

“Internet +” Thinking and New Model of Financial Engineering Professionals Training

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Abstract

In the modern era, “Internet +” is integrated into all aspects of life and is known for its convenience and efficiency. Financial engineering is the subject of efficient and creative solutions to financial problems. The development of financial engineering is inseparable from the development of Internet technology. The fast and efficient characteristics of “Internet +” are in line with the needs of financial engineering talent training. This paper analyzes the training objectives of financial engineering talents and the demand of market talents, and explores how to carry out a new mode of training new talents in financial engineering under the “Internet +” thinking, namely, the training model of theoretical talents, the training mode of scientific and technological talents and the cultivation of practical talents mode.

Key words: Internet +; Financial engineering; Talent training model

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The Internet is well known, and in the daily life, browsing the news, online shopping, learning and promotion, work arrangements, etc., all have the Internet. The Internet is

a convenience for people to access the Internet by means of mobile communication technology, and is one of the fastest growing technology fields in recent years. “Internet +” is the combination of the Internet and the business content of entities (such as enterprises, schools, other institutions, etc.), the expansion of the Internet, and the application of the Internet. For example, “Internet +” corporate funds monitoring can be achieved by relying on “Internet +”, and can provide high-speed, high-frequency, accurate and convenient information on the company’s funding sources, destinations, future needs and other aspects. For example, the “Internet +” college teaching management can facilitate the work related to student status management, teaching arrangement and management, curriculum setting, and so on. Under the influence of “Internet +”, “Internet +” is almost synonymous with efficiency and convenience. With the wide integration of the Internet and physical institutions, a way of thinking called “Internet +” has gradually formed. This way of thinking is characterized by high efficiency, convenience, and direct goals. It is the abstraction of “Internet +” and its application. The ideological guidance of “Internet +”. In the Internet era, many changes have taken place in the financial sector, such as big data and blockchains, which have become new fashions for financial development. Wang Ling (2019) proposed to integrate the concept of Internet finance into the curriculum system, enrich the practical teaching curriculum for finance majors, and increase funding to strengthen the construction of teaching resources and the cultivation of continuing education for teachers. Fu Tianyuan (2019) based on the status quo of talent demand in the financial industry and the effectiveness of financial professional teaching, explored the establishment of a professional talent-oriented financial talent training model through innovative classroom education, updating classroom content and deepening the level of school-enterprise cooperation. Based on the “Internet +” thinking

mode, this paper analyzes and proposes a new financial engineering talent training model based on “Internet +” from the aspects of financial engineering talent training objectives and market demand for professional talents.

1. FINANCIAL ENGINEERING PROFESSIONAL TALENT TRAINING OBJECTIVES

Financial engineering is an interdisciplinary subject of finance, mathematics, and computer science. It is almost an abstraction of the combination of “sindic” talents. Therefore, the goal of financial engineering talent training is to cultivate talents who can creatively solve financial problems in the financial field. Finance is the blood of the economy. The smooth operation of finance is related to the national economy and the people’s livelihood. From the state and the enterprise, to the individual, people may face financial problems and need to carry out active wealth management. In financial engineering, there are many financial engineering techniques that can actively and creatively prevent and solve many financial problems.

2. PROFESSIONAL EXPERTISE IN FINANCIAL ENGINEERING

Financial engineering expertise is created to creatively solve multi-faceted financial problems. These problems are solved by financial engineering talents and also form the professional specialty of financial engineering, that is, financial instruments can be used to creatively solve financial problems. , usually using existing or creating new financial instruments for wealth management and risk control. Existing financial instruments, including basic financial and financial instruments forwards, options, futures, swaps, and other financial instruments, cannot be enumerated here. It is also possible to enumerate some of the problems solved by running financial engineering expertise to gain a glimpse of the enormous application of financial engineering.

2.1 Wealth Preservation and Value Added

Assuming that investors have invested 500 million yuan in a portfolio of assets, both aggressive and conservative investors want to get the corresponding benefits, but the former can withstand greater risks and obtain higher returns; The lower risk is exchanged for lower returns, but both are expected to receive positive returns. If investing in the stock market, in addition to the strategy of selecting stocks, setting stop-loss and profit-taking, etc., it is necessary to maintain and increase the value of the stocks that have been opened. For the value-added value-added of such a position-building behavior, stock index futures can usually be selected to perform an index corresponding

to the sale of a certain certain point in a certain certain period in the future, and the target of locking income and wealth preservation and appreciation has been achieved. Here, stock index futures is one of the typical financial derivatives learned in financial engineering. This process involves the analysis of trends and volatility characteristics of established portfolios. The models that can be used include various financial models including autoregressive moving averages, as well as portfolios and index movements, which are volatility and trend forecasts. Correlation analysis, macroeconomic situation analysis, industry analysis and market liquidity analysis, etc., financial engineering has introduced this, if you are familiar with relevant knowledge, with certain scientific means and wisdom, you can achieve the goal of wealth preservation and value-added .

2.2 Capital Cost Control

For production enterprises, the control of production costs and expenditure costs is one of the important issues in production management. Take copper products manufacturing companies as an example. In the production plan, the price lock of copper can be locked by the copper futures contract in financial engineering. If you need to purchase a certain type of copper, you can use the time required for the production materials in the futures market. Buy the corresponding contract in advance and lock the price of copper. The pricing analysis of the professional knowledge point commodity futures trading to solve this problem is also one of the main research areas of financial engineering. Including copper price trend analysis, interpretation and trading of contracts in the futures market, basis risk analysis and contract extension issues. Take the cost control of production-type enterprises as an example of cost control of exchange rate changes. Affected by the domestic and international economic situation and trade disputes, the RMB exchange rate fluctuated in 2019. As of August 26, 2019, the central parity of the RMB against the US dollar was 7.0570. On July 26, 2019, the exchange rate of one US dollar to renminbi was 6.8796, and the exchange rate rose by 1774 basis points. If the enterprise has US dollar expenditure, then each dollar must pay an additional 1774 yuan. Faced with increased spending due to exchange rates, companies need to be actively managed in advance, a method of management that is very common in the field of financial engineering.

2.3 Risk Control

Risk control technology in financial engineering is one of the important technologies. Here is an example of interest rate risk control. For example, if an institution has floating-rate assets, but needs to issue bonds with fixed interest rates, the institution will pay fixed interest rates to investors on time and receive interest income from floating-rate assets. When the market interest rate drops, the institution is equivalent to paying interest rates higher

than the market interest rate, and the floating interest income is reduced. The financial plan of this institution can't avoid issuing fixed-rate bonds and buying floating-rate assets. This is a floating rate. The interest rate risk that assets and fixed-rate bonds need to face. Organizations that also have fixed-rate assets and issue floating-rate bonds face interest rate risk because of rising interest rates. Under the current prevailing bond financing, it is a challenging task for institutions or companies that issue bonds to evade interest rate risk or control risk while meeting their financial needs. Financial engineering provides financial derivatives such as interest rate swaps to creatively solve these problems. For institutions that issue fixed-rate bonds, they need to find another institution in the financial market, or they can be banks, exchange interest rates, and finally pay floating interest rates to match their floating-rate assets. Similarly, companies that issue floating-rate bonds can also exchange assets and liabilities for interest rate risk control through swaps. The technical knowledge of financial engineering used in this issue includes the design of swap contracts, the pricing of swap contracts, and so on.

3. MARKET DEMAND FOR FINANCIAL ENGINEERING PROFESSIONALS

In a few of the above examples, we can see the social needs of financial engineering talents. Both enterprises and institutions need corresponding financial engineering talents to creatively solve financial problems. China's financial engineering major has not been open for a long time, and there is no accurate statistics on the demand for such talents. The demand for financial engineering talents is estimated by reference to the needs of financial technology talents. Michael Page, a global recruitment consultancy, also pointed out in the "2018 China Financial Technology Recruitment Trends" report that 92% of employers in the financial technology industry surveyed said that China is facing a shortage of professional financial technology talents. At present, the total gap of domestic financial technology talents is 1.5 million. Based on the above information, according to each group that uses financial technology to solve financial problems, it is estimated that five people need to calculate that the demand for financial engineering talents is five times that of financial technology talents, and the gap is about 7.5 million.

4. "INTERNET +" THINKING AND NEW MODELS OF FINANCIAL ENGINEERING PROFESSIONALS

The financial situation is changing with each passing day. However, the cultivation of financial engineering

professionals seems to be relatively lagging. On the one hand, it is related to the difficulty of the profession. The first aspect also needs some new ways of thinking to cultivate talents. "Internet +" is a proactive way of thinking. With this mode of thinking, the new model of financial engineering talent training is proposed as follows.

4.1 Theoretical Training Mode

The theoretical training mode refers to a training mode based on theory, which is similar to the basic talent training of financial engineering. They will spend more time studying and discussing the theory of financial engineering, and dig deeper into the premise, methods and improvements of theoretical application.

Similar to other disciplines, the study, inheritance and development of the basic theory of financial engineering is a very important development direction. Therefore, in some comprehensive higher education, it is necessary to thoroughly study relevant theories to achieve the source, limitation and development of the theory. Professional talent.

4.2 Practical Training Mode

The practical training mode pays more attention to the practical ability of a certain aspect of the financial engineering field. For example, special talent training for the fields of wealth preservation, cost management, and risk control, they can not delve into the ins and outs of the theory, but understand the market and control the market. With an open vision, it can cope with market changes and solve problems creatively.

Practical talent training is adopted by most colleges and universities. This kind of training mode gives students more practical opportunities in the training mode, so that students can be familiar with the connection and application methods of certain financial engineering knowledge and practice. In this mode of training, it is necessary to explore more opportunities and effects of practice, and to develop the potential of practical training mode in practice base construction and school-enterprise cooperation.

4.3 Science and Technology Training Mode

The scientific and technological training mode pays more attention to the computer realization of financial engineering technology. After learning the relevant knowledge of financial engineering, it is more important to master certain computer programming skills, and to solve the financial problems by calculation methods.

The science and technology training mode pays more attention to the cultivation of students using computer technology. Similar to the training of financial science and technology talents, there are more computer basic programming languages and computer application technology courses in the curriculum. In practice, paying attention to the cultivation of students' ability to use

computer software to solve financial problems is the direction of talent cultivation with high market demand.

CONCLUSION AND SUGGESTION

Talent cultivation is a systematic project involving the adjustment of teaching documents, adjustment of teaching plans, and continuing education of teachers. This paper proposes three new models for talent cultivation based on the training objectives of financial engineering and the demand for market talents. However, these three models are not isolated and can be mutually integrated and

intersected. This article only discusses this and provides relevant references guide.

REFERENCES

- Wang, L. (2019). A preliminary study on the cultivation of financial talents in the era of “Internet +”. *Time Finance*, (21), 98-98 & 104.
- Fu, T. Y. (2019). Research on talent training model based on blockchain management thinking and post professional ability--A case study of finance major in private colleges and universities. *Journal of Taiyuan Urban Vocational and Technical College*, (5), 124-126.