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ECONOMIC CONTENT AND CONSEQUENCES OF DIGITAL ANALYSIS OF THE RETAILER'S FINANCIAL CONDITION

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ЕКОНОМІЧНИЙ ЗМІСТ І НАСЛІДКИ ЦИФРОВОГО АНАЛІЗУ ФІНАНСОВОГО СТАНУ РИТЕЙЛЕРА

The article examines the role of digital technologies in the transformation of the system of analysis of the financial state of retailers' activities. It was determined that digital analysis becomes a key tool of modern management, which allows you to quickly, accurately and visually assess financial and economic activity, identify risks, predict results and make informed decisions. Digitalization of financial analysis contributes to the integration of ERP, CRM and BI systems, automation of data processing, increased transparency of processes, as well as ensuring strategic flexibility of retailers.

The paper analyzes the advantages of using individually developed programs for the analysis of financial data, which provide better adaptation to changes in legislation and are more economically beneficial for business. Modern digital tools that are actively used in Ukrainian retail are considered, and the importance of digitalization in the context of European integration processes is also emphasized. Based on the results of the study, the authors improved the economic content of the category "digital analysis of the retailer's financial condition".

At the same time, typical challenges arising in the process of digitalization of financial analytics are outlined, in particular: the need for a high level of digital literacy of personnel, the difficulty of integrating data from various sources, cyber security risks, dependence on third-party technological solutions. Emphasis is also placed on the need to adapt analytical methods to the conditions of constant changes in market and regulatory environments.

Based on the conducted analysis, a number of practical recommendations are proposed: implementation of flexible digital solutions, investment in analytical competencies of personnel, development of own software products for analysis, improvement of cyber protection and improvement of accuracy and timeliness of financial reporting. Prospects for further research consist in the development of innovative models of digital financial analysis, the study of the impact of Big Data and AI on forecasting the results of retailers' activities, as well as in evaluating the

effectiveness of digital transformation of management decisions in the field of trade.

У статті досліджено роль цифрових технологій у трансформації системи аналізу фінансового стану діяльності ритейлерів. Визначено, що діджитал-аналіз стає ключовим інструментом сучасного управління, який дозволяє швидко, точно та візуально оцінювати фінансово-господарську діяльність, виявляти ризики, прогнозувати результати і приймати обґрунтовані рішення. Цифровізація фінансового аналізу сприяє інтеграції ERP-, CRM- та BI-систем, автоматизації обробки даних, підвищенню прозорості процесів, а також забезпеченню стратегічної гнучкості ритейлерів.

У роботі проаналізовано переваги застосування індивідуально розроблених програм для аналізу фінансових даних, що забезпечують кращу адаптацію до змін законодавства та є економічно вигіднішими для бізнесу. Розглянуто сучасні цифрові інструменти, які активно використовуються в українському ритейлі, а також підкреслено значення діджиталізації в контексті євроінтеграційних процесів. Автори за результатами дослідження удосконалили економічний зміст категорії "цифровий аналіз фінансового стану ритейлера".

Разом із тим, окреслено типові виклики, що виникають у процесі діджиталізації фінансової аналітики, зокрема: потреба у високому рівні цифрової грамотності персоналу, складність інтеграції даних із різних джерел, ризики кібербезпеки, залежність від технологічних рішень сторонніх розробників. Також акцентується на необхідності адаптації аналітичних методик до умов постійної зміни ринкових та регуляторних середовищ.

На основі проведеного аналізу запропоновано низку практичних рекомендацій: впровадження гнучких цифрових рішень, інвестування в аналітичні компетенції персоналу, розробка власних програмних продуктів *для аналізу, удосконалення кіберзахисту та підвищення точності і своєчасності фінансової звітності. Перспективи подальших досліджень полягають у розробці інноваційних моделей цифрового фінансового аналізу, дослідженні впливу Big Data та AI на прогнозування результатів діяльності ритейлерів, а також в оцінці ефективності цифрової трансформації управлінських рішень у сфері торгівлі.*

Keywords*: digital analysis, financial condition, retailer, big data, digital transformation, financial sustainability, CRM systems, financial analytics.*

Ключові слова: *цифровий аналіз, фінансовий стан, ритейлер, великі дані, цифрова трансформація, фінансова стійкість, CRM-системи, фінансова аналітика.*

Formulation of the problem in a general form and its connection with important scientific or practical tasks. Digital transformation is affecting all sectors of the economy, significantly changing approaches to doing business and assessing its financial condition. Retail is one of the most dynamic industries that is rapidly adapting to digital innovations, such as e-commerce, automation of accounting processes, the use of artificial intelligence and big data analytics. In this environment, traditional financial analysis methods need to be adapted to new realities to ensure an objective assessment of retailers' performance. Today, when a permanent technological process is being formed under the influence of digital technologies, digital analysis and digitalization of its data are becoming an integral part of the country's economic, social and political development. The continuous development of the organization of digital processes is becoming not only a trend, but also a condition for ensuring competitiveness at the state level. This is especially important in the context of Ukraine's accession to the European Union, as data digitization is one of the conditions for membership. Retail is currently developing rapidly, and in its activities it mainly uses purchased data digitization programs. Many scientists argue, and practice shows, that the use of in-house developed applications for digitizing analysis data is more profitable and cheaper to maintain. The need to study the problems of digitalization in the retail business is due to the fact that the use of manual analysis methods in practice is a laborious process - digitized data form a single database of indicators that can be used, regrouped, determine the impact of factors, etc. at any time.

Analysis of recent research and publications. The issues of digital financial condition and digitization of financial analysis data have been studied by scientists, in particular: Karpenko O., Kuibida V., Kutsepal S., Namestnik V., Nikitin Y., Mikhrovska M., Tyshchenko D., Yakushko I., Chernev O., Fishchuk A., Mikalef P., Parmiggiani E., Gradillas M., Llewellyn D., Komarčević M., Kraus S., Verina N., Titko J., etc. Their works are mostly limited to interpretation, goal setting, and setting tasks that can be achieved by digitalizing (digitizing) data for the purpose of further analysis and calculation of analytical indicators. Scientists thoroughly analyze the advantages and prospects of using the digitization method in business. The following issues remain unresolved today: the legal and regulatory framework for the organization of digital transformation is not fully improved; the authors have different approaches to the issue of costly maintenance of digital transformation, which further affects the formation of the theoretical essence of this concept and the formation of its structural and information model.

Formulation of the objectives of the article (statement of the task). The aim of the study is to disclose the theoretical content of digital analysis of the retailer's financial condition, identify the key characteristics and advantages of this approach compared to traditional methods, which will ensure improvement of its definition as an economic category based on improving its definition. The task is also set to show the practical significance of digital analysis for ensuring effective financial management of a retailer in the context of digital transformation of the market and building its structural and information model.

Presentation of the main research material with full justification of the obtained scientific results. In the current conditions of business digitalization, a key factor in the success of an enterprise is a timely and accurate assessment of its financial condition. This is especially true for retail businesses, where the dynamics of changes in financial indicators is extremely high, and the competitive environment requires quick and informed decisions. Digital analysis allows not only to automate the processes of collecting and processing financial data, but also to improve the quality of management decisions through the use of modern analytical tools and technologies. Understanding the economic content of digital analysis of the financial condition of an enterprise is a prerequisite for effective financial management and sustainable development in a market environment.

The analysis of the conducted scientific research has shown that the issues of digital financial analysis have been considered in the works of domestic and foreign scholars (table 1).

The conducted analysis of research in the field of digital transformation of business processes made it possible to generalize and distinguish separately the digital analysis of the retailer's financial condition as a subtype of the process of digitization of data. We consider it necessary to emphasize that digital analysis of the retailer's financial condition is a comprehensive use of digital technologies by the retailer in order to increase the efficiency and productivity of the economic analysis of its financial condition, which is ensured by an appropriate level of cybersecurity and a reliable information security system.

Such a definition will provide a more accurate understanding of the digital analysis of the retailer's financial condition and will allow to clearly define its main goals, objectives, and functions.

Table 1. Analysis of research in the area of digital transformation of business processes

Author.	Issues related to the digital transformation of business processes were resolved
Nikolaychuk V., Bondar V.	The authors have formed a definition. Digital transformation is the process of using digital technologies to improve business efficiency and productivity. It has been proven that digital technologies, such as cloud services, the Internet of Things (IoT), artificial intelligence (AI), and blockchain, can help companies optimize business processes, improve the quality of products and services, attract new customers, and increase profits [1].
Kelly P.	The author emphasizes that the use of seamless digital experiences ensures that an organization can remain relevant, useful, and accessible to citizens in the future. Without a concerted effort when it comes to digital transformation, an organization can easily become stagnant [2].
Kuibida V, Karpenko O., Namestnik V.	The authors consider digital transformation as changes in the nature of a person, his/her thinking, life and management caused by the use of digital technologies. Digital transformation can be defined as a radical transformation of the management activities of public authorities through the use of digital technologies. Examples of such digital transformations may include digital technologies or integrated solutions such as mobile applications or smart devices (Internet of Things) that facilitate the provision of quality services. The digitalization of public administration is a leapfrog process of digital transformation of public administration to digital governance (digital management) - “a service-oriented organization of the public administration system based on digital technologies” [3].
Komarčević, M., Dimić, M.,& Čelik, P.	The authors conclude that digital transformation is completely changing the way we do business, organize labor, access to the market, management models of companies and organizations, customer relations, and the way we create value within the company. The use of new digital technologies generates profound and far-reaching changes in the field of labor and employment, social policy and employee protection, etc.
Mikhrovskaya M.	The author notes that all three terms (digitization, digitalization, and digital transformation) describe processes that take place within the public administration system and lead to significant changes with the help of digital technologies. The difference between them lies in the nature of these changes. Digitization refers to the transition from paper-based to paperless workflow. Digitalization involves the automation of most processes in the field of public administration for convenient and fast communication between the state and the citizen. In the case of digital transformation, it is a transition to a new level of mutual understanding between the state and the citizen, which emphasizes not only the speed and accessibility of bilateral communication, but also the observance of human and civil rights and freedoms [5].
Saprykin V.	The digital transformation of public administration is a process of significant change in the system and processes of public administration using digital technologies. It is important to note that the digital transformation of public administration is user-oriented, i.e., it is human-centered and focuses on improving the convenience and quality of public services for citizens. The main goal of this approach is to provide efficient and accessible services for each individual user using modern digital technologies [6].

Source: compiled by the authors based on [1-6].

The financial condition of an enterprise is a complex concept that is the result of the interaction of all elements of the system of financial relations of an enterprise, is determined by a set of production and economic factors and is characterized by a system of indicators that reflect the availability, allocation and use of financial resources [7]. The financial condition of an enterprise depends on the results of its production, commercial, financial and economic activities. Therefore, it is influenced by all types of enterprise activities. First of all, the financial condition of an enterprise is positively affected by the uninterrupted production and sale of high-quality products. The carried out analysis of scientific literature made it possible to summarize the main indicators on which the assessment of the financial condition of the retail business enterprise is based, as indicated in table 2.

Table 2. Key indicators for assessing the financial condition of a retail business enterprise

Name of the indicator	Purpose of the indicator
Inventory Turnover Ratio	an indicator of the speed of sales of inventory, which allows you to assess the effectiveness of work with warehouse balances
Gross Margin	determines the profitability of the main activity of the enterprise
Current Ratio, Quick Ratio	important for assessing the ability to cover short-term liabilities in a timely manner
Net Profit Margin	Means net profit from each hryvnia of revenue
Turnover of receivables and credentials	especially important for chain retailers working with deferred payments

Source: compiled by the authors based on [8,9]

The analysis of these indicators helps to determine the overall level of the company's financial condition, assess the risks of bankruptcy, or identify reserves for improving performance. It is particularly important for retail businesses to have a stable financial position, as they operate in an environment of intense competition, changing consumer preferences, and frequent need for investment to update their product range and service formats. Given the specifics of retail, digital financial analysis makes it possible to monitor key indicators, detect deviations from the plan in time, and respond quickly to changes in the market situation.

Digital transformation is fundamentally changing the retail industry. E-commerce is becoming dominant: A total of 2.71 billion people around the world now make online purchases on specialized e-commerce platforms or social media. This means that 33% of the world's population buys online, which is 2.7% more than last year. In 2025, the number of online shoppers will increase to 2.77 billion due to further development of e-commerce, greater Internet penetration and ease of shopping [10]. In this context, retail companies are introducing new technologies (Big Data, artificial intelligence, CRM, ERP) to manage their business. The economic content of the digital analysis of the financial condition of a retail business enterprise is an in-depth study of the company's financial position using digital technologies (Big Data, AI, CRM, ERP). The authors consider it necessary to highlight the main elements of digital analysis: content and economic function (table 3).

Table 3. Content and economic function of digital analysis of the financial of the retail business enterprise

Component	Contents	Economic function
Big Data	Collecting and processing large amounts of data (sales, inventory, customers)	Forecasting, minimizing costs
AI	Automatic analysis and forecasting of demand, costs, and risks	Quick solutions, optimization of business processes
CRM systems	Data on customers, their behavior, and purchase preferences	Personalize sales, increase revenue
ERP- systems	Integration of finance, logistics, and HR into a single system	Improving financial control and transparency
BI- analytics	Real-time visualization of financial indicators	Effective decision-making
Predictive analytics	Predicting financial results using models	Reducing risks and optimizing budgeting

Source: compiled by the authors based on [11-17]

The authors note that the digital analysis of the retailer's financial condition is described by the following aspects and provides the following opportunities (fig. 1).

This allows you to create flexible business models and quickly respond to market changes. Digital analysis opens up new opportunities for retail businesses to improve the efficiency of financial management and operational activities.

Thanks to the implementation of modern digital solutions, financial analysis becomes not only faster and more accurate, but also deeper in content.

The authors have formed the main advantages of digital analysis for retail business in the form of a flowchart (fig. 2).

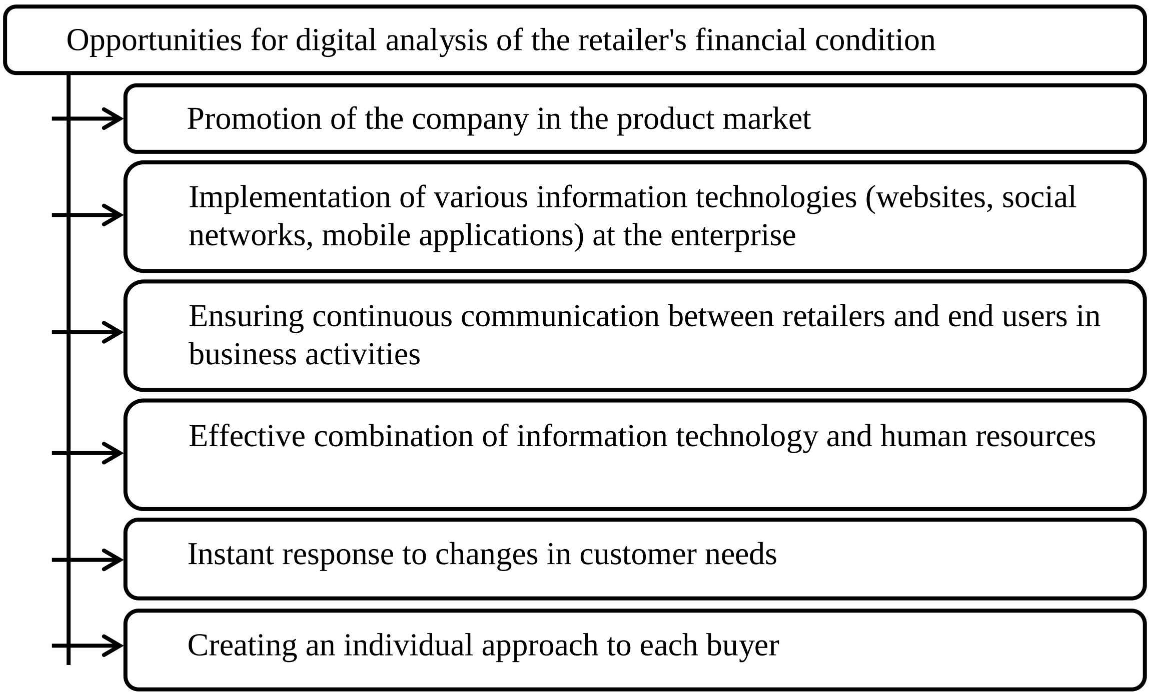

Fig 1. Systematization of digital analysis capabilities of the retailer's financial condition

Source: author's development

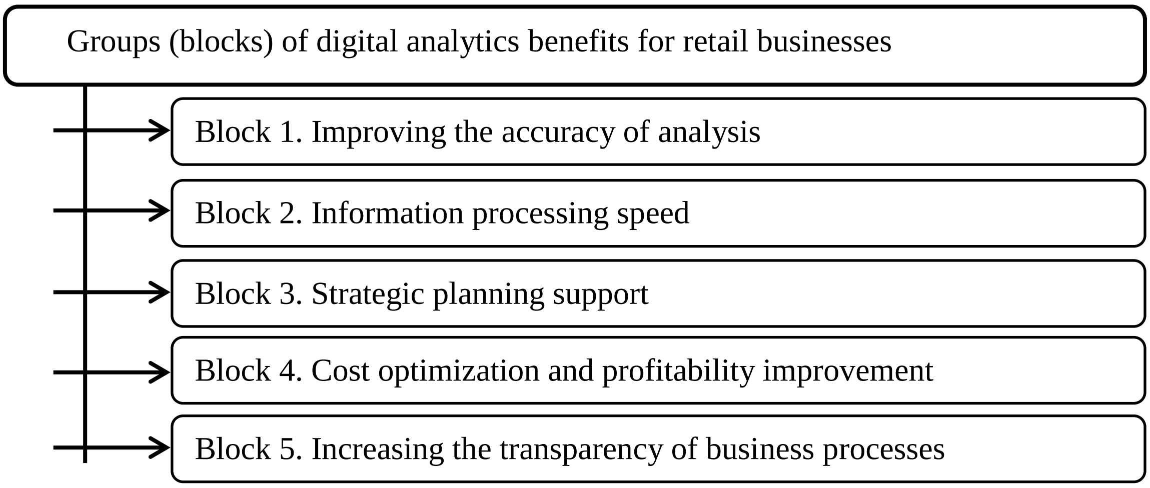

Fig. 2. Summary of the benefits of digital financial analysis for retail businesses

Source: compiled by the authors based on [18]

The practical use of digital analysis in financial management of retail businesses allows achieving better results in both the short and long term, in particular:

- using digital analysis of financial and operational data, it is possible to compare the results of individual stores by key indicators: sales volumes, profitability, inventory turnover. This allows you to timely identify both the most successful outlets and those that require operational changes in strategy or cost optimization;
- digital analysis tools allow you to quickly determine which product groups or specific products provide the greatest profit, and which ones create costs and "freeze" working capital. This helps to optimize the assortment, focusing on the most profitable positions;
- using historical sales data, forecasting algorithms allow you to estimate future demand;
- thanks to digital systems, it is possible to quickly track incoming and outgoing cash flows, detect payment delays, and plan the need for short-term financing;
- automatic monitoring of financial transactions and non-standard deviations in data helps to more quickly identify possible facts of embezzlement, unauthorized discounts, or other violations of financial discipline.

We would like to draw your attention to the fact that the use of digital analysis of a retailer's financial condition in practice is characterized by such advantages as: the ability to obtain instant analysis results; convenience and direct data analysis; ease of tracking the analysis sequence; mass communication between users; the availability of mobile payments. The authors also emphasize that there are also disadvantages, in particular: certain issues of information confidentiality, difficulties in navigation, etc.

In today's conditions of an unstable economic environment, globalization processes, military operations, and digital transformation of business, financial analysis of retailers is taking on new forms. Traditional methods of accounting and assessing financial condition are gradually being supplemented or replaced.

In table 4, the authors summarize the key aspects of digital analysis of the financial condition of retail enterprises, taking into account the main challenges facing them and modern economic realities.

Table 4. Key aspects of digital analysis of a retailer's financial condition

Category	Aspect / Challenge	Economic content
Technological innovations	Integration of modern technologies	Using analytics, artificial intelligence, and machine learning to deeply analyze financial metrics, assess cost efficiency, and forecast profits.
Digitalization	Transition to digital control systems	Implementation of ERP, CRM, BI systems; automation of reporting; formation of a database for quick access to financial data in real time.
Adapting to change	Rapid market changes, war, inflation	Should include scenario analysis, flexible budget planning, digital cost optimization, and financial sustainability monitoring.
Competition and profitability	Maintaining profitability in a competitive environment	Analysis of financial statements by region/store; calculation of break-even points; digital comparison of divisional performance.
Personalization and customer data	Analysis of demand, changes in consumer behavior	Combining financial indicators with customer data to analyze segment profitability, optimize product assortment and pricing policy.
Environmental policy	New ESG requirements, sustainable development	Inclusion in the model of indicators of energy consumption, environmental costs, investments in "green" initiatives that affect financial reporting.

Source: compiled by the authors based on [19-21]

The conducted scientific research made it possible to summarize the above and form a general structural and information model of the stages of digitization of the analysis of the financial condition of a retailer. We propose to form the latter from three blocks (fig. 3).

According to such a model, it is possible to form a system of indicators, each of which will characterize the level of digitalization of the retail enterprise. The selected elements of the model will make it possible to isolate the main components of the information load. Thus, the use of the proposed model will allow to effectively use the digital system of indicators for the purpose of analyzing the financial condition.

Digital analysis of the financial condition of a retailer covers many aspects - from the implementation of innovative technologies to adaptation to macroeconomic and security threats. Digitalization allows not only to automate financial accounting processes, but also to significantly increase the level of analytical data processing, which is critically important for ensuring the stability and profitability of the enterprise in conditions of high competition and uncertainty.

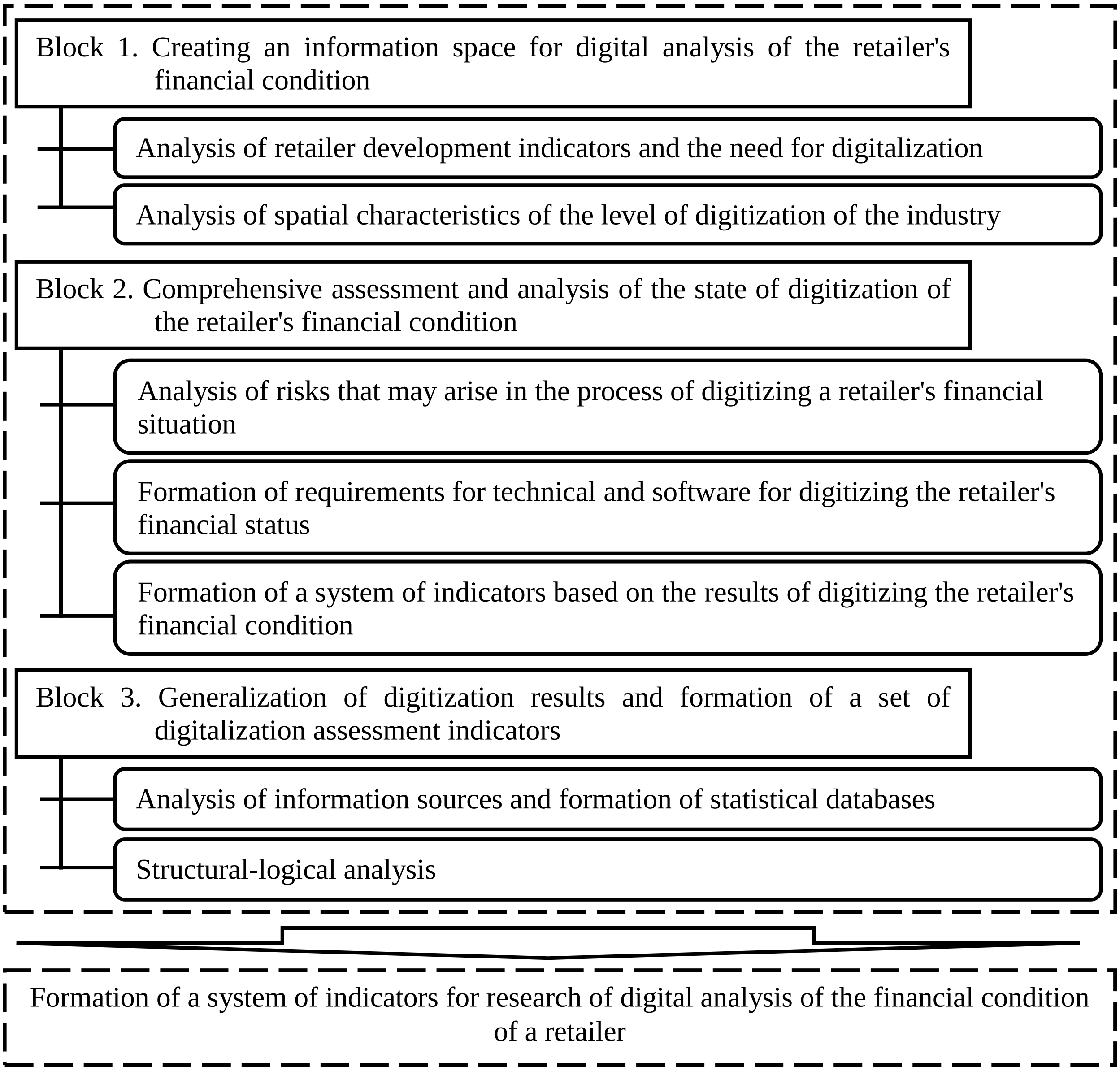

Fig. 3. Structural information model of the stages of digitization of the analysis of the financial condition of a retailer

Source: author's development

Thus, digital analysis provides retail enterprises not only with tools for controlling financial indicators, but also with powerful tools for increasing their operational efficiency, profitability, and adaptability to changes in the market environment.

These issues are especially relevant in the context of Ukraine's aspiration for European integration, where digitalization is not only a trend, but also a requirement for competitiveness. That is why the development of a structural and information model for digital analysis of the financial condition of a retailer is a necessary stage in ensuring effective management of enterprises in the industry. Figure 3 presents a structural and information model of the stages of digitization of the analysis of the financial condition of a retailer, which reflects the phased logic of forming a digital approach to the analysis of financial indicators in retailThis model allows for a systematic, logically structured and scientifically based approach to digital analysis, ensuring the effectiveness of retailer financial management in conditions of high market dynamics. It is a universal tool for both scientific research and practical implementation at retail enterprises.

Conclusions from this study and prospects for further research in this direction. Digital analysis of the financial condition of retail enterprises is an integral part of modern management. It allows for rapid assessment of financial performance, identification of risks, making informed decisions and formulating development strategies based on real data. Thanks to the use of digital technologies, retail enterprises gain access to tools that provide:

- speed of processing and analysis of large volumes of financial information,
- increasing the accuracy of financial indicator assessment,
- timely detection of negative trends,
- flexible planning of future activities,
- cost optimization and increasing the efficiency of resource use.

The specifics of retail business, such as a large number of transactions, the speed of goods turnover and dependence on seasonal fluctuations, require special attention to financial analysis. It is the digital approach that allows retail companies to adapt to market changes, satisfy customer demands and maintain competitive advantages in a dynamic environment. In the future, the importance of digital analysis will only grow, making it an important tool for all enterprises focused on stable development and successful operations.

It is the digital approach that provides a qualitatively new level of financial management, integrating analytical platforms, cloud services, BI systems, artificial intelligence and machine learning algorithms. This allows not only to record the financial condition of the enterprise at a certain point in time, but also to build forecasting models, identify patterns in customer behavior, optimize inventory, cost structure and investment decisions.

In addition, digital financial analysis opens up opportunities for creating interactive dashboards that provide managers with visualized information in real time, which increases management transparency and reduces the risk of strategic errors.

In the future, the importance of digital analytics will only grow — both against the backdrop of the general digitalization of the economy and due to the increase in the amount of data generated by businesses. This makes digital analytics an important strategic tool for all retail businesses focused on sustainability, efficiency, customer focus, and competitive advantage in a highly competitive environment.

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