Research on the Capacity Requirements and Training System Restructuring of Financial Management Talents in the Era of Artificial Intelligence

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Abstract: With the rapid development of artificial intelligence technology, the field of financial management is undergoing profound changes. The traditional financial management model is gradually transforming towards intelligence and automation, which puts higher demands on financial management talents. This article analyzes the changes in the ability requirements of financial management talents in the era of artificial intelligence, explores the main problems in the current financial management talent training system, and proposes corresponding reconstruction plans. Research suggests that future financial management talents need to possess interdisciplinary abilities such as data analysis, AI technology application, and risk management. Therefore, it is recommended to integrate emerging technologies such as artificial intelligence and big data into financial management education, promote the establishment of school enterprise cooperation, practical activities, and lifelong learning systems, in order to cultivate composite financial management talents that meet the needs of the new era.

1. Introduction

With the advancement of technology, the traditional abilities of financial management talents can no longer meet the needs of the new era. How to reconstruct the training system of financial management talents to adapt to this new situation has become an urgent issue to be solved. Therefore, this study aims to analyze the changing demand for financial management talents in the era of artificial intelligence, explore the optimization path of the training system, and provide valuable references for relevant educational institutions, enterprises, and policy makers.

2. The impact of artificial intelligence on the field of financial management

2.1. Basic Concepts and Development Trends of Artificial Intelligence

Artificial intelligence (AI) refers to completing tasks that typically require human intelligence by simulating human intelligence. AI technology includes fields such as machine learning, natural language processing, and computer vision. In recent years, with the improvement of computing power and the popularization of big data, AI technology has made significant progress and is widely used in multiple industries such as finance, healthcare, and education. In the field of financial management, AI technology is used for financial data analysis, budget forecasting, intelligent auditing, tax planning, and other aspects, greatly improving the efficiency and accuracy of financial management [1].

In the future, the development trend of AI technology will further accelerate the transformation in the field of financial management. The combination of AI and blockchain technology, as well as the application of deep learning algorithms in financial decision-making, will bring unprecedented innovation and challenges to financial management.

2.2. Application of Artificial Intelligence in Financial Management

In the field of financial management, artificial intelligence technology has begun to play an important role, driving the industry towards intelligence and automation. The widespread application

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of AI not only improves the efficiency of financial work, but also enhances the accuracy and depth of data analysis. This is mainly reflected in the following aspects, as shown in Figure 1.

Figure 1: Application of artificial intelligence in financial management.

2.2.1. Intelligent Financial Report Generation

Traditional financial report preparation typically requires a large amount of manual input and complex review procedures, which are time-consuming and prone to errors. Artificial intelligence technology greatly reduces the need for manual intervention by automating data processing and report generation. AI systems can quickly integrate multiple data sources for real-time analysis, automatically generate financial statements and related analysis content [2]. This automated processing not only greatly saves time, but also improves the accuracy of reports and reduces the occurrence of human errors. For enterprises, this means that financial personnel can focus more on high-level decision analysis and strategic planning, rather than repetitive data processing work.

2.2.2. Audit

Audit is an important part of financial management, and traditional audit methods rely on manual inspection of large amounts of financial data, which is not only cumbersome but also prone to omissions. Through machine learning and artificial intelligence algorithms, financial auditing can achieve more efficient and accurate automated inspections [3]. AI can analyze massive amounts of data in a very short amount of time, identify potential financial risks and abnormal trading patterns. Through pattern recognition technology, AI can quickly identify areas that may have issues, providing auditors with effective clues and suggestions, thereby greatly improving the efficiency and accuracy of audits. In addition, AI can predict future financial risks and help businesses intervene and address issues before they occur.

2.2.3. Financial Forecasting and Budget Management

The application of AI technology in financial forecasting and budget management has greatly improved the scientificity and accuracy of enterprise financial decision-making. Traditional financial forecasting typically relies on historical data and empirical predictions, while AI can combine multidimensional factors such as historical data, market trends, and industry changes for deep learning, providing more accurate financial forecasting [4]. AI can quickly process large amounts of complex data, identify potential trends and patterns, and help businesses predict future financial conditions such as revenue, expenses, and cash flows. In addition, AI can optimize budget management by dynamically adjusting budget plans and reflecting changes in market and internal conditions in real time, thereby helping enterprises to conduct financial planning and resource allocation more scientifically.

2.2.4. Risk Management

The application of AI in risk management can help enterprises achieve more accurate financial risk control. By analyzing the historical data and market environment of enterprises, AI can identify potential financial risk points, such as cash flow crises, default risks, and high costs. With the help of data analysis and pattern recognition technology, AI can monitor the financial operations of enterprises in real time, detect abnormal behaviors or risk signals in a timely manner, and provide effective warning and decision-making basis for management. Through this approach, companies can take measures to avoid losses before risks become apparent. In addition, AI can also help companies make more flexible and rapid risk response strategies when facing complex market environments [5].

The popularization and in-depth development of these applications are leading to significant changes in traditional financial management models. The role of financial personnel is also constantly evolving, requiring not only traditional financial accounting skills but also the ability to analyze data, understand and apply AI tools. Therefore, future financial management talents not only need to have a solid foundation in finance, but also possess interdisciplinary knowledge structures that can flexibly respond to various complex problems in a rapidly changing technological environment.

2.3. Transformation of Financial Management Mode

The introduction of artificial intelligence has led to the gradual development of financial management models towards intelligence and automation. Traditional financial functions such as account reconciliation and report generation are gradually being replaced by automated tools, and the role of financial personnel is gradually shifting to that of "financial advisors" and "decision supporters". This requires financial management personnel to have stronger analytical skills and strategic vision, be able to extract valuable information from massive data, and provide support for the company's strategic decision-making [6].

3. Changes in the Demand for Financial Management Talent Capabilities

3.1. Core Competencies of Traditional Financial Management Talents

Under the traditional financial management model, the core competencies of financial personnel mainly focus on basic financial operations and compliance management. With the gradual penetration of information technology and artificial intelligence, financial management is gradually moving towards intelligence and automation. However, these traditional abilities are still the basic requirements of financial personnel and constitute the fundamental framework of financial management. The core competencies of traditional financial management talents are mainly reflected in the following aspects, as shown in Figure 2.

Figure 2: Core competencies of traditional financial management talents.

3.1.1. Financial Accounting and Audit Capability

Financial accounting is one of the foundations of financial management, including basic financial operations such as accounting, financial statement preparation and analysis. Financial personnel need to have the ability to accurately record various financial activities of the company, ensuring that all transactions are recorded in the accounts in a timely and accurate manner. At the same time, financial personnel also need to prepare financial statements to convert various operational data of the company into standardized and normalized reports, which facilitates internal management and external auditing

of the company [7]. Audit work involves inspecting and evaluating the financial condition and operational compliance of a company, ensuring compliance with laws and regulations in the financial management process, and identifying potential risks and improper operations.

3.1.2. Budget and Cost Control Capability

Budget preparation is an indispensable part of financial management. Financial personnel need to plan the flow of funds and resource allocation reasonably based on the company's strategic goals and actual situation, ensuring the optimal efficiency of fund utilization. Cost control requires financial personnel to conduct in-depth analysis of the company's cost structure and find ways to reduce costs and improve efficiency. At the same time, financial personnel also need to monitor budget execution to ensure that all expenses do not exceed the predetermined budget, and provide timely feedback and adjustments for any abnormal situations.

3.1.3. Financial Analysis and Risk Management Capability

Financial analysis ability is one of the important skills for financial personnel. Financial personnel identify potential problems and risk points in the operation of enterprises by analyzing various data such as financial statements, cash flow, assets and liabilities, and propose improvement suggestions. At the same time, financial personnel also need to predict and evaluate financial risks in the company's operations, and develop effective risk prevention and control measures. Including liquidity risk, credit risk, and market risk, to ensure that enterprises can cope with various economic and market changes.

3.1.4. Compliance and Tax Planning Capability

In financial management, compliance requires financial personnel to ensure that the company's financial activities comply with laws and regulations, and to avoid legal risks arising from irregular operations. In addition, tax planning is also an important function of financial management. Financial personnel need to make reasonable use of national tax laws to carry out tax planning, ensure that enterprises optimize tax burden, reduce operating costs, and enhance profitability while complying with the law [8].

3.2. New Ability Requirements for Financial Management Talents in the Era of Artificial Intelligence

With the widespread application of artificial intelligence technology in financial management, the ability requirements of financial personnel have undergone fundamental changes. The application of AI technology has not only changed the workflow of financial management, but also transformed the role of financial personnel, gradually shifting from traditional "accounting processors" to more diverse and strategic "decision supporters". The new capability requirements are mainly reflected in the following aspects.

3.2.1. Data Analysis and AI Tool Usage Capability

In the era of artificial intelligence, financial personnel not only need to possess traditional financial accounting and analysis skills, but also need to master data analysis tools and AI algorithms. AI and big data technologies can help financial personnel extract valuable information from massive amounts of data, conduct in-depth analysis to support decision-making. Therefore, financial personnel need to master basic knowledge of data science, be proficient in using AI tools for data mining, predictive analysis, and pattern recognition, and provide more accurate financial analysis and decision-making basis for enterprises.

3.2.2. Interdisciplinary Knowledge Integration Ability

With the advancement of technology, financial management is no longer a single accounting function, and financial personnel need to have interdisciplinary knowledge reserves. In addition to traditional financial management knowledge, financial personnel also need to master basic knowledge in computer science, data analysis, information technology, and other fields, be able to understand and apply relevant technologies, and promote the automation and intelligence of financial

work. In addition, financial personnel also need to possess knowledge in fields such as economics and management to support the strategic decision-making and business development of the enterprise [9].

3.2.3. Awareness of Information Security and Privacy Protection

With the digital transformation of financial data and enterprise information, information security and privacy protection have become particularly important. Financial personnel need to have a basic awareness of information security, understand how to protect financial data from being leaked or tampered with, and avoid data attacks and network security issues. Financial personnel not only need to understand relevant laws and regulations, but also need to master basic protection techniques, be able to identify potential security risks, and take effective preventive measures to ensure the security of the company's financial data.

3.2.4. Innovation and Strategic Decision-making Capability

The application of artificial intelligence technology has shifted financial management from traditional transactional work to more strategic and innovative support. Financial personnel are no longer limited to financial accounting, but need to possess stronger strategic thinking and innovative abilities, and be able to make effective strategic decisions in complex market environments. Financial personnel need to use data insights provided by AI analysis tools to help companies identify market opportunities, optimize resource allocation, and develop long-term development plans. In addition, financial personnel need to have the ability to quickly respond to market changes and adjust strategic plans, providing support for enterprises to maintain competitiveness in a dynamic environment.

3.3. Changes in the Professional Roles of Financial Management Talents

In the era of artificial intelligence, the role of financial managers has gradually undergone significant changes. Traditionally, financial personnel are mainly responsible for daily financial accounting, report generation, and tax compliance and other transactional work. However, with the intervention of AI technology, the functions of financial management have expanded to areas such as strategic decision-making and data analysis. The role of financial personnel is gradually transforming into "strategic advisors" and "data analysts". They not only need to participate in the financial decision-making of enterprises, but also need to use data insights to help enterprises understand market trends and formulate long-term development plans [10].

This change requires financial managers to possess a wider range of skills and knowledge reserves. In addition to traditional financial knowledge, they also need to have strong data analysis abilities, interdisciplinary learning abilities, and innovative thinking. Financial personnel are no longer simply "accounting processors", but bridges for cross departmental cooperation, requiring close collaboration with management, marketing, IT departments, etc., to provide financial support and decision-making basis for the strategic goals of the enterprise. Therefore, financial personnel need to continuously improve their communication and coordination skills, cross departmental collaboration abilities, and technological application abilities in order to better adapt to the changing demand for financial management talents in the era of artificial intelligence.

4. Analysis of the Current Situation of the Financial Management Talent Training System

4.1. Traditional Financial Management Talent Training System

At present, the training system for financial management talents in China roughly includes two main channels: higher education and vocational training. In terms of higher education, many universities in China offer majors such as financial management, accounting, and finance. The course content usually focuses on basic fields such as financial accounting, tax management, financial analysis, and auditing. These courses provide students with solid financial knowledge and theoretical foundations, and are an important channel for cultivating traditional financial management talents.

However, with the rapid development of artificial intelligence technology, this traditional training system has shown its limitations. Traditional financial education focuses on imparting technical

operations and theoretical knowledge, while neglecting the demand for emerging skills such as data analysis and AI technology application in modern financial management. Therefore, the existing talent cultivation system is facing problems such as lagging talent quality and aging course content.

4.2. Problems in the Current Financial Management Talent Training System

In the era of artificial intelligence, the existing financial management talent training system has the following main problems:

4.2.1. Course Design Lags behind and lacks AI Related Content

Traditional finance courses often focus on financial accounting, budgeting, and financial analysis, neglecting the impact of artificial intelligence technology on financial management. The existing financial management courses lack in-depth exploration of AI technology and data science, and are unable to cultivate composite financial talents with AI skills.

4.2.2. The Disconnect between Vocational Skills and Market Demand

Many companies' demand for financial management talents is not limited to basic financial skills, but also requires new abilities such as data analysis, AI technology application, and risk assessment. However, the existing training system has failed to respond to these demands in a timely manner, making it difficult for companies to find financial talents who meet the requirements.

4.2.3. The Single Training Mode and The Lack of Practicality

Traditional financial management education mostly focuses on classroom teaching and lacks opportunities to integrate with industry realities. When students are studying in school, it is difficult for them to truly access real financial data analysis and the application of AI tools, which often leads to skill gaps when entering the workplace after graduation [11].

4.3. The Gap between the Financial Management Talent Training System and Market Demand

With the widespread application of artificial intelligence and big data technology, the demand for financial management talents in enterprises has undergone significant changes. Enterprises not only hope to recruit talents with traditional financial management knowledge, but also hope that they have the ability to collaborate with AI technology, such as data mining, machine learning, and the use of automation tools. However, the current training system focuses more on traditional financial operations and theoretical knowledge, and fails to timely cultivate composite talents that meet the needs of modern enterprises.

In addition, there is a significant gap between the actual needs of enterprises and the training direction of the education system. Although some universities have started to offer courses related to AI and data analysis, the coverage and depth of these courses are far from sufficient to meet the industry's demand for high skilled financial talents. Therefore, it is urgent to reconstruct the existing financial management talent training system to meet the needs of the artificial intelligence era.

5. Reconstruction of the Financial Management Talent Training System in the Era of Artificial Intelligence

5.1. Objectives and Principles of System Restructuring

The reconstruction of the financial management talent training system in the era of artificial intelligence should revolve around the following goals:

5.1.1. Cultivating Composite Financial Management Talents

The new training system should focus on cultivating compound talents with basic knowledge of financial management, as well as AI technology application ability and data analysis ability.

5.1.2. Enhancing Innovative Thinking and Decision-making Abilities

Financial personnel must possess both technical skills and innovative thinking, along with strategic

decision-making abilities to effectively support enterprises in complex market environments.

5.1.3. Strengthening Data Security and Ethical Awareness

With the widespread application of data, data security and privacy protection have become issues that cannot be ignored in financial management. It is particularly important to cultivate financial management talents with data security awareness and ethical decision-making ability.

System refactoring should follow the following principles, as shown in Figure 3.

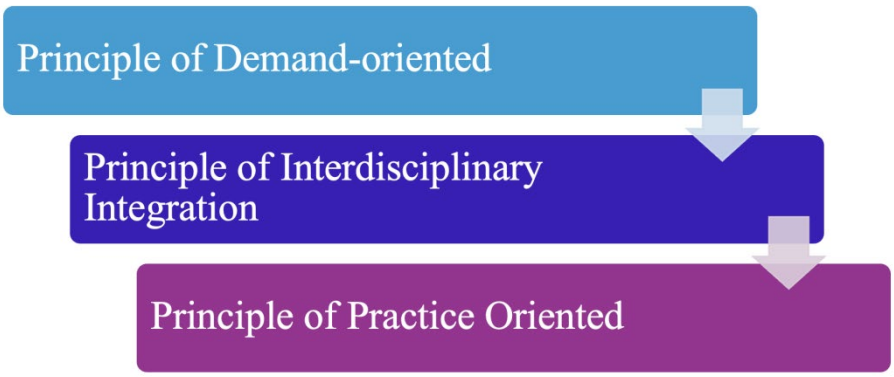

Figure 3: Strengthening data security and ethical awareness.

(1) Principle of Demand-oriented

The training objectives should be closely aligned with the needs of the market and enterprises, ensuring that the financial talents trained possess the latest skills required by the industry.

(2) Principle of Interdisciplinary Integration

Financial management education should be integrated with fields such as information technology and data science to cultivate interdisciplinary talents.

(3) Principle of Practice Oriented

The cultivation process should focus on practical application ability, combining theoretical teaching with practical operation, so that students can cope with challenges in practical work.

5.2. Content Reconstruction of Financial Management Talent Training System

5.2.1. Optimization of Curriculum System

Traditional financial management courses need to be significantly optimized based on existing foundations, incorporating emerging technologies such as artificial intelligence, big data analysis, machine learning, and financial information security [12]. For example, courses such as "The Application of AI in Financial Management", "Data Analysis and Decision Support", "Financial Risk Management and AI" can be offered to help students master relevant technologies and applications.

5.2.2. Introduction of Interdisciplinary Education

In addition to traditional finance courses, the training system should incorporate more interdisciplinary content, such as information technology, data science, artificial intelligence fundamentals, programming techniques, etc., to enhance students' comprehensive quality and ability to solve complex problems.

5.2.3. Setting up Innovative Curriculum Modules

There is a need to introduce innovative course modules, such as "Intelligent Financial System Practice" and "Big Data and Financial Analysis," and continuously update course content in conjunction with the latest trends in artificial intelligence technology to ensure the course remains forward-looking and practical.

5.3. Innovation in Financial Management Talent Training Methods

In addition to the restructuring of course content, innovative methods of talent cultivation should

also be implemented

5.3.1. School Enterprise Cooperation and Industry Practice

It is necessary to strengthen cooperation between universities and enterprises, establish industry internship bases and practical projects, so that students can be exposed to AI tools and financial data analysis in practical work, and accumulate practical experience.

5.3.2. Combining Online and Offline Learning Modes

It is suggested to promote the integration of online learning platforms with traditional classroom teaching, utilize AI technology to provide personalized learning plans, and help students learn according to their individual needs.

5.3.3. Flexible Lifelong Learning System

With the rapid development of AI technology, financial management talents need to constantly improve their skills. By establishing a lifelong learning system, employees are encouraged to continuously improve their technical skills through short-term training, online courses, and other means.

6. Conclusion and Suggestions

This article analyzes the demand for financial management talent in the era of artificial intelligence and proposes the necessity and feasibility of reconstructing the financial management talent training system. The application of artificial intelligence technology has brought profound changes to the field of financial management, and the demand for financial management talents' abilities has gradually shifted from traditional basic skills such as accounting and auditing to emerging abilities such as data analysis and AI technology application. In this context, the traditional financial management talent training system is no longer able to meet market demand and requires comprehensive restructuring. The education department should strengthen research on the application of AI technology in financial management, promote curriculum reform, guide universities to offer relevant courses, and cultivate financial management talents with interdisciplinary abilities. In addition, enterprises should also increase investment in financial management talents and cultivate compound financial talents that meet the needs of the enterprise through forms such as school enterprise cooperation and practical bases. Future research can further explore how to enhance the decision support capabilities of financial managers through more advanced technologies such as deep learning and artificial intelligence algorithms, and promote the transformation of financial management from traditional transactional operations to strategic decision support.

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