RESEARCH ON THE EVALUATION SYSTEM OF FINANCE AND TAXATION DIGITALIZATION TALENT TRAINING

Wu Shuangshuang[1*], Mohd Nor Hakimin Yusoff[2]

[1] Faculty of Entrepreneurship and Business (FKP), Universiti Malaysia Kelantan, Malaysia
Faculty of Business Administration, Neusoft Institute Guangdong, China
Email: wushuangshuang@nuit.edu.cn

[2] Department of Account, Universiti Malaysia Kelantan, Malaysia
Email: hakimin@umk.edu.my

[*] Corresponding Author

Abstract:

In the era of digital economy, the cultivation of financial and taxation digitalization talent has become the mainstream trend of future accounting talent training. Starting from the background of digital economy, this essay analyzes how to change the training concept and training system of accounting talent based on from the traditional manual accounting mode to the digital accounting mode. With entropy evaluation analysis and fuzzy evaluation analysis, the evaluation system is established to adapt to the development of digital economy and society. The feasibility and practicability of the evaluation system are verified, and the system makes the evaluation result more objective, in line with the actual situation for the application value.

Keywords:

Evaluation System, Finance and Taxation Digitalization, Talent Training, Entropy Weight Analysis, Fuzzy Evaluation Analysis

Introduction

The Development of Digital Economy and the Trend of Talent Training

Digital economy is a new economic form that enterprise resource allocation and regeneration will be optimized by data in the future. It breaks the limitation of real physical time and space, and it is completely different from the operation logic of industrial economy. Digitalization has

become a symbol of new economic development. It depends on informatization. That is, the emerging technologies, such as Big Data, Cloud Computing, the Internet, Blockchain, Artificial Intelligence, and 5G Communication, will be used to serve all aspects of enterprise production, operation and management. With the new generation of digital and intelligent technology enterprises will achieve business model innovation and gradually transform to digital operation. Digitalization will be the core competitiveness of enterprises in the future. The competition essence of enterprise is the competition of talent. Talent is the first resource of an enterprise, will promote the development of the entire economy. The training mode of talents should conform to the trend of economic development direction of the current era. Under the trend of digital economy, the simple and repeated manual labor has been gradually eliminated by the big data technology. The training of accounting talents should gradually break away from the previous training mode based on manual accounting.

Promoting the integrated development of the real economy and the digital economy, and promoting the deep integration of the Internet, Big Data, and Artificial Intelligence with the real economy, is the main theme of development of enterprises in the future. Enterprise refers to the accounting talent company with digital technology. Enterprises which have the new digital and intelligent technology will realize business model innovation and gradually transform to digital operation. Finance and taxation digitalization is the foundation of enterprise digitalization and the core of digital economy development. The application of finance and taxation big data, electronic application of invoice, tax-related risk control data analysis will be the mainstream trends in the field of finance and tax in the future. In the process of digital transformation, financial institutions and their personnel are crucial to the digital operations.

In order to meet the rapid economic development needs of digital talents in finance and taxation, and in combination with the actual situation of accounting talent training, many new requirements will be met in college professionals and traditional accounting talents in the digital economy environment in terms of knowledge. Jiang et al uses mathematical methods and fuzzy analytic hierarchy process (AHP) to build an evaluation model of contract mode selection, proposes a scientific and systematic solution to complex decision-making problems, and evaluates the influence degree of each influencing factor in a targeted way. Wang et al studied the principle and method of the application of entropy weight and fuzzy comprehensive evaluation method in the performance evaluation of mechanical products, focusing on the integration of standardized evaluation feature matrix, subjective and objective weights to obtain comprehensive weights and the selection of fuzzy synthesis operators, and finally came to the optimal conclusion. However, the cultivation mode of digital talents of finance and taxation will be discussed in the paper based on entropy weight method and fuzzy comprehensive evaluation method. The topic is about actively promoting the cultivation of digital talents of finance and taxation, and cultivating digital talents that adapt to the current social and economic development.

Research Background and Technical Support

In recent years, the application of digital technology in various fields has not only brought about a revolution in production technology, but also changed the operation of enterprise business models in all industries, such as artificial intelligence, blockchain, cloud computing and big data. These innovative technologies continue to emerge, accelerating the integration of the real economy and Digital Technology. This integration makes digital knowledge and information as the production factors, information technology as the carrier, and finally use. At the same time, the communication technology is booming to improve the efficiency of digital

economy. The new generation of information technology is integrated with the three major industries, forming the core technology of new economic, new industry, new form and new mode.

In order to know the current enterprise's demand for digital transformation and the application of digital technology, as well as the demand for digital talents in the process of digital transformation, a survey was conducted for enterprise managers at different levels in different industries, such as business owners, sales directors, production directors, operation directors, finance and taxation directors, grassroots managers and customers. The survey results show that 58% of the respondents said that they need to deepen their understanding of digital, intelligent technology and complex data analysis. Data transmission and advanced analysis technology will be the most needed capabilities for key future financial functions; 57% of financial directors believe that management will be the key ability in the future, and will more and more support the moral nature of decisions related to financial objectives. As a large amount of data of enterprises ultimately belongs to the financial field, in the process of digital transformation of enterprises, financial and tax talents who master digital technology will become scarce talents in the future. The cultivation of digital talents in finance and taxation has also become an important part of the transformation of accounting education.

Research Method

Data Collection
As an accounting teacher in a university, the author of this essay has been teaching in the accounting field for many years, and has gone through the development stage from manual bookkeeping to financial software and digital finance and taxation. It is obvious that enterprises at different stages have different requirments for different types of finance and taxation talents. In order to meet the requirment of the current digital transformation of enterprises, a talents training system of finance and taxation digitalization will be established and evaluated, to achieve the goal of finance and taxation digitalization.

This essay takes an accounting 300 students at a university in southern China as a survey and research object. These students will serve the enterprise in southern China which have the high degree of digital application. According to the content of the accounting knowledge system, students' level of learning ability and comprehensive quality, to establish a new accounting talent training system which consist of four first-level indicators and nine second-level indicators by the method. The survey was conducted by questionnaire survey. The questionnaire was designed with the Likert scale 1-5 level which indicates very unimportant, unimportant, important, general important, very important.

This research adopts Entropy Weight Analysis and Fuzzy Evaluation Analysis. With the mathematical model, to establish the evaluation system of finance and taxation digitalization talent training.

The system structure is shown in Figure 1.
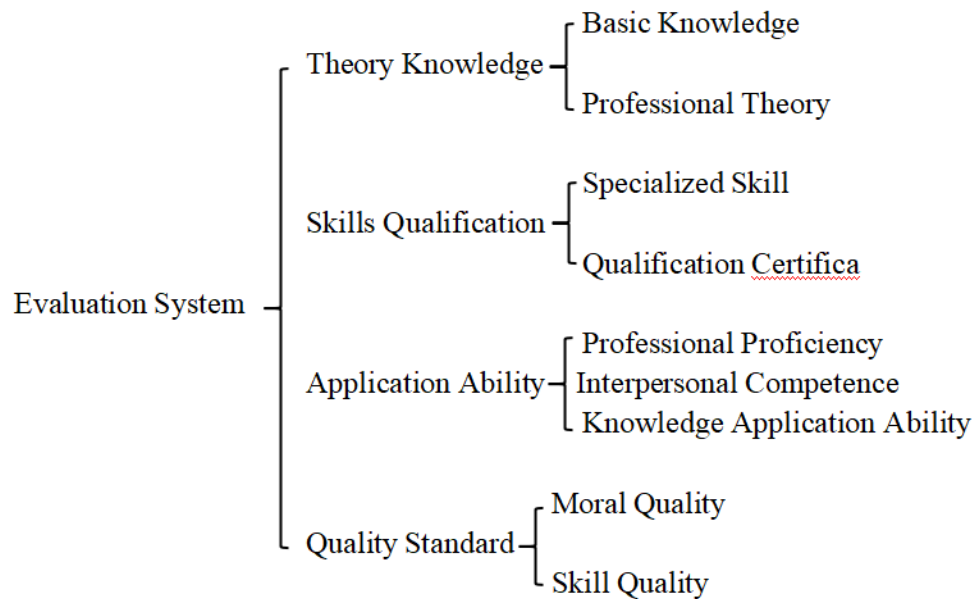
Figure 1. The Framework of Evaluation System

Entropy Weight Analysis of Qualitative Evaluation

Entropy is a measure of uncertainty in information theory. The smaller the entropy weight is, the greater the difference degree of the index is. The higher the weight given by the index, the greater the role it plays in the evaluation. Determine the original data matrix=$(X_{ij})_{m \times n}$ ($0 \leqslant i \leqslant m$, $0 \leqslant j \leqslant n$) according to the score results of the questionnaire.

To assume that there are m schemes to be evaluated, n evaluation indicators. The original index data is marked with X, thus the multiple dimensions and indicatorsmatric will be:

$X = (X_{ij})_{m \times n}$, ($0 \leq i \leq m, 0 \leq j \leq n$) .

Firstly, the evaluation model is built as follows: $\mu_{ij} = X_{ij} / \sum_{j=1}^{n} X_{ij}$

It is obvious that μ_{ij} should be between 0 and 1.

Secondly, to calculate each entropy of all indicators: $H = -1/\log_k \cdot \sum_{k=1}^{k} \mu_{ijk} \cdot \log\mu_{ijk}$

Thirdly, to calculate the utility value of all indicators: $V_{ij} = 1 + H$

Finally, to calculate the last entropy weight: $W_{ij} = V_{ij} / \sum_{j=1}^{n} V_{ij}$

In particular one point to be noted, the weight of indicators is come from the subjective determind not from the calculation. So the main disadvantage of the entropy weight analysis is subjective arbitrariness. It heavily affects the last conclusion. Therefore, the fuzzy evaluation

analysis will be used with combining the entropy weight analysis to improve the credibility of the conclusion.

Fuzzy Evaluation Analysis of Quantitative Evaluation

With the comprehensive evaluation of the same object affected by multiple factors, the fuzzy evaluation analysis can better solve the issue to quantify problems, especially for subjective problems.

Firstly, to establish the evaluation subset of the all influential factors:

$U = \{ U_1, U_2, ..., U_m \}$

The subset U will be made up by the factors of Evaluation System.

Secondly, to establish an evaluation subset of comprehensive evaluation which the various evaluator may make the evaluation results:

$V = \{ V_1, V_2, ..., V_m \}$:

Thirdly, to establish a fuzzy relationship matrix between U and V:

$$R = \begin{matrix} R_{11} & R_{12} & \dots & R_{1n} \\ R_{21} & R_{22} & \dots & R_{2n} \\ R_{m1} & R_{32} & \dots & R_{mn} \end{matrix}$$

The m of R_{mn} means the factor levels and the n means evaluation levels. The R reflects the fuzzy relationship between the evaluation index and the evaluation grade of the membership degree.

Then to establish the weight subset of the weight vector:

$W = \{ W_1, W_2, ..., W_n \}, \sum_1^n W_i = 1$

Lastly, to calculate the fuzzy evaluation results:

$Y = W \cdot R$

The Y of the factor subset will be gotten after determined the factor weight vector W and the fuzzy relationship matrix R. Then the second level fuzzy evaluation based on the first level fuzzy evaluation.

$B = W \cdot Y$

The latest evaluation results are obtained by:

$S = B \cdot V$

The details of calculation are shown in tabel 1.

Table 1. Evaluation Results of New Accounting Talent Training System

First Level	Weight	Second Level	Weight	Evaluation Calculation					Combination Weight	Sort
				Level 1	Level 2	Level 3	Level 4	Level 5		
Theory Knowledge	24%	Basic Knowledge	26%	4%	10%	21%	40%	25%	6.24%	8
		Professional Theory	74%	0%	0%	19%	33%	48%	17.76%	1
Skills Qualification	23%	Specialized Skill	47%	0%	15%	10%	38%	37%	10.81%	5
		Qualification Certifica	53%	0%	6%	21%	46%	27%	12.19%	4
Application Ability	27%	Professional Proficiency	53%	0%	2%	23%	44%	31%	14.31%	3
		Interpersonal Competence	22%	4%	9%	31%	25%	31%	5.94%	9
		Knowledge Application Ability	25%	6%	6%	19%	36%	33%	6.75%	7
Quality Standard	26%	Moral Quality	61%	0%	0%	29%	33%	38%	15.86%	2
		Skill Quality	39%	0%	8%	25%	40%	27%	10.14%	6

Source: Calculated by survey data.

Remark: Level 1-very unimportant, Level 2-unimportant, level 3-important, Level 4-general important, Level 5-very important.

System Application Analysis

According to the subjective judgement of different experts, the first level indicators are classified as Application Ability, Quality Standard, Theory Knowledge and Skills Qualification of four types. All ecperts are agreed with Application Ability ranked first. In the fact, the importance of all abilities is not too large difference among the four ranks. As shown in Tabel 1, to compare with other indicators, capability applications are ranked firstly, it shows that the training of new accounting talents should be focus on the application of ability, In the meantime we should focus on the training of their Professional Theory ability, Moral Quality, Qualification Certifica and Professional Proficiency of nine subtypes. The systems of finance and taxation digitalization talent training that professional theory ranks firstly, which shows that with the development of society and the form of digital economy, the professional theoretical knowledge of finance and taxation digitalization talents needs to be more focused on training.

With the combination of Qualitative Evaluation and Quantitative Evaluation, the selection group of various factors can be comprehensively analyzed. Increase the credibility of the weight, so as to enhance the scientific nature of the evaluation. The Fuzzy Evaluation Analysis shows the connotation of the evaluation system of the new accounting talent training. The feasibility and practicability of the evaluation system are verified. It shows that the evaluation system makes the evaluation results to have more objective and practical value.

Conclusion

From the outlook of the social and economic development, the evelopment of the traditional economic model will be replaced eventually by the new economy. It is an inevitable trend of the development of science and technology of human civilization. The digital technology, information technology, artificial intelligence and big data will be the fourth revolution of the industrial revolution. The future training of accounting talents should follow the trend of science and technology to train digitalizition accounting talents.

The digital economy has reconstituted the process of enterprise accounting information flow completely to change the working content and method in accounting.With the combination of Qualitative Evaluation and Quantitative Evaluation, this essay makes an depth evaluation system of finance and taxation digitilization talent training. In the future, the focus of training is on Application Ability of the first level and Professional Theory and Moral Quality of the second level. Meanwhile, as the main force of accounting talent training, colleges and universities should first change the concept of finance and taxation digitalizition talent training, so that all the administrators of colleges and universities can realize that the reform of accounting personnel training is imperative. So as to fundamentally change the accounting personnel training program established by the traditional manual accounting mode. Integrating digital technology into accounting theory is the key to change the direction of accounting talent training. This is also a disruptive change to the accounting faculty.

Acknowledgements

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