The diagram made it possible to clearly see the dynamics of changes in indicators for the initial and final periods, as well as the difference between these indicators. These changes demonstrated the effectiveness of management decisions and made it possible to identify key trends in the company's activities.

Table 2. Horizontal and vertical analysis of the financial condition of ATB-Market LLC as of 2024

Indicator	Beginning of period	End of period			Deviation of end-of-period values from beginning		
	Value, thousand UAH	Share in %	Value, thousand UAH	Share in %	Absolute, thousand UAH	Growth rate, %	Structure points, %
1. Total asset value	47,487,936.00	100.00	54,530,397.00	100.00	7,042,461.00	14.83	0.00
2. Non-current assets	24,635,585.00	51.88	27,807,059.00	50.99	3,171,474.00	12.87	-0.88
3. Current assets	22,832,801.00	48.08	26,714,212.00	48.99	3,881,411.00	17.00	0.91
4. Total liability value	47,487,936.00	100.00	54,530,397.00	100.00	7,042,461.00	14.83	0.00
5. Equity	4,529,851.00	9.54	5,269,225.00	9.66	739,374.00	16.32	0.12
6. Long-term liabilities and provisions	8,672,402.00	18.26	9,109,090.00	16.70	436,688.00	5.04	-1.56
7. Current liabilities and provisions	34,285,683.00	72.20	40,152,082.00	73.63	5,866,399.00	17.11	1.43

Source: developed by the authors based on Clarity Project (n.d.)

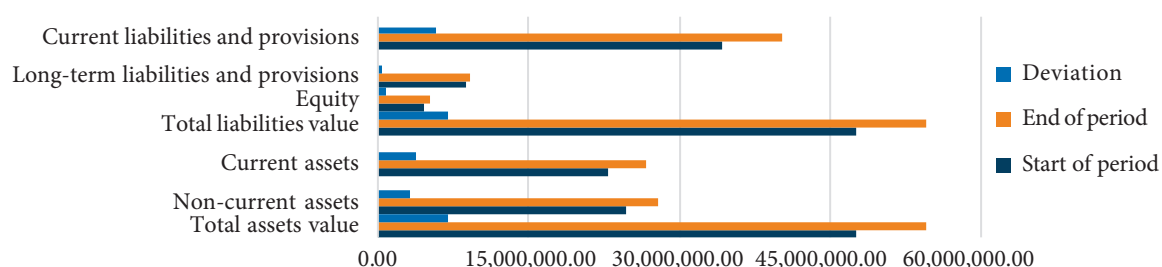


Figure 1. Structure of assets of LLC "ATB-Market" for 2024

Source: developed by the authors

An analysis of the financial performance of ATB-Market LLC showed an overall increase in assets of 14.83% during the period under review. The value of assets increased by UAH 7,042,461.00 thousand, in particular due to a 17% increase in current assets, which indicates an improvement in the company's liquidity. The share of non-current assets in the overall structure decreased by 0.88%, which may indicate a change in the company's development strategy in favour of short-term projects or a limitation of financial resources. As for the dynamics and composition of liabilities, there was also a 14.83% increase, but at the same time, a 16.32% increase in equity indicates an improvement in the company's financial stability. A significant increase in current liabilities (by 17.11%) may

indicate a partial increase in the financial burden. In general, the company has faced certain changes in equity and an increase in current liabilities, which requires attention to debt management.

For a more detailed assessment of the financial condition of ATB-Market LLC for 2023-2024, a ratio analysis was performed, which included the calculation of key indicators of liquidity, solvency, profitability, and resource efficiency. These ratios allow for a comprehensive assessment of the financial health of the enterprise, identification of possible risks and determination of areas for improvement in management. The results of the analysis are presented in Table 3, which illustrates the strengths and weaknesses of the company's financial activities for the specified period.

Table 3. Ratio analysis of the financial position of ATB-Market LLC as of 2023-2024

Indicator	2023	2024	Absolute deviation	Growth rate, %
1. Analysis of the company's asset position				
Depreciation ratio of fixed assets	0.50	0.48	-0.02	-0.04
Fixed asset renewal ratio	0.50	0.51	0.01	0.02
2. Analysis of the company's liquidity and solvency				
Coverage ratio	0.66	0.67	0.002	0.00
Quick ratio	0.66	0.67	0.002	0.00
Absolute liquidity ratio	0.36	0.38	0.02	0.07
3. Analysis of the company's financial stability				
Financial autonomy ratio	0.11	0.10	-0.01	-0.11
Financial dependence ratio	9.30	10.41	1.11	0.12
Borrowed capital concentration ratio	0.20	0.17	-0.02	-0.12
4. Analysis of the company's profitability				
Return on assets	0.01	0.06	0.05	4.98
Return on equity	0.09	0.63	0.54	5.69
Return on sales	0.002	0.015	0.01	4.97

Source: developed by the authors based on Clarity Project (n.d.)

An analysis of the financial indicators of ATB-Market LLC for 2023-2024 revealed changes in the financial condition of the enterprise. Positive trends are observed in the improvement of the level of fixed asset utilisation and the growth of the absolute liquidity ratio. However, the decline in liquidity and profitability ratios indicates problems with solvency and the efficient use of the enterprise's assets. The decline in financial autonomy and the growth of dependence on external sources of financing require attention to ensure the stability of the enterprise.

The study confirmed that traditional methods – horizontal, vertical and ratio analysis – remain important tools, but their effectiveness increases significantly when using digital platforms and technologies (Power BI, ERP systems). This coincides with the conclusions of many scientists who focus on a hybrid approach to financial analysis. A study by D. Zelenyi (2025) confirmed that big data analytics significantly increases the effectiveness of management decisions due to the ability to process a large array of indicators in real time. The authors emphasised

that the use of big data not only speeds up the identification of trends but also allows for the formation of flexible management scenarios that take market changes into account. These results are consistent with the conclusions of the authors of this study, who also highlighted the increased effectiveness of financial analysis when using digital tools, in particular Power BI and ERP systems. Both works have proven the advantages of combining classical assessment methods with innovative technologies in financial management.

Regarding the application of big data technologies in financial analysis, H. Zhang *et al.* (2022) emphasised that these technologies allow for a comprehensive analysis of financial flows in real time, increasing the accuracy of forecasts and trend identification. The results of the study fully confirmed this, adding that, in combination with classical methods, big data helps to analyse the structure of assets and liabilities in greater depth. M. Al-Karkhi & G. Rządowski (2025) emphasised that for small and medium-sized enterprises, adapting traditional analysis methods to the digital age is key, and these methods should be complemented by modern tools to improve the effectiveness of financial forecasting. This emphasis on organisational culture differs from the focus of this study on technical aspects, but both approaches are important for successful digitalisation. The study by M.R. Hernández *et al.* (2024) examined the implementation of digital technologies for railway asset management based on dynamic criticality analysis. The authors demonstrated that digitalisation (through sensors, analytics and digital twins) can improve service efficiency and infrastructure reliability. This is consistent with the conclusions regarding the advantages of digital tools in financial analysis of enterprises, which also emphasise the role of technology in informed decision-making.

The importance of data security is emphasised by G. Huyen (2024), who studied the risks of processing financial information in cloud systems. This complements the understanding of the need for comprehensive protection when using AI and big data in financial analysis, although the technical details of security were not fully explored, which is an area for further work. In their work, researchers D. Zhang & B.M. Lucey (2022) focused on studying the impact of ESG indicators (environmental, social, governance) on the financial performance of companies. Based on their observations of companies, the authors found a positive impact of ESG activity on performance indicators such as return on assets (ROA) and return on sales (ROS). The authors noted that a high level of ESG practices not only improves access to external financing and reduces financial constraints, but also sends a positive signal to the credit market, increasing investor confidence. These conclusions echo the position of the authors of this article. Both studies emphasise the need to adapt financial analysis to the new challenges of sustainable development, strengthening the role of analytics as the basis for investment and management decisions.

In a study by C. Sung & J. Park (2021), the focus was on the use of blockchain for registering property rights and ensuring transparency in financial transactions, which reduces the risk of fraud and improves trust in financial reporting. These ideas correlate with the authors' vision of the digitalisation of financial management, emphasising the importance of the latest technologies in data protection. The study by K.Y. Cruzado Yesquén & E.A. Torres Salazar (2024) examined the use of Power BI to create interactive dashboards and conduct detailed analysis of financial indicators. The authors recommended using BI platforms to improve the efficiency and quality of financial analysis. An analysis of the financial indicators of ATB-Market LLC for 2023-2024 revealed changes in the financial condition of the enterprise. Positive trends are observed in the improvement of the level of use of fixed assets and the growth of the absolute liquidity ratio. However, the decrease in liquidity and profitability ratios indicates problems with solvency and the efficiency of the use of the enterprise's assets. The decline in financial autonomy and the growth of dependence on external sources of financing require attention to ensure the stability of the enterprise. In summary, the analysis of the research confirmed that the combination of classical analysis methods with innovative digital technologies – ERP, BI, AI, big data and blockchain – opens up new horizons for improving the effectiveness of financial management. The technical, organisational and ethical aspects of their implementation must be taken into account. All these factors underscore the dynamic nature of the development of financial analysis in the era of digitalisation.

Conclusions

The study analysed the main methods of assessing the financial condition of an enterprise, in particular horizontal, vertical and ratio analysis. The example of ATB-Market LLC confirmed that the comprehensive application of these methods allows obtaining a comprehensive picture of the company's financial condition and identifying key trends in the structure of assets, liabilities, liquidity and financial stability. During the study period, the total value of the enterprise's assets increased by 14.83%, which corresponds to an absolute increase of more than UAH 7 billion. A significant increase in current assets (by 17%) indicates an improvement in liquidity, which is a positive factor for operational activities. A slight decrease in the share of non-current assets (by 0.88%) may indicate a change in asset management strategy or restrictions on long-term investments. The structure of liabilities also saw an increase of 14.83%, with equity increasing by 16.32%, indicating an improvement in the enterprise's financial stability. At the same time, the 17.11% increase in current liabilities may indicate an increase in short-term debt burden, which requires careful management to avoid liquidity risks.

Ratio analysis showed that liquidity ratios improved slightly: the absolute liquidity ratio increased by 0.02 (from 0.36 to 0.38), indicating an improvement in the enterprise's

ability to quickly cover current liabilities. The fixed asset renewal ratio increased by 0.01, indicating moderate asset renewal. At the same time, the financial autonomy ratio decreased by 0.01, which may indicate an increase in dependence on external sources of financing. The most significant changes were recorded in profitability: the return on assets ratio increased fivefold, and the return on equity ratio increased more than sixfold, which is a positive indicator of the efficient use of resources. The results showed that a comprehensive approach to property assessment using innovative methods and digital tools increases the accuracy and speed of financial analysis, which is important for management decision-making. However, for maximum effect, it is necessary to take into account the specifics of the enterprise's activities and the influence of external economic factors. Further research plans to study

in more detail the impact of external macroeconomic conditions on the financial performance of retail enterprises, as well as to develop recommendations for optimising capital structure in an unstable market. In addition, the use of more complex forecasting models based on artificial intelligence to improve the accuracy of financial forecasts and risk assessment is promising.

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Conflict of Interest

None.

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Сучасні підходи до оцінки структури майна підприємства в умовах цифровізації бізнесу: інструменти, підходи та практичне застосування

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Анотація. Актуальність дослідження зумовлена зростаючою потребою у точному та оперативному фінансовому аналізі для прийняття ефективних управлінських рішень. В умовах цифровізації бізнесу особливо важливо інтегрувати класичні аналітичні підходи з новітніми технологічними рішеннями. Метою дослідження було узагальнення теоретичних основ, оцінка ефективності методів аналізу динаміки майна підприємства та визначення можливостей застосування сучасних цифрових інструментів у фінансовому обліку. У дослідженні було застосовано методи горизонтального, вертикального та коефіцієнтного аналізу, а також аналітичні функції табличних і візуалізаційних програм. За допомогою зазначених методів проаналізовано структуру та динаміку активів і пасивів підприємства, обчислено ключові фінансові коефіцієнти та здійснено порівняння результатів у різних часових зрізах. Встановлено, що горизонтальний аналіз дозволяє виявити тренди змін у майновому стані підприємства, тоді як вертикальний аналіз дає змогу оцінити структурні пропорції активів і пасивів. Проаналізовано вплив коефіцієнтів ліквідності, прибутковості та рентабельності на загальну фінансову стійкість. Визначено ефективність застосування таких цифрових інструментів, як Power BI та системи планування ресурсів підприємства (ERP) для автоматизації аналітики, побудови динамічних звітів та оперативного моніторингу показників. Розроблено прикладне рішення для комплексного аналізу фінансової звітності на прикладі реального підприємства, що дозволило продемонструвати інтегроване використання кількох методів для глибшого аналізу. Практична цінність полягає в можливості застосування результатів дослідження фінансовими аналітиками, бухгалтерами та менеджерами для прийняття обґрунтованих управлінських і інвестиційних рішень, а також для підвищення ефективності фінансового планування підприємства.

Ключові слова: оцінка активів; динаміка пасивів; метод горизонтального аналізу; метод вертикального аналізу; система коефіцієнтного аналізу; цифрові інструменти фінансової аналітики; інтерпретація фінансових коефіцієнтів