

# Thoughts on the Training Path of Fintech Talents Based on Project-Driven Teaching Method

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**Abstract**—This paper discusses the cultivation of Fintech talents in universities under the industrial upgrading, and draws some conclusions: in the capacity building of students, the international communication ability is the most important, the coordination ability is second, and the communication, analysis and research ability are closely followed. From the perspective of social needs, we portray the job requirements and knowledge structure requirements. On this basis, the paper proposes that the project-driven teaching method can contribute to the path of talent training.

**Keywords**—Project-driven teaching; Talent development; Finance; Text mining

## I. INTRODUCTION

The P2P industry has arisen in China since about 2012, and has rapidly developed from the initial dozens of online lending platforms to thousands ones. According to the original intention of the P2P industry, it is of positive significance to China's financial system. Small and micro enterprises in China have always had difficulty in financing, and a large number of small and micro enterprises have a strong financing demand. At the same time, under the pressure of inflation, a large number of ordinary people are facing the pressure of asset shrinkage, and it is impossible to outperform inflation just relying on bank deposits. In this context, P2P finance emerged out of nowhere and was widely accepted in the market.

However, according to the latest data released by the China Banking Regulatory Commission, the number of domestic online lending institutions has reduced by 57% compared with the beginning of last year. This is just the beginning. In July, Lufax, the head company of the P2P industry, also said that it would quit P2P business. The sharp decline of P2P industry is mainly due to regulatory pressure. In the past few years, P2P industry has situation occurred frequently, and even the founder of the platform ran away with money, which led to the extreme events that investors lost all the capitals at last. The reputation of the P2P industry went worse, and almost became the synonym for financial fraud. In such situation, regulatory forces began to intervene in the P2P industry. And "three cuts" became the basic requirements of the management for the P2P industry, that is, "the total number of platforms, the total scale of business, and the number of investors" should be significantly reduced. The contraction of P2P industry in the past few months is the true embodiment of "three cuts". In early July, the management made the last adjustments for the

development of the P2P industry. "It clearly defined that in the next stage, we will steadily and orderly resolve the stock risks, take multiple measures to support and promote the benign withdrawal or smooth transformation of institutions, and maintain the stability of local economic and finance and social politics in all regions." P2P, once popular for a time, is gradually quitting the stage of history.

Fintech emphasizes the combination of finance and technology, with a focus on technology. Fintech technologies mainly include artificial intelligence technology, big data technology, Internet technology represented by mobile internet technology and Internet of Things technology, distributed technology represented by cloud computing and blockchain technology, and security technology represented by cryptography technology, quantum technology and biotechnology. The traditional financial industries such as banks and insurance achieved their own transformation and development relies on these technologies. Technological innovation has given birth to emerging fields such as intelligent investment consulting, supply chain finance, consumer finance, third-party payment, and regulatory technology. The promotion of science and technology to finance is no longer limited to the superficial aspects such as channels, but opens the deep integration of "finance + technology". (As shown in Fig. 1)



Fig. 1. Fintech ecosystem diagram

## II. THOUGHTS ON THE CULTIVATION OF FINTECH TALENTS IN COLLEGES AND UNIVERSITIES UNDER THE INDUSTRIAL UPGRADING

According to the "Report on the Fintech and Digital Financial Inclusion Development in China (2018)", China's Fintech industry is currently at the forefront of the world, and

the Fintech talents are short-handed. The government has adopted various measures to promote the cultivation of Fintech talents. Based on the “13th Five-Year Plan for Talent Development in Shanghai’s Financial Sector”, “13th Five-Year Developing Catalogues for Urgently Needed Talents in Shanghai’s Financial Sector” and “Report on the Development of Internet Financial Talents in Shanghai (2017)”, the training orientation of Fintech talents in application-oriented undergraduate colleges should focus on training business financial talents, professional service financial talents and risk control and management financial talents for new Internet financial institutions and traditional financial institutions. They should have computer knowledge, financial knowledge, big data knowledge, marketing knowledge, business knowledge, professional practical ability and crossover learning and thinking ability.

#### A. Construction of Talents Quality Training and Ability Map

Based on the “13th Five-Year Developing Catalogues for Urgently Needed Talents in Shanghai’s Financial Sector”, we extract key words of the ability from the catalogues, as shown in Fig. 2.



Fig. 2. Map of key words extraction

According to the keyword extraction, the “ability” has appeared 56 times in total. The semantic analysis of ability was further carried out, and the part of ability interception was customized, as shown in Table I.

TABLE I. CATALOGUES OF ABILITY IN CUSTOM DICTIONARY

Number	Terms	Custom Dictionary	Number	Terms	Custom Dictionary
1	Ability of strategic planning	Strategic planning	17	Ability of study and anticipation	Study, anticipate
2	Ability of leadership and decision-making	Decision-making	18	Ability of communication and coordination	Communicate, coordinate
3	Ability of team construction	Team construction	19	Ability of judgment and analysis	Judgment, analysis
4	Ability of organization and coordination	Organize and coordinate	20	Ability of study and anticipation	Study, anticipation
5	Ability of international communication	International communication	21	Ability of study and analysis	Study, analysis
6	Ability of innovation ability	innovate	22	Ability of crossover learning	Crossover learning
7	Ability of comprehensive management	management	23	Ability of adaption	adaption
8	Ability of team-work	Team work	24	Ability of marketing public relation	Marketing public relation

In the custom dictionary, the ability requirements are segmented, sorted and the word cloud was drawn, whose results are shown in Fig. 3. It can be seen that “international communication” appears 14 times, “coordination” 13 times, followed by communication, analysis, research, and the ability requirements for crossover learning occurred as well.



Fig. 3. Statistical map of word frequency of ability requirement

#### B. Analysis of Talent Cultivation from the Perspective of Social Needs

Based on the “13th Five-Year Developing Catalogues for Urgently Needed Talents in Shanghai’s Financial Sector”, we made word segmentation of experiences and position, marked the part of speech for word segmentation, then screened out the words of part of speech of nouns and made word frequency statistics. Some selected results are shown in Table II.

TABLE II. STATISTICAL RESULTS OF SOME ENTRIES OF SELECTED NOUNS AFTER WORD SEGMENTATION

terms(nouns)	Word frequency	terms(nouns)	Word frequency
Finance	74	Rules	4
Ability	57	<b>Internet</b>	4
Experience	43	Structure	4
International	38	<b>Financial risk</b>	4
Financial institution	38	Economic benefit	4
Business	36	Commodity	4
Qualification	34	Literacy	4
Product	29	Culture	4
Certificate	22	Cultural industry	4
Risk	20	Consciousness	4
Industry	19	Professional knowledge	4
Economy	18	Capital	4
Market	18	Asset	4
<b>Technology</b>	11	Decision	3
Financial service	9	<b>Data mining</b>	3
<b>Actuary</b>	8	Credit	3
<b>List price</b>	5	Innovation ability	2
Supply chain	5	entrepreneurship	2

According to the statistical results in Table II, the word "finance" appeared 74 times, and the word "technology" appeared 11 times.

Furthermore, we summarize the language descriptions of knowledge requirements, and the results are shown in Table III.

TABLE III. STATISTICAL TABLE OF KNOWLEDGE STRUCTURE REQUIREMENTS

Requirements of Knowledge Structure	Actuarial Science Supply Chain Finance(Financial Technology) Shipping Finance(Financial Technology) Offshore Finance(Financial Technology) Reinsurance(Financial Technology) Leasing Business Guarantee Business Factoring Business Financial Risk Control Law /Legislation Marketing Management Financial Products Finance and Tax Financial Accounting Auditing Economics
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### C. Summary

Through the exploration of the text, Chinese word segmentation and word frequency statistics, we got the focus of the quality and ability in talent training, including 26 ability descriptions, 14 times of "international communication", 13 times of "coordination", followed by communication, analysis, research, and the ability requirements for crossover learning occurred as well. In addition, in the analysis of talent cultivation from the perspective of social demand, the positions and knowledge requirements of chartered financial analyst, supply chain finance, shipping finance, offshore finance, financial risk manager, etc. mentioned in the position demand and knowledge structure demand belong to the category of Fintech, which provide data and demand support for the path design of the following talent training.

Back to the training objectives of Fintech talents, how can our training program and curriculum system meet the needs of ability, position and knowledge structure? How to comprehensively analyze the focus of quality and ability in the training of Fintech talents? Computers, mathematics, economics and finance are the troika, and programming ability is the basic foundation. We put forward a preliminary idea of how to achieve the goal of talent training in the project-based teaching, as shown in Fig. 4.

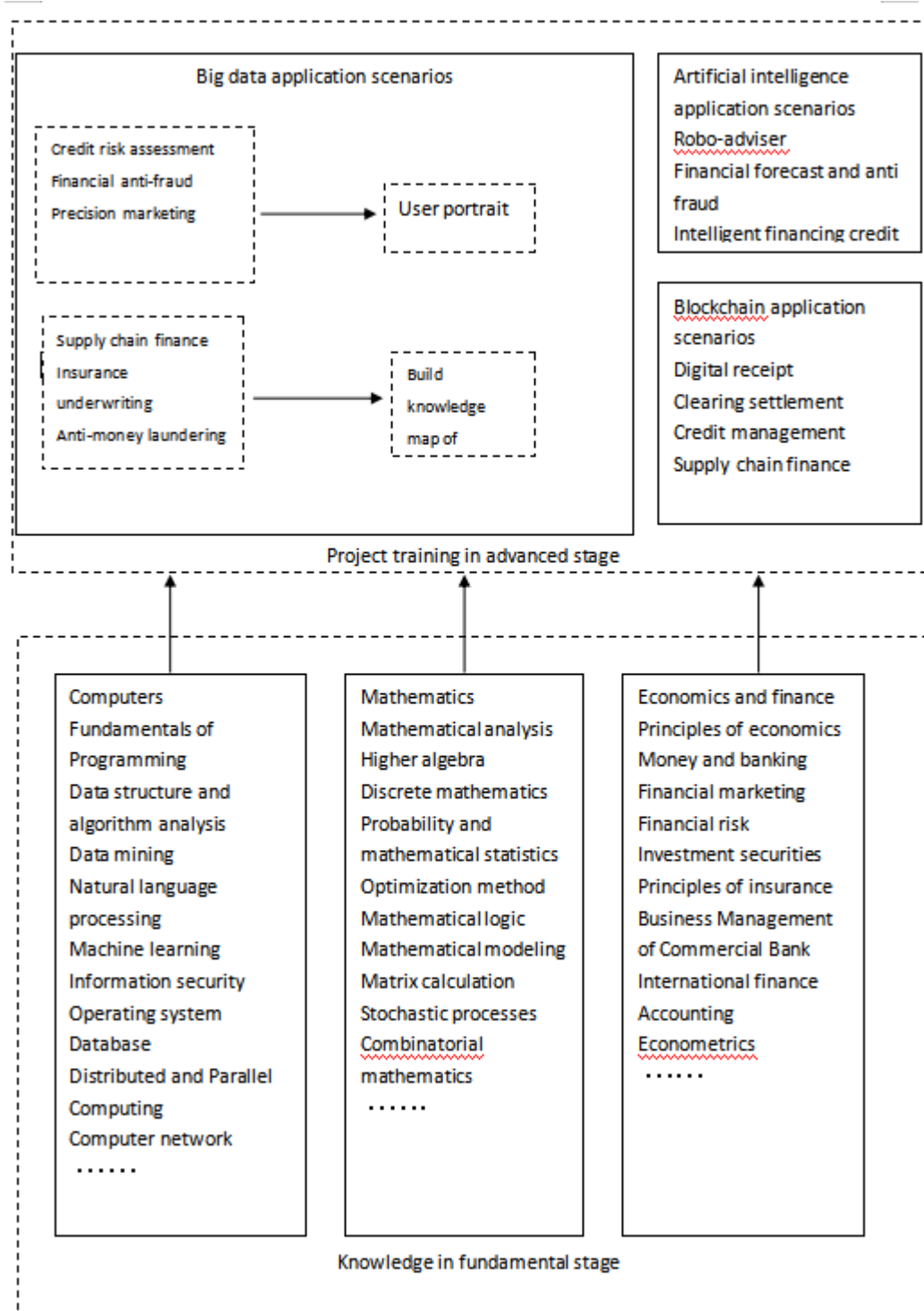


Fig. 4. Project-based training map of Fintech talents

### III. THE IMPLEMENTATION OF THE TALENTS TRAINING IN "PROJECT-DRIVEN" TEACHING

Project-driven teaching method means that in the teaching process, complete a specific project as a clue, cleverly embed the teaching content in each project, so that students can pose their own questions, and solve problems by themselves after

thinking and their teacher's instructions. Meanwhile, students have cultivated the consciousness of innovation, the ability of innovation and the habit of independent learning, and have learned how to find problems, think about them and find solutions.

But where does the project come from? How to motivate students to finish projects efficiently and excellently? How will

the final results of the project be implemented? How to evaluate students' project completion? We have some discussions on these questions.

#### A. Teachers' Cases and Experiment Contents

The teaching content should not be isolated knowledge points, or separated from the practice and industry frontier cases and experimental design, but should integrate the teachers' scientific research topics and even immature ideas, industry frontier technology into the teaching content, so that the content is rich, vivid and real-time update. In this way, like snowball, students learn by doing and teachers research by teaching, forming a network map of teaching objectives based on curriculum nodes, and finally achieving the goal of talent training.

#### B. The Horizontal Topic of Industry-education Integration

If teachers and students make some progress in the cases and experiment projects, and make some achievements, the development of the horizontal topic of the integration of industry and education will make sense. In other words, the previous curriculum cases and experimental projects are actually incubation projects, which lay the foundation for the integration of industry and education. With the help of the horizontal topic of integration of industry and education, many excellent universities have made a group of students participate in and stand out, not only graduate students, doctoral students, but also undergraduate students are full of enthusiasm.

In the teaching process, each chapter or specific experiment in the textbook is designed as a project, or some courses can be designed as a large project, and then the large project is divided into several small projects, and each section is composed of one or several small projects. The establishment of experimental projects in each stage is determined by the overall arrangement of students' current knowledge and teaching content.

### IV. CONCLUSION AND EXPECTATION

This paper discusses the cultivation of Fintech talents in universities under the industrial upgrading, and draws some

conclusions: in the capacity building of students, the international communication ability is the most important, the coordination ability is second, and the communication, analysis and research ability are closely followed. From the perspective of social needs, we portray the job requirements and knowledge structure requirements and get some interesting conclusion.

This paper is based on the "13th Five-Year Developing Catalogues for Urgently Needed Talents in Shanghai's Financial Sector". It conducts text mining and keyword extraction on the ability requirements and position demand mentioned in the catalogue. The source of the material is single, and we can further optimized the ability map and position map with the help of big data on the Internet. The incentive method mentioned in the project-driven teaching method is based on Maslow's hierarchy of needs theory. The theory is single, and the subsequent design can be further combined with the students' performance in project practice or in the form of questionnaire.

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