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Transformation of Professional Competencies of Financial Analysts in the Era of Artificial Intelligence: Impact on Companies' Competitiveness and the Effectiveness of Financial Decision-making

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Abstract

The article examines the transformation of professional competencies of financial analysts in the context of the digitalization of the economy and the active implementation of artificial intelligence technologies in corporate governance systems. The study analyzes changes in the structure of financial functions, the transition to a data-driven decision-making model, and proposes a structured Finance-AI Hybrid Competency (FAHC) framework that systematizes four interdependent competency pillars: financial-economic expertise, digital-technical proficiency, analytical-strategic capability, and cross-functional collaboration. Evidence from U.S. and global companies shows that the development of digital skills improves forecasting, resource allocation, and risk management, making the professional training of finance specialists a strategic factor in competitiveness, investment attractiveness, and resilience under market uncertainty.

Keywords: Artificial intelligence, Professional competencies, Financial analysts, Corporate governance, Companies' competitiveness, Decision-making effectiveness.

1. Introduction

The current stage of economic development is marked by large-scale digitalization of business processes and the growing integration of artificial intelligence (AI) into corporate governance systems. At the organizational level, the financial function is transforming from being simply a tool for accounting and control to becoming a tool for analysis that enables strategic decision-making through massive data processing. Such transformations in the field of financial analysts require the development of new professional skills in areas such as computer programming using tools such as Python, SQL, Power BI, and machine learning algorithms.

This change has particular implications for the United States, which has a financial services sector that contributes 7.4% to the country's GDP and faces new opportunities and challenges from the adoption of AI technologies. According to the United States Bureau of Labor Statistics, the employment of financial analysts is expected to rise by 9% in 2032, but the results of industry surveys indicate that the gap between the required and existing skills is increasing. Hence, the relevance of the study cannot be attributed only to theoretical interest, but also to the need for addressing the widening gap with the aim of maintaining competitiveness in the financial services sector.

The purpose of this article is to examine how AI is reshaping competency requirements for financial analysts and how these changes affect managerial decision quality and company financial performance. The study analyzes key directions of finance digital transformation, proposes a Finance-AI Hybrid Competency (FAHC) framework, and links digital skill development to more valid, accurate, and timely decisions, supported by U.S. labor market data and corporate case studies.

2. Main part

2.1. Digitalization of the financial function and the implementation of AI technologies

The digitalization of the financial function is a natural stage in the evolution of corporate governance within the digital economy. The growing velocity and volume of available data, together with the rising complexity of transactions, necessitate a move away from traditional analysis and towards automated systems, sophisticated analytical tools, and AI algorithms.

According to a 2025 **KPMG** survey of 2,900 CFOs and finance leaders across 23 countries, 71% of companies use AI in financial operations, with 41% applying it at a moderate or significant level, indicating both widespread adoption and varying degrees of integration (Fig. 1).

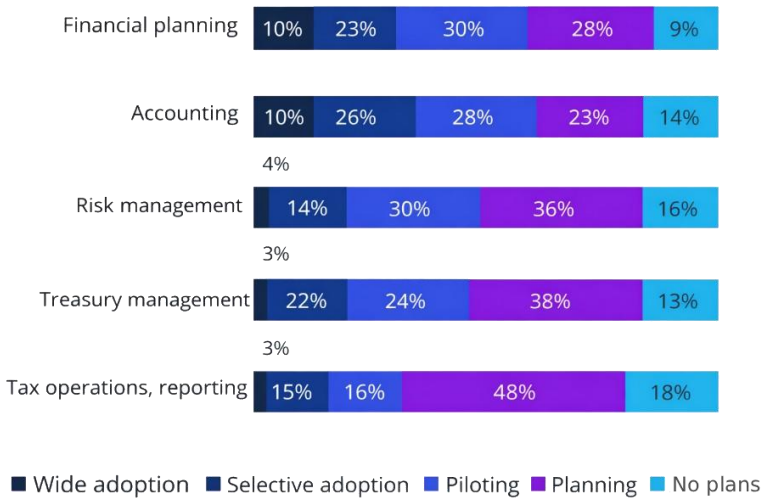

Fig. 1: Advancements in the application of AI in the financial function [1]

The implementation of AI in corporate finance spans financial planning, accounting, risk management, treasury operations, and tax reporting, as shown by the adoption levels in the figure. As a result, the financial function is shifting from retrospective analysis toward predictive and prescriptive analytics.

These changes also reshape finance department structures through the emergence of a **Data-Driven Finance model**, in which decisions rely on internal data, macroeconomic indicators, and behavioral factors [2]. Financial analysts are more often required to work as a team with specialists from IT, data, and strategy departments, while routine work is performed by computers and focus is on interpreting models, scenarios, and strategic alternatives evaluation. Therefore, digitalization and AI are not just upgrading financial tools, but redefining corporate finance as a governance system based on information technologies.

2.2. Evolution of professional competencies of financial analysts under digital transformation

The digitalization of the financial function has led to qualitative changes in the professional profile of the financial analyst. Whereas competencies in accounting, financial analysis, budgeting, and investment project evaluation previously dominated, the integration of AI and big data analytics has rendered these skills insufficient to ensure a company's long-term strategic sustainability [3]. The transformation of competencies is systemic in nature and reflects a shift from the traditional model of the "financial controller" toward the model of a "data-driven analyst and strategic business partner."

A key aspect of this transformation is the **expansion of digital and technical competencies.** Modern financial analyst is expected to know how to program using tools such as Python and SQL, in addition to business intelligence tools such as Power BI and Tableau.

The shortage of digital skills is further reinforced by the results of the 2025 AICPA & CIMA survey "Future-Ready Finance," which gathered information from 1,446 finance professionals. The report highlights the structural gap in technological and analytical competencies, with 37% of the surveyed finance professionals citing broader technological skills as a major gap (Fig. 2).

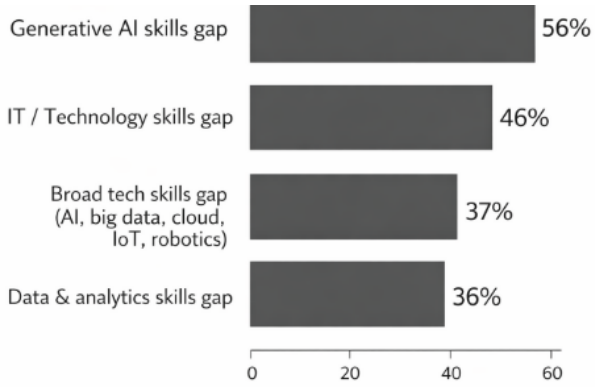

Fig. 2: Identified skill gaps in the finance profession (AICPA & CIMA, 2025) [4]

The findings confirm that the digital transformation of finance is driving a lasting shift in professional requirements toward technological and analytical competencies. The reported indicators show that these skill gaps are systemic and that the targeted development of digital capabilities is essential for improving the effectiveness of modern financial activities.

Another key feature of this process is the development of **analytical and strategic capabilities.** The specialists must be able not only to use the tools of analysis but also interpret the results correctly, understanding the limitations of the models and taking into account the macroeconomic and industry environment. Critical thinking, scenario analysis, and risk assessment become more critical, and financial analysts begin to perform the role of mediators between experts and managerial staff.

Quantitative evidence supporting this trend is provided in the **AICPA & CIMA report** (2025), based on a survey of 185 management accounting professionals from 15 countries and 15 industries (Fig. 3).

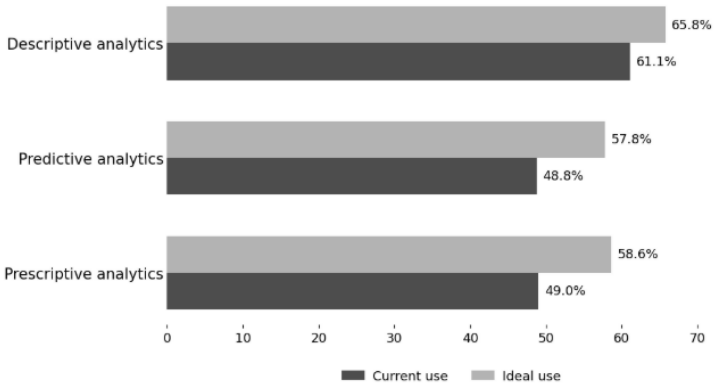

Fig. 3: Current and ideal use of descriptive, predictive, and prescriptive analytics (AICPA & CIMA, 2025) [5]

In this study, current use refers to the actual application of analytical tools at the time of the survey, while ideal use reflects the level respondents believe is needed to improve decision-making and finance function effectiveness. The findings highlight the growing importance of analytical and strategic competencies that go beyond data processing to result interpretation in a managerial context.

The FAHC framework is emerging as a response to these structural demands. Based on the synthesis of labor market information and practitioner survey results, in this study, the author introduces and conceptualizes the Finance-AI Hybrid Competency (FAHC) framework as an original integrative model with four interdependent pillars: (1) financial-economic knowledge – proficiency in corporate finance, valuation, and accounting principles; (2) digital-technical knowledge – proficiency in Python, SQL, Power BI, and cloud-based planning tools; (3) analytical-strategic knowledge – ability to effectively interpret model results, perform scenario analysis, and translate analytical findings into managerial decisions; and (4) cross-functional collaboration – ability to work effectively within an interdisciplinary team with IT experts, data analysts, and business strategists.

This structure is differentiated from past models of competency by its assumption that all of its four pillars are mutually supportive and that deficiencies in any one of them will affect performance in all the others. It thus proposes an architecture for competency interdependence as a risk mitigation strategy, where the absence of one pillar undermines not just individual competency but also the integrity of financial controls within an organization. Unlike traditional models that view digital skills as secondary to financial expertise, the FAHC framework treats digital-technical proficiency as inseparable from financial-economic competence.

Labor market data strongly support the practical relevance of this model. For instance, **Robert Half** reported that, based on an analysis of more than 1.5 million job advertisements in the United States, 181,600 job openings were posted in the finance segment in 2025, with business analysts and financial analysts making up more than half of those positions. Among the most sought-after competencies, employers highlighted data and business analytics, data visualization, and Power BI [6].

Similarly, PwC's 2025 Global AI Jobs Barometer, based on nearly one billion job postings and thousands of corporate reports across six continents, shows sustained growth in demand for

AI-related skills. In 2024, postings requiring such competencies rose by 7.5%, even as total vacancies fell by 11.3%, with Financial Services among the early leaders [7]. The report also found that employees with AI skills earn on average 56% more than those without them, indicating that the labor market increasingly rewards the combination of traditional financial expertise with data analytics, AI, and digital competencies.

Thus, the evolution of financial analysts' professional competencies represents a logical response to the digital transformation of the economy and strengthens their role in shaping informed and effective managerial decision-making.

2.3. Impact of the transformation of financial analysts' competencies on the effectiveness of financial decision-making

The transformation of financial analysts' competencies has a systemic impact on financial decision-making across corporate governance levels. The expansion of digital and analytical skills improves the accuracy, timeliness, robustness, and risk sensitivity of managerial decisions, while intelligent automation platforms, including no-code solutions, facilitate the integration of analytical tools into routine workflows [8].

In an uncertain and volatile market, the ability to combine different data sets, use advanced analytics, and critically think about the results of the models becomes an important factor in improving financial management performance (Table 1).

Table 1: Impact of competency transformation on financial decision effectiveness [9, 10]

Competency development area	Changes in professional practice	Impact on financial decision-making
Proficiency in data analysis tools (Python, SQL, BI platforms).	Automation of calculations and reporting processes.	Reduced decision preparation time.
Application of predictive and prescriptive analytics.	Use of forecasting models and scenario analysis.	Improved forecast accuracy and budgeting quality.
Big data processing capabilities.	Identification of hidden patterns and anomalies.	Enhanced risk management effectiveness.
Development of analytical-strategic competencies.	Interpretation of model outputs and assessment of limitations.	Greater substantiation of investment and financial decisions.
Integration of macroeconomic and industry factors.	Comprehensive assessment of the external environment.	Reduced strategic uncertainty.

As the provided directions illustrate, the development of digital and analytical skills enables the transition of financial management from the retrospective approach of control into proactive, data-based, and scenario-based decision-making. The accuracy of forecasting, the

speed of processing information, and the strength of managing risk are the factors contributing to the efficiency of managing resources and the overall financial stability. Hence, the transformation is not only technological but also structural in the position of the financial analyst.

2.4. Development of financial analysts' competencies as a factor of corporate competitiveness

In the digital economy, the level of professional training of financial analysts has emerged as a significant factor in organizational competitiveness. According to **Deloitte's Finance Trends 2026 report**, based on a survey of 1,326 finance leaders from companies with revenues above $1 billion: 57% see themselves as central to corporate strategy; 30% focus on advanced scenario planning; and 25% use AI-based insights for decision-making [11]. Moreover, 40% refer to AI and automation technologies for bridging productivity gaps; 39% refer to the need for specialized training; hence, digital and analytical scenario planning capabilities are turning into a structural necessity for organizational flexibility and strategic resilience.

The impact of these competencies on competitiveness is evident in U.S. companies, where digital finance transformation leads to measurable performance gains. For example, **H&R Block** reduced its forecasting cycle from several weeks to 9 days after implementing digital planning tools, while also improving headcount planning accuracy [12]. According to the company's finance leadership, the time saved allowed the team to focus on process efficiency, cost savings, and stronger business collaboration, illustrating how digital and analytical competencies shift financial analysts from routine tasks to operational and financial optimization roles.

A similar trend is observed in **Denny's**, which, after adopting a new cloud-based financial planning model and enhancing FP&A analytics, was able to increase the number of formal forecasts from 5 to 12 annually, reduce the budget cycle by 25%, and expand what-if scenarios by 60%, while also cutting new scenario preparation time from 3 days to several hours [13]. In this case, around 100 cost center owners were granted access to detailed financial information. This example shows that stronger analytical competencies enable not only faster calculations but also a more adaptive resource management model based on deeper analysis and a wider range of scenarios.

Therefore, the development of financial analysts' competencies contributes to corporate competitiveness not only through better individual decisions, but also through the transformation of corporate governance structures [14]. Thus, corporations benefitting from investing in scenario modeling, digital planning, advanced analytics, and collaboration have an edge in forecasting, budget control, and flexibility in dealing with uncertainty through hybrid human capital in finance and digital.

2.5. Practical implementation implications of the FAHC framework

The FAHC framework is not solely a descriptive model – it is designed to support structured enterprise adoption. Implementation proceeds through three sequential phases.

In the **diagnostic phase**, organizations assess current workforce capabilities against the four FAHC pillars using structured competency audits, identifying priority gaps by role and

function. This stage produces a baseline readiness score that enables targeted rather than generic upskilling investment.

During the **development phase**, specific learning paths are utilized: technical training in Python, SQL, and BI tools supports Pillar 2; scenario planning workshops and model interpretation seminars develop Pillar 3; and cross-functional projects strengthen Pillar 4. Specific key performance indicators related to forecast cycle time, scenario throughput, and error rate reduction serve as benchmarks for progress.

In the **integration phase**, FAHC-aligned professionals are embedded within cross-functional decision-making teams, where their combined financial and digital proficiency directly influences planning quality and strategic responsiveness.

The corporate evidence reviewed in this study – including cycle time reductions from several weeks to 9 days at H&R Block and a 25% compression in annual budget cycles at Denny's – illustrates the magnitude of performance gains achievable through effective FAHC integration. These outcomes represent predictable results of systematic competency development and provide a replicable template for organizations seeking to address the workforce capability gaps identified by KPMG, AICPA & CIMA, and PwC, with improvements observed in forecasting cycle time, scenario planning throughput, and cross-functional decision quality.

As shown in Fig. 4, the structural interaction model of the FAHC framework highlights the way the four pillars support one another and, through such support, collectively contribute to better financial decision quality, which serves as the key organizational outcome.

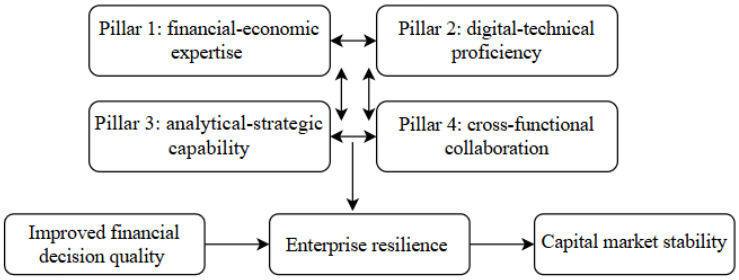

Fig. 4: Structural interaction model of the FAHC framework

For the United States, where financial services represent a major pillar of economic output and AI adoption is accelerating, the development of FAHC-aligned competencies has significance beyond individual firms. Improvements in proficiency in the FAHC pillars have a positive effect on enterprise-level financial decision-making, internal controls, and forecasting. When amplified to a sector that intermediates trillions of dollars in credit, investment, and risk transfer on an annual basis, this workforce capability gap is a structural risk to the stability and competitiveness of capital markets in the United States.

This vulnerability is also visible in regulatory practice. Public companies are required to maintain and annually assess the effectiveness of internal controls over financial reporting under SEC rules implementing Section 404 of the Sarbanes–Oxley Act, while PCAOB inspection reports for 2023 and 2024 continue to identify ICFR-related weaknesses among the most common findings. GAO reports, including the 2023 High Risk Series and financial management assessments, have also identified persistent issues in financial reporting quality,

risk assessment, and data-driven oversight processes, which align with the competency domains under the FAHC framework.

The economic significance of closing this gap is also quantifiable. If FAHC-aligned upskilling achieved even a 1% reduction in ICFR deficiencies across approximately 4,000 publicly traded U.S. companies, the savings could already be substantial. According to academic estimates, the direct cost of a financial restatement ranges between $1 million and $5 million per event, excluding losses in market value. Therefore, even small gains in workforce productivity have the potential to minimize remediation costs and regulatory risk, while at the same time bolstering the long-term international competitiveness of the U.S. in the global digital economy.

3. Conclusion

The digitalization of the finance function and the implementation of AI technologies have led to a systemic transformation of financial analysts' professional competencies. In addition to traditional expertise in financial analysis and corporate finance, increasing importance is placed on proficiency in data processing tools, programming skills, the use of business intelligence systems, and an understanding of machine learning principles. This study introduces the FAHC framework, which conceptualizes this transformation through four closely interconnected pillars: financial-economic expertise, digital-technical proficiency, analytical-strategic capability, and cross-functional collaboration. This transformation reflects objective changes in corporate governance structures and the emergence of a data-driven decision-making model.

The formation of digital competencies among financial analysts has a significant impact on the quality of managerial decisions in that it improves the accuracy of predictive analytics used in decision-making processes, improves resource allocation and strengthens risk management. Consequently, the formation of financial analysts' competencies should not be considered in isolation from technological developments but rather as a strategic factor in organizational sustainability. In this context, investment in FAHC-aligned workforce development becomes an essential component of effective corporate governance in the digital economy.

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