Research on the Construction of Knowledge-Ability System and Training Platform for Finance Professionals Empowered by Digital Technologies

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Abstract. The transformative trends in the financial industry, characterized by real - time capabilities, collaboration, and intelligence, necessitate that the education of financial professionals aligns with industry development trends. Based on market demand for talent, there is a need to re - determine the training objectives for financial professionals. This paper commences with a survey of the key knowledge and skill indicators for financial professionals. Through principal component analysis of the key knowledge and skill factors of financial professionals, it clarifies the reform objectives of financial professional education in the context of digital technologies. It constructs a knowledge - ability system for financial professionals empowered by digital technologies and innovatively proposes a knowledge - ability training platform for financial professionals enabled by digital technologies. This paper emphasizes the utilization of multi - source heterogeneous data from real - world enterprise operations and financial data of listed companies to build a financial big data hub. Virtual scenario tasks reconstructed from real data are further made realistic in business processing, forming a unique practical model of intelligently generating virtual scenarios with authenticity in both data and business aspects, which intelligently and dynamically guides the improvement of students' capabilities.

Keywords: Digital technologies; Finance Professionals; Knowledge-ability system; Training platform

1 Introduction

The digital age has significantly transformed the accounting profession, bringing about substantial practical, ethical, and professional implications. New - generation digital technologies, such as data analysis, robotic process automation (RPA), artificial intelligence (AI), blockchain, cloud computing, and the Internet of Things, are rapidly and radically changing the role of accountants[1]. These digital technologies not only completely reshape financial processing procedures but also profoundly influence the

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entire process of financial reporting, audit supervision, risk management, and management decision - making, posing unprecedented challenges to the entire financial industry.

Supported by the powerful integration of digital technologies, enterprises, by adopting blockchain technology and leveraging its technical features such as centralization and tamper - resistance, strengthen network security and the reliability of underlying data storage. They construct a web3.0 network based on trusted computing to ensure the integrity of business transaction information and financial processing data and reduce fraud. Through the construction of decision - making and reporting systems based on real - time accounting[2-3], with the help of automated robotic programs (RPA), the automation of financial data from the entire process of raw data collection, cleaning, processing, analysis, and presentation is achieved, enabling accountants to...

With the extensive application of deep learning and artificial intelligence, accountants can discover regular knowledge and insights from a vast amount of complex financial and non - financial data by exploring and constructing financial big data models [4-6] The combination of big data and artificial intelligence, with the use of ChatGPT and large language models (LLMs), will soon have potential applications in various fields of financial accounting. It is not only suitable for analyzing unstructured text information and thus valuable for examining various disclosures and reports. It can be used to enhance all aspects of financial reporting, from improving transparency and information quality to helping with compliance with sustainability disclosures and understanding management incentives. It can also provide intelligent guidance and assistance in performing financial work in more complex financial scenarios, proactively detect potential fraud and anomalies, and improve the accuracy and effectiveness of financial work [7]. Research indicates that the application of artificial intelligence can improve the consistency and clarity of financial disclosures, detect anomalies and risks, and support compliance with accounting standards and regulations, enabling investors and other stakeholders to make more efficient and informed decisions and gain valuable insights about companies from their disclosures

This paper proposes a knowledge capability system and training by redefining the education of financial professionals. The proposed model aims to incorporate the digital technologies with the immerse real-world business scenarios. The existing frameworks mostly focus on the isolated applications, the proposed platform combines AI, blockchain technology, big data analysis and real world business datasets. A dynamic with dual authenticity learning environment is created that engages learners with the virtual tasks derived from financial operations, ensures both data and business authenticity.

2 Related Work

Over the next three decades, the education of financial professionals is set to experience significant transformations. This is because finance is among the disciplines most profoundly influenced by digital technologies. Digital technological capabilities have emerged as fundamental techniques and skills required of finance graduates [8-10]. In

the future, finance graduates will encounter increasingly complex and intelligent technologies to enhance their daily work processes. Consequently, it is imperative to continuously improve the digital - technology sensitivity and proficiency of finance students [11].

When it comes to digital technologies that financial professionals are expected to master, computer programming, database handling, data analysis, and report configuration are fundamental capabilities [12]. Since the inception and continuous evolution of ERP, the internal accounting information systems within enterprises have been expanding in scale. These systems faithfully record business transactions and generate financial statements, thus becoming crucial data sources for enterprise financial data analysis and the bedrock for digital transformation [13]. As such, they form the foundation of financial professional education.

On this basis, employers also anticipate that finance graduates will be proficient in data analysis and statistical software such as VBA, Excel, DB, and SPSS, in order to further explore the inherent value of financial data [14]. Although these digital technologies are relatively basic and long - standing, they still hold significant positions in the teaching curricula of financial majors in institutions of higher education.

Since 2018, the digital technology education for financial professionals has entered a stage of automation concepts and practical applications. With the rapid expansion of business operations in group enterprises and multinational corporations, by integrating the characteristics of business departments, headquarters, and outsourcing, financial shared services deeply integrate the market, customers, and internal control. This approach not only reduces costs but also improves the quality of support services. As a result, its management philosophy has gradually become the focus of undergraduate and postgraduate education in finance [15].Meanwhile, given the high potential of Robotic Process Automation (RPA) in accounting process automation, it is widely expected that entry - level accounting positions will disappear, while digital labor positions will emerge. Robots will replace accountants in completing a significant portion of tasks [16]. The implementation of RPA has been proven to reduce data processing time and costs, and improve the accuracy, consistency, traceability, and decision - making quality of processes [17]. To comprehensively explain all the financial and non - financial impacts of RPA implementation in finance - major classrooms, in - depth research is required. It is necessary for students to further master digital technologies that can facilitate the transition to business consulting and leading RPA transformation.

From the perspective of the positioning of financial professional education, the improvement in financial productivity generates a larger volume of financial data. Objectively, this requires universities to teach cloud - based analytical tools, as well as access to AI - supported distributed ledgers and big data, which will largely automate decision - making [18]. This means that finance graduates need to have a profound understanding of how to utilize RPA and other automation tools to drive industry transformation and achieve cost reduction and efficiency improvement [19].

In the face of the ever - changing and complex digital technologies, the knowledge structure required for financial professionals is becoming increasingly comprehensive. In the future, financial professionals will increasingly need education in digital tech-

nologies (including the use of cloud computing and big data), globalization (outsourcing of accounting services), and evolving regulations (tax regulations, new forms of corporate reporting, integrated reporting regulations, etc.)[20]. Currently, the digital technology education for financial professionals is gradually focusing on big data analysis and artificial intelligence (AI) fields. The demand for AI and data analysis skills is growing steadily, and the teaching model is also shifting towards digital and decentralized learning environments [21]. On the one hand, the ability to analyze and mine financial big data, as well as the ability to synthesize and interpret data from multiple sources, are regarded as key skills required of financial professionals [22-23]. On the other hand, finance graduates are expected to master AI technologies as much as possible, often favoring those AI technologies that will be used in their future careers [24]. For example, ChatGPT can be used to complete automated repetitive tasks, enhance the capabilities of financial professionals in analyzing financial data, writing financial reports, improving audit and tax practices, and further simplifying customer interactions to reshape accounting processes [25]

Fortunately, higher education institutions are now increasingly setting up new talent - training programs and developing new teaching courses. They systematically teach cutting - edge digital courses such as cloud computing, big data, artificial intelligence, integrated reporting, and carbon emission accounting. Moreover, they collaborate with large accounting firms or domain experts/engineers from enterprises to offer such new courses, aiming to address the current and future opportunities and challenges faced by this industry.

Overall, the existing literature provides insights into the use of digital technologies to educate professionals in finance sector. It has been emphasized that incorporating digital technologies, such as AI, robotics, and cloud with finance may enhance productivity in financial and accounting firms. It necessitates to develop a robust framework to overcome the issues in existing approaches for educating financial professionals.

3 Survey Questionnaire of the Key Knowledge and Skills of Financial Professionals

The determination of talent cultivation objectives needs to be closely aligned with social development and technological trends. In this paper, a questionnaire survey was conducted on the key knowledge and skill indicators of financial professionals. Drawing on the above - mentioned literature and related research, and consulting industry experts, the content of the questionnaire and the description of its measurement items were repeatedly revised and refined.The questionnaire is shown in Table 1 below.

To ensure the reliability and authenticity of the data, the questionnaire distribution was carried out in three phases. The first phase was the on - campus field research stage. A total of 100 questionnaires were distributed to current students and graduates, and another 100 questionnaires were distributed to relevant secondary teaching units, functional departments, and faculty and staff. The second phase was the off - campus

field research stage. A total of 200 questionnaires were distributed through on - site visits to long - term employers of the school and employment evaluation intermediary agencies with which the school has long - term cooperation. The third phase was the online market research stage. Mainly using the Wenjuanxing survey system or sending emails based on personal social networks, a more extensive questionnaire survey was conducted among front - line employees and department supervisors in enterprise financial management, human resources department managers, industry policy - makers, and education experts. A total of 300 questionnaires were distributed in this phase. Ultimately, a total of 600 questionnaires were distributed in the three phases, with 537 questionnaires retrieved. After eliminating invalid questionnaires, 491 valid questionnaires were obtained, resulting in a valid questionnaire recovery rate of 81.3%.

Table 1. Questionnaire for Key Knowledge and Skill Indicators

Questionnaire of content	Code
Do you think that financial professionals should have a profound understanding of accounting standards?	X1
Do you think that financial professionals should have a profound grasp of management accounting?	X2
Do you think that financial professionals should have a profound command of mathematical statistics knowledge?	X3
Do you think that disciplines such as humanities, philosophy, and aesthetic education will still be important for personal development in the future?	X4
Do you think that undergraduate students majoring in finance should firmly master the new - generation information technologies?	X5
Do you think that artificial intelligence should be a compulsory course for financial professionals?	X6
Do you think that financial sharing will occupy an important position in the field of financial management?	X7
Do you think that the trend of intelligence in the business field will profoundly influence financial work?	X8
Do you think that the future trend of the financial industry is the integrated development of business and finance?	X9
Do you think that the ability to identify and creatively solve problems will be the most important in future work?	X10
Do you think it is important to have a deep understanding and mastery of the strategic planning for intelligent transformation?	X11
Do you think that financial professionals need to conduct data analysis and processing frequently?	X12
Do you think that financial professionals need to have good presentation and communication skills?	X13
Do you think that the ability to master intelligent system architecture is of great importance?	X14

In line with the research objectives, the questionnaire is structured into two dimensions: personal basic information and the key knowledge and skill factors of financial professionals. The key knowledge and skill factors of financial professionals are designed based on a five - point Likert scale, where 1 represents "strongly disagree", 2 represents "disagree", 3 represents "uncertain", 4 represents "agree", and 5 represents "strongly agree".

Based on the data collected from the previously mentioned survey and sorted out from the retrieved questionnaires, the SPSS software was used for validity and reliability analysis. After calculation, the overall reliability coefficient Cronbach α of the

questionnaire data was 0.884. Meanwhile, through the validity analysis of the KMO and Bartlett's test of sphericity, it was obtained that the KMO value of the questionnaire measurement was 0.76, which is greater than 0.7. The Bartlett coefficient was significant, indicating that the entire questionnaire has good reliability and validity, and subsequent processing can be carried out.

This paper uses the principal component analysis (PCA) method, which was first proposed by Hotelling in 1933. It is a multivariate statistical analysis method that utilizes the idea of dimensionality reduction to transform multiple indicators into a few comprehensive indicators. It computes covariance matrix of data, and performs eigenvalue decomposition to identify the principal components. The PCA method aims to reduce data complexity, improve computational efficiency and remove noise in the actual information. However, it may discard the significant variance if principal components are not rationally chosen.

Principal components were extracted through the rotated component matrix, and important variables with eigenvalues greater than 1 were incorporated into the evaluation indicators. By calculating the eigenvalues and eigenvectors of the correlation coefficient matrix, sorting them according to the size of the eigenvalues, and combining the principal component contribution rate and the cumulative contribution rate, the key knowledge and skill factors of financial professionals in this paper were ultimately summarized into 4 principal components, as shown in Table 2.Among them, the first principal component has the largest loadings of 0.6 and 0.55 on the two factors X7 and X9; the second principal component has the largest loadings of 0.4, 0.45, and 0.41 on the three factors X2, X8, and X14; the third principal component has the largest loadings of 0.35 and 0.47 on the three factors X1, X3, and X12; the fourth principal component has the largest loadings of 0.65, 0.58, and 0.55 on the three factors X6, X5, and X11. Based on Table 2, the variable connotations of the four principal components are further clarified and classified as the financial sharing ability based on the integration of business and finance, the management accounting platform ability based on business intelligence, basic knowledge, and the intelligent finance platform ability based on artificial intelligence. It can also be observed from Table 2 that there are significant differences in the degree of explanation of the original data by each principal component. Specifically, the financial sharing ability based on the integration of business and finance alone explains 31.6% of all the original information. The contribution rate of the management accounting platform ability based on business intelligence is 21.4%, the contribution rate of basic knowledge related to digital transformation is 17.9%, and the contribution rate of the intelligent finance platform ability based on artificial intelligence is 12.9%. The cumulative contribution rate of the first four factors reaches 83.8%. Therefore, the above four principal components meet the criteria and can be used as common factors to explain the original data. Their relationship with the questionnaire is shown in Table 3.

Table 2. Principal Component Contribution Rates and Cumulative Contribution Rates

Principal Componen	Eigenvalue	Contribution Rate	Cumulative Contribution Rate
1	4.2	31.6%	31.6%

2	3.0	21.4%	53.0%
3	2.5	17.9%	70.9%
4	1.8	12.9%	83.8%

Table 3. Principal Component Analysis of Key Knowledge and Skill Factors

Questionnairey of content	Code	Classify
Do you think that financial sharing will occupy an important position in the field of financial management?	X7	Financial Sharing Ability Based on the Integration of Business and Finance
Do you think that the future trend of the financial industry is the integrated development of business and finance?	X9	
Do you think that the trend of intelligence in the business field will profoundly influence financial work?	X8	Application Ability of Management Accounting Based on Business Intelligence
o you think that financial professionals should have a profound grasp of management accounting?	X2	
Do you think that the ability to master intelligent system architecture is of great importance?	X14	
Do you think that financial professionals should have a profound understanding of accounting standards?	X1	Basic knowledge and skill for data processing and analysis
Do you think that financial professionals should have a profound command of mathematical statistics knowledge? ?	X3	
Do you think that financial professionals need to conduct data analysis and processing frequently?	X12	
Do you think that artificial intelligence should be a compulsory course for financial professionals?	X6	Artificial - Intelligence - based Intelligent Financial Analysis Ability
Do you think it is important to have a deep understanding and mastery of the strategic planning for intelligent transformation?	X11	
5Do you think that undergraduate students majoring in finance should firmly master the new - generation information technologies?	X5	

4 The Goals of Reform for Financial Professionals Enabled by Digital Technologies

The determination of talent cultivation objectives needs to be closely aligned with social development and market demands, and be closely compared with the requirements and ability indicators of students upon graduation. The talent cultivation objectives are decomposed based on surveys of graduates and enterprises.

Corresponding to the digital intelligence cultivation graduation requirements for financial professionals in local application - oriented universities, the specific decomposed talent cultivation objectives refer to the "National Standards for the Teaching Quality of Undergraduate Majors in General Higher Education Institutions (2020 Edition)" promulgated by the Ministry of Education. These objectives cover aspects such as social responsibility, humanistic spirit, scientific literacy, professional skills, innovative spirit, and team awareness, and span three sub - dimensions of knowledge, ability, and literacy . By combing through the four principal components formed from the analysis of the key factors of financial talents' knowledge and skills, cultivation objectives that reflect the characteristics of digital intelligence financial professionals are formulated.

According to the intelligent finance ability framework, the finance majors in universities should cultivate innovative and compound intelligent finance professionals with a deep integration of big data and financial management. These professionals should possess good professional ethics, a solid foundation of knowledge and abilities in basic, professional, industry - related, and data - processing fields. As shown in Figure 1, they should have three core competencies, aiming to produce high - quality applied talents who understand business operations, management, and are proficient in intelligent technologies and digital strategic planning.

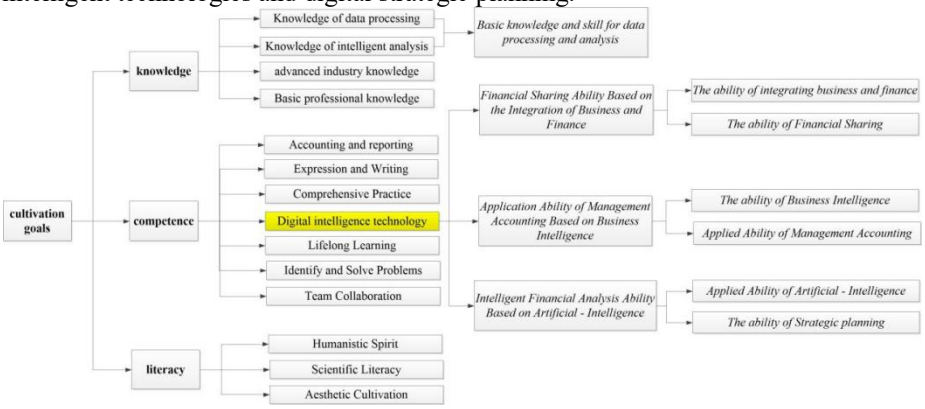

Fig. 1. Training Objectives for the Cultivation of Digital intelligent Talents

5 Knowledge & Ability System for Finance Professionals Empowered by Digital Technologies

The reconstruction of the digital - intelligent curriculum system for cultivating finance professionals needs to be coordinated with the graduation requirements. That is, under the knowledge and ability positioning of talent cultivation in the finance major, the curriculum system should be constructed by formulating graduation requirements with a focus on training objectives. The linkage of modules can be achieved by establishing **general** education courses, common discipline courses, professional core courses, and professional elective courses. Adhering to the interdisciplinary construction characteristics of "business + technology + humanities + law", interdisciplinary integration can be realized. In addition to adding courses in big data, intelligent finance and taxation, etc. to traditional courses, it is more necessary to truly reconstruct the training platform for knowledge and abilities in the finance major, which combines "general education + professional education + digital - intelligent education". Highlighting the training of technical abilities as the core, and in line with the core ability requirements of the digital-intelligent technology platform, the cultivation of the practical application abilities of finance professionals can be strengthened.

As shown in Figure 2, in accordance with the requirements of finance professional education in the digital context and based on the design of training objectives for digital - intelligent finance talents, the curriculum content can be augmented from 3 modules:

knowledge, ability, and literacy. Centering around accounting, financial management, and auditing, enhancing students' financial common - sense judgment helps them master the core knowledge in traditional financial fields. This ensures that students can make accurate financial common - sense judgments regarding daily affairs in different financial positions, laying a solid foundation for subsequent digital transformation. With the principles and applications of databases, as well as the principles and applications of multivariate statistics at the core, improving students' technical foundation is crucial. Given the increasing scale and complexity of financial data, understanding database principles enables students to manage and operate financial data more effectively, and deeply comprehend the principles of data storage, management, and analysis, preparing them for more advanced data analysis.

Fig. 2. Knowledge & Ability System for Finance Professionals Empowered by Digital Technologies

By offering new - generation technologies such as cloud computing, 5G technology, big data, artificial intelligence, the Internet of Things, blockchain, and RPA as the core, students' grasp of digital technology fundamentals can be enhanced. This cultivates their ability to solve financial problems in different digital scenarios, enabling them to flexibly apply new technologies to improve the quality and efficiency of financial work, deeply integrate with various business processes, and achieve financial business innovation. Focusing on integrated technologies such as accounting information systems, ERP, and financial sharing, students' ability to integrate business and finance can be improved. They will be able to understand how financial systems integrate with other business systems in an enterprise, breaking down the information barriers between finance and business. Taking Excel financial analysis, PowerBI software application, R language, and Python programming as the core, students' financial big - data analysis ability can be enhanced. Using these tools for in - depth data mining and visual presentation provides more persuasive evidence for enterprise decision - making.

Finally, considering that the knowledge structure required by finance professionals is becoming increasingly comprehensive, a deep integration of relevant technologies, tax regulations, and enterprise digital strategic planning and risk control from the overall perspective of business competition is necessary. When an enterprise undergoes digital transformation, financial personnel can assess the cost - effectiveness and risks of the transformation from a financial perspective, provide financial feasibility analysis for strategic planning, and ensure that the enterprise rationally utilizes digital technologies and maintains a sound financial position in the competition.

The construction of the theoretical knowledge system for digital technology - empowered finance professionals is closely aligned with the demands of the financial industry for digital - intelligent talents in the digital context. This not only enables finance graduates to rapidly adapt to the digital - intelligent financial work environment of enterprises, but more importantly, it emphasizes the cultivation of interdisciplinary technologies and literacy. As a result, finance graduates will possess comprehensive capabilities, enabling them to better address complex financial issues and transform from traditional "financial data recorders" to "enterprise value creators". Consequently, it helps finance professionals utilize emerging technologies to innovate financial work, promoting the automation, intelligence, and business integration of financial operations. This, in turn, enhances the quality and efficiency of financial work, bringing greater value to enterprises.

6 Training Platform for Finance Professionals Empowered by Digital Technologies

In the context of digitalization, the education of finance professionals calls for a practical training platform that can support its teaching objectives and knowledge - ability system. A comprehensive approach is required to integrate theoretical knowledge, practical skills, and industry relevance. However, it is challenging to identify suitable teaching strategies and tools to successfully incorporate all these elements into the classroom. Therefore, there is a need to develop more effective teaching methods, teaching resources, and technological solutions to meet the diverse needs of students and prepare them for real - world data - driven challenges [26].

Research has demonstrated that case studies, role - playing, technology integration, and collaborative learning significantly improve students' academic performance in financial accounting [27] In particular, the integration of technologies such as situated learning, artificial intelligence, and virtual reality is of great importance. Some researchers have proposed a template - based approach that can automatically create situated learning tasks from multiple data sources in a data network. The situationalization of learning tasks offers the possibility of bridging formal learning that occurs in the classroom and informal learning that takes place in other physical spaces [28] confirming the relationship between situational teaching and virtual reality.

Furthermore, the digital environment provides learners with novel perspectives, creating an interactive and immersive learning environment. This learning experience can be enhanced by leveraging the large - language model (LLM) ecosystem and VR technology [29]. The integration of artificial intelligence algorithms and VR technology offers personalized learning paths and interactive, engaging content, meeting the diverse needs of students from different disciplines. This not only provides a level playing field for accessing high - quality education/training but also creates new avenues in the field of e - learning, demonstrating significant progress in educational practice and accessibility [30].

This paper constructs a knowledge and ability training platform for financial professionals empowered by digital technologies, which consists of five parts: the data

layer, the task layer, the scenario layer, the business layer, and the client layer, as shown in Figure 3.

The first layer, the data layer, is responsible for constructing a distributed financial big data warehouse in a cloud environment using cloud storage and big data technologies for structured, semi - structured, and unstructured data. Real - case libraries of enterprise operations are obtained from industry - university - research cooperation enterprises. After data de - identification, simulated data for teaching purposes is formed. The school builds its own database and uses web crawler technology to collect relevant financial news, announcements, and page data from the Internet, and regularly stores them in this database. By subscribing to various statistical yearbooks at the national, provincial, municipal, district, county, and industry levels through the university library system, and after digital processing, the school forms its own yearbook database system. Alternatively, it can purchase database products from specialized financial data service providers and provide data open - service, thus building a financial big data lake for the task layer to call.

The second layer is the task layer. Through intelligent micro-service technology, data resources are extracted from the data layer. After data access auditing and permission management control, with the cooperation of the task allocation component, intelligent tasks are organized and distributed to the core of the entire training platform, the scenario layer.

In the third layer, the scenario layer, an attempt is made to construct a virtualized digital corporate financial environment using advanced digital technologies. This environment includes a virtual corporate finance department, virtual financial process nodes, virtual transaction business content, virtual financial documents, and reports. Blockchain technology is employed as the underlying database to re - integrate the data resources allocated from the task layer. Consequently, an interactive and immersive learning environment is created for financial professionals. The dull data generated from task allocation is presented in the form of scenarios and case reproductions, enhancing the sense of authenticity and comprehensibility of the financial scenarios.

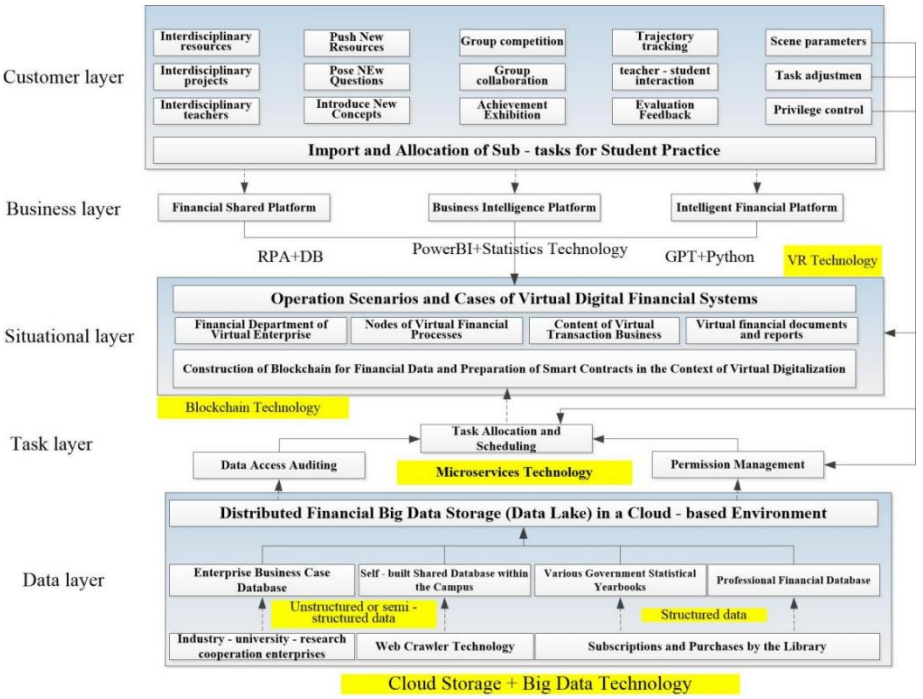

Fig. 3. Training Platform for Finance Professionals Empowered by Digital Technologies

The fourth layer, the business layer, which is above the scenario layer, utilizes digital work platforms such as financial sharing, business intelligence, and intelligent finance, which are actually applied in the enterprise production site. In combination with peripheral application tools like RPA, databases, PowerBI, GPT, and Python, it completes the virtual business processing in the scenario layer, forming a training mode that combines real - world tools with virtual scenarios.

The top - most layer is the client layer. Through this layer, both teachers and students can obtain a Problem - Based Learning (PBL) teaching experience. Teachers pose complex problems from the real world, and students, through teaching activities such as role - playing competition, group collaboration, and teacher - student interaction, deeply explore, research, and solve these problems. In this process, students need to collect information on their own, analyze problems, propose hypotheses, and verify solutions, thereby cultivating their autonomous learning ability, critical thinking, and problem - solving skills.

The educational reform of financial professionals with digital backdrop presents three distinct innovative aspects. Firstly, by harnessing the potential to integrate data from multiple sources, the system makes full use of the advantages of the school's cooperative stakeholders. It provides a comprehensive description of the operational data of real enterprises and financial data of listed companies, laying the foundation for the construction of a data center. Secondly, the execution of contextual tasks stems from the instructions of financial sharing, business intelligence, and intelligent finance

work platforms within real - world business environments. After re - organizing virtual scenario tasks based on real data, the business processing is further made authentic. This gives rise to a unique practical model where virtual scenarios are intelligently generated, with both data and business being real, thereby connecting formal and informal learning processes. Thirdly, we have also taken into account tasks that promote higher - order thinking in learning. Imitative tasks allow teachers to adjust specific parameters and questions, intelligently and dynamically guiding the improvement of students' capabilities.

Under the digital backdrop, the educational reform of financial professionals presents three distinct innovative aspects. Firstly, by harnessing the potential to integrate data from multiple sources, the system makes full use of the advantages of the school's cooperative stakeholders. It provides a comprehensive description of the operational data of real enterprises and financial data of listed companies, laying the foundation for the construction of a data center. Secondly, the execution of contextual tasks stems from the instructions of financial sharing, business intelligence, and intelligent finance work platforms within real - world business environments. After re - organizing virtual scenario tasks based on real data, the business processing is further made authentic. This gives rise to a unique practical model where virtual scenarios are intelligently generated, with both data and business being real, thereby connecting formal and informal learning processes. Thirdly, we have also taken into account tasks that promote higher - order thinking in learning. Imitative tasks allow teachers to adjust specific parameters and questions, intelligently and dynamically guiding the improvement of students' capabilities.

7 Conclusions and future work

This paper conducts research on the project through on - site visits to current students and graduates, relevant secondary teaching units, functional departments, faculty and staff, long - term employers of the school, employment evaluation intermediary agencies in long - term cooperation with the school, as well as front - line employees and department supervisors in enterprise financial management, human resources department managers, industry department policymakers, and experts in the education field. By using the principal component analysis method, the key knowledge and skills of financial professionals are grouped into four main component factors, including financial sharing capabilities based on the integration of business and finance, management accounting capabilities based on business intelligence, basic knowledge related to digital transformation, and intelligent financial capabilities based on artificial intelligence. Furthermore, the educational reform goals and knowledge - ability system for financial professionals empowered by digital technologies are proposed.

Between the talent education goals and the knowledge - ability system, they are always oriented towards the actual needs of enterprise digital transformation, with the profound mastery and application of new - generation digital technologies serving as the cornerstone of educational reform. The author applies this goal and knowledge system to the field of students' practical ability training and obtains a five - layer

knowledge - ability training platform for financial professionals empowered by digital technologies. This platform can dynamically form contextualized tasks in virtualized scenarios through multi - source heterogeneous external data sets. These tasks are closely related to students' abilities to master the aforementioned platforms such as financial sharing, business intelligence, and intelligent finance. In the student practical task management system, they are subject to teachers' control over scene parameters, task difficulty, and permission access to ensure that students can accept and effectively execute tasks with a reasonable level of difficulty. The findings of this study provide actionable insights that align financial education with the industry needs by emphasizing the incorporation of advanced digital technologies with the real-world data. This enables learners to develop their practical and industry-relevant skills. The future curricula should be revised by integrating the continuous market trends and emerging technologies such as AI-driven analytics, and decentralized finance.

Of course, the improvement of the educational system and training platform for financial professionals in the digital era is a long - drawn - out process, and we anticipate numerous challenges.

Firstly, during project - based and real - world business - case - driven seminar - style learning, the challenge lies in how to automate the evaluation of students' unique abilities in thinking, questioning, researching, decision - making, and presenting, and to conduct a relatively reasonable quantitative assessment.

Secondly, in curriculum - based practical teaching, the challenge is how to orient towards industry demands, reverse - engineer the practical teaching content according to relevant industry and occupational standards as well as the needs of employers. By leveraging software to simulate the enterprise working environment, incorporate advanced elements such as new technologies, new standards, and new regulations into the practical teaching standards and content, so as to promote the all - around integration of elements on the enterprise demand side and the education supply side, and achieve the Informatization of classroom activities, curriculum assessment, student learning situation statistics, and result analysis.

A pilot study could be undertaken in future to evaluate the effectiveness of the platform involving collaboration between universities and financial institutions. The empirical impact of the framework will be estimated using skills acquisition, users' engagement, and industry readiness. The outcomes include the enhanced adaptability to industry scenarios, improved learners' performances, and timely feedback for further refinement.

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