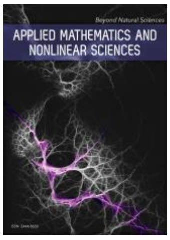
sciendo Applied Mathematics and Nonlinear Sciences, 9(1) (2024) 1-15



Applied Mathematics and Nonlinear Sciences

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The Construction of Judgment Model for Cultivating Intelligent Accounting Professionals in Universities Based on Logarithmic Periodic Power Law Model

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Submission Info

Communicated by Z. Sabir
Received May 27, 2022
Accepted September 14, 2022
Available online April 12, 2023

Abstract

The talent training evaluation model not only helps to evaluate the talent itself but also provides feedback on the content of the talent training evaluation. Therefore, this paper establishes an efficient and intelligent talent training evaluation model for accounting professionals based on the logarithmic cycle power law model. The main content of talent training evaluation is set as general knowledge skills, professional thinking, and values. The log-periodic power-law model and the least squares method are combined to reduce the dimensionality of the nonlinear parameters of the judging content and to quantify the judging of intelligent accounting professional talent training in universities, which is convenient for the calculation of linear functions. With the help of log-periodic power-law oscillation to prove that talent training is changing in a cyclical pattern, the feasibility of its prediction is demonstrated. The study shows that the talent cultivation judgment model constructed based on the log-periodic power-law model is very accurate, especially in talent cultivation value judgment prediction. The model achieves zero error in the prediction of some data, and the maximum error between prediction and actual is only 6%. In the judgment of general knowledge and skill cultivation, the maximum error between the prediction and the actual score of the model is no more than 2 points. This shows that the talent development evaluation model based on the log-periodic power law model can make accurate predictions of talent development evaluation.

Keywords: Log-periodic power law; Least squares; Parametric dimensionality reduction; Log-periodic power law oscillation; Talent development judging model
AMS 2020 codes: 08C99

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ISSN 2444-8656
https://doi.org/10.2478/amns.2023.1.00090

1 Introduction

Whenever possible, what kind of economic development and the cultivation of talents are the top priorities of a country []-[2]. In today's world, the new technological revolution characterized by information technology is on the rise, and the information technology revolution has brought unprecedented opportunities for the development of various industries []-[4]. Relying on information technology, the computer industry is booming, and cloud computing is becoming a new class of network-based computing occurring on the Internet [5]. Cloud computing has powerful computing capabilities to analyze and process massive amounts of data, and it is also widely used in various industries by virtue of its great flexibility and convenience []-[10]. However, the development of information technology also has a counter effect on social development [11]. For example, the creation and development of cloud computing have also had an impact on the traditional accounting profession. Based on cloud computing, information computerization has become the main development trend in the accounting profession. The accounting profession has followed the trend of the times and derived a new professional module of intelligent accounting, which combines traditional accounting with big data computing. In order to comply with the development of the times, the country and the demand for the talent of intelligent accounting majors are getting bigger and more demanding [12]. The construction of the evaluation system of intelligent accounting professional talents training is significant to solve the current problems in intelligent accounting professional talents training in colleges and universities. However, there are differences in people's judgment standards for talent cultivation of accounting majors, and exploring the evaluation system of intelligent accounting professional talent cultivation in colleges and universities has become an important issue that needs to be solved in front of intelligent accounting educators in colleges and universities.

Finance and accounting is a profession that covers an exceptionally wide range of topics. The literature [13] introduces the knowledge related to finance and accounting through concepts and detailed cases. Accordingly, we can easily see that smart accounting relies on computers and big data to carry out accounting, auditing, financial management, etc. Literature []-[16] states that smart accounting can be combined with cloud computing and big data, which helps to improve the accuracy rate of data calculation. Literature [17] shows that the cultivation of talents in the field of intelligent accounting and finance professionals has received much attention. Therefore, we need to construct a model for judging the cultivation of talents in smart accounting professionals. The literature **Error! Reference source not found.** states that the log-periodic power-law model makes the most probable time prediction of the study object based on the estimation of nonlinear least squares. It can be seen that the log-periodic power-law model has a high prediction accuracy, which provides a new method for the prediction of the judging model in this paper. The log-periodic power-law model contains three linear parameters and four nonlinear parameters. It would be difficult to solve all seven parameters in the model at the same time, so we need to preprocess the model data with the help of the least squares method. The literature []-**Error! Reference source not found.** also demonstrates by examples that least squares have been widely used in various industries in all aspects. Applying it to the model, moreover, can preprocess the relevant data in the model, which is beneficial to achieve accurate prediction. Accordingly, in this paper, when establishing a model for judging the training of intelligent accounting professionals in colleges and universities based on the log-periodic power law model, the model is considered to be optimized by the least squares method to facilitate the calculation and improve prediction accuracy. The literature [22] explored the measures for training talents of finance and accounting majors in applied undergraduate programs. The literature [23] designed a special syllabus for finance and accounting personnel, which provided a direction for the talent training of finance and accounting majors and a basis for judging the talent training in this paper. The literature [24] introduces us to the theoretical knowledge of talent training and constructs a talent training model. This all provides significance for the construction of the talent cultivation judging model in this paper. The evaluation models and indexes of talent cultivation of intelligent accounting professionals in universities constructed in the above-mentioned literature are relatively outdated, and the judging models constructed either follow the traditional talent evaluation standards, focusing on academic achievement and skill level, or ignoring "soft abilities." Some of the evaluation models focus on quality cultivation, but standardized results such as participation in projects and practice are the main focus, ignoring the diversity and development of talents. In addition, these models do not quantify the evaluation and do not provide relevant data, which is not convincing.

In this paper, we construct a judging model of intelligent accounting professional talent training in colleges and universities based on the log-periodic power law model. Firstly, we analyze the role of the log-periodic power law model in talent training. Secondly, analyzing the log-periodic power-law oscillation fitting diagram proves that talent cultivation is changing periodically and the feasibility of its prediction. Finally, we construct a model for judging the training of intelligent accounting professionals in universities based on the log-periodic power law. In order to verify the prediction and judgment ability of the model, the talent training judgment content is set, and the judgment content is set as general skills, professional thinking, and values. The log-periodic power law model and the least squares method are combined to reduce the dimensionality of the nonlinear parameters of the judging content and perform the calculation of linear functions to obtain the predicted judging values of the judging model. Based on the log-periodic power-law model, the judging model of intelligent accounting professional talent training in universities can accurately predict talent training.

2 Talent development evaluation model based on log-cycle power law

2.1 LPPL model

The log-periodic power-law model is referred to as the LPPL model. The log-periodic power-law model is based on mutual imitation between traders, and these local interactions can form positive feedbacks that lead to the creation of bubbles and anti-bubbles and thus can be used for modeling and forecasting financial bubbles and anti-bubbles [25]. However, with the development of log-periodic power-law models, the powerful predictive and computational capabilities of log-periodic power-law models have been discovered. The log-periodic power-law model has been widely used in various industries and is considered to be the most representative study of the judging model for the training of intelligent accounting professionals in universities.

The LPPL model can quantify the judgment on the cultivation of intelligent accounting professionals in colleges and universities. The degree of intelligent accounting professional talent cultivation in colleges and universities is expressed in the form of logarithmic cycle fluctuations showing power law acceleration. The shorter the fluctuation period of low-quality time of talent cultivation, the shorter it is, and the more it shows a continuous and regular reciprocal cycle of gradually decreasing fluctuation period. The degree of talent cultivation can be expressed by the following formula:

$$Inp(t) = A + B(t_c - t)^m + C(t_c - t)^m \cos(\omega In(t_c - t) - \varphi) \tag{1}$$

Where: $p(t) > 0$ is the index at time T, $A > 0$ is the degree that talent development may reach if it continues until the critical time t_c, i.e. $p(t)$. $B < 0$ is an indication that the quality of talent development is an upward accelerating process, $t_c > 0$ is the critical time to measure the judgment of high or low talent development quality, and $0<\varphi<2\pi$ indicates the initial phase of the cycle fluctuation.

Due to a large number of unknown parameters in this model, it contains 7 unknown parameters. It contains 3 linear parameters and 4 nonlinear parameters. It would be difficult to solve all 7 parameters at the same time. In the model $t_c>0$ is the key to predict the high quality of talent development. We borrowed the method of Filimonov and Sornette to reduce the dimensionality of the model several times in order to achieve a better balance between model stability and validity.

Through triangular transformation:

$$\cos(X-Y)=\cos X\cos Y+\sin X\sin Y \tag{2}$$

The model can be rewritten as:

$$\begin{aligned} Inp(t)=A+B(t_c-t)^m+C_1(t_c-t)^m\cos\left[\omega In(t_c-t)\right] \\ +C_2(t_c-t)^m\sin\left[\omega In(t_c-t)\right] \end{aligned} \tag{3}$$

Where: $B(t_c-t)^m$ the power law term describes the acceleration of talent development from a positive feedback mechanism, and $B(t_c-t)^m\cos(\omega In(t_c-t)-\varphi)$ the periodic term is a modification of the hyper-exponential behavior.

Let $C_1=C\cos\varphi, C_2=C\sin\varphi$, then the model can be rewritten as:

$$\begin{aligned} np(t)=A+B(t_c-t)^m+C_1(t_c-t)^m\cos\left[\omega In(t_c-t)\right] \\ +C_2(t_c-t)^m\sin\left[\omega In(t_c-t)\right] \end{aligned} \tag{4}$$

Using a least squares estimator, the three linear parameters, A, B, and C, are represented by four nonlinear parameters β,ω,φ,tc []]. The genetic algorithm in the heuristic algorithm is then used to solve the model for β,ω,φ,tc these four nonlinear parameters, and the optimal solution needs to satisfy a minimum value of the root mean square error. Let the objective function be:

$$F(tc,m,\omega,A,B,C_1,C_2)=\sum^{m}\begin{bmatrix} Inp(t_i)-A-B(t_c-t_i)^m \\ -C_1(t_c-t_i)^m\cos\left[\omega In(t_c-t_i)\right] \\ C_2(t_c-t_i)^m\sin\left[\omega In(t_c-t_i)\right] \end{bmatrix}^2 \tag{5}$$

Where: $t<t_c$ is the arbitrary time before talent development quality is judged, $0<m<1$ is the power exponent, which measures the acceleration of talent development quality rise. ω is the angular frequency of high and low fluctuations of talent development quality, and C is a fluctuation magnitude value around the exponential growth, quantifying the log-cycle vibration. Then:

$$\left(\hat{t}_c,\hat{m},\hat{\omega},\hat{A},\hat{B},\hat{C}_1,\hat{C}_2\right)=\underset{t_c,m,\omega,A,B,C_1,C_2}{\arg\min}\ F(t_c,m,\omega,A,B,C_1,C_2) \tag{6}$$

In fact, it can be proven:

$$\left(\hat{t}_c, \hat{m}, \hat{\varphi}\right) = \underset{t_c,\omega,\varphi}{\arg\min} F\left(t_c, \omega, \varphi\right) \tag{7}$$

$$F_1\left(tc, \omega, \varphi\right) \min_{A,B,C_1,C_2} F\left(t_c, m, \omega, A, B, C_1, C_2\right) \tag{8}$$

Where: $\left(\hat{A}, \hat{B}, \hat{C}_1, \hat{C}_2\right)$ is the linear parameter estimate. It can be solved by the following equation:

$$\begin{bmatrix} N & \sum f_i & \sum g_i & \sum h_i \\ \sum f_i & \sum f_i^{\,2} & \sum f_i g_i & \sum f_i h_i \\ \sum g_i & \sum f_i g_i & \sum g_i^{\,2} & \sum g_i h_i \\ \sum h_i & \sum f_i h_i & \sum g_i h_i & \sum h_i^{\,2} \end{bmatrix} * \begin{bmatrix} A \\ B \\ C_1 \\ C_2 \end{bmatrix} = \begin{bmatrix} \sum Inp_i \\ \sum f_i Inp_i \\ \sum g_i Inp_i \\ \sum h_i Inp_i \end{bmatrix} \tag{9}$$

Where: f_i is the mrd power of $\left(t_c - t_i\right)$, g_i is the cosine of $\left(t_c - t_i\right)^m$ times $\left[\omega In\left(t_c - t_i\right)\right]$, and h_i is the sine of $\left(t_c - t_i\right)^m$ times $\left[\omega In\left(t_c - t_i\right)\right]$.

In this way, the nonlinear parameter estimation is reduced from 4 to 3 dimensions, and only $\left(t_c, m, \omega\right)$ needs to be estimated.

Since the talent training quality critical point t_c has a pivotal position in the LPPL model, inspired by the separation of linear and nonlinear parameter estimation, the idea of functional affiliation between parameters is introduced, i.e., t_c is the core in the LPPL model, while $\left(m, \omega\right)$ have been expressed as a function of t_c, $\left(m\left(t_c\right), \omega\left(t_c\right)\right)$. Then the estimation of nonlinear parameters can be distributed to optimize the solution, where t_c is optimally estimated as:

$$\hat{t}_c = \underset{t_c}{\arg\min} F_2\left(t_c\right) \tag{10}$$

where: $F_2\left(t_c\right)$ is the minimum value of $F_1\left(t_c, m, \omega\right)$. And the optimal estimate of $\left(m\left(t_c\right), \omega\left(t_c\right)\right)$, $\left(\hat{m}\left(t_c\right), \hat{\omega}\left(t_c\right)\right)$ is:

$$\left(\hat{m}\left(t_c\right), \hat{\omega}\left(t_c\right)\right) = \underset{m,\omega}{\arg\min} F_1\left(t_c, m, \omega\right) \tag{11}$$

In this way, we only need one-dimensional parameters in the estimation, even in the estimation process of $\left(m\left(t_c\right), \omega\left(t_c\right)\right)$, which greatly improves the stability of the parameter estimation and the accuracy of the calculation.

In the LPPL model, the evolution process of talent development quality in the evaluation model is:

$$\frac{dp}{p} = \mu(t)dt + \sigma(t)dW - kdj \tag{12}$$

Where: $\mu(t)$ is the trend term, W is a Wiener process satisfying a mean of 0 and a variance of 1, and dj is a discontinuous jump.

In the LPPL model, assuming that the probability of low quality of talent development is $h(t)$, we have:

$$h(t) = B'(t_c - t)^{m-1} + C'(t_c - t)^{m-1} \times \cos(\omega In(t_c - t_i) - \phi) \tag{13}$$

Where: B', C' is greater than 0, t_c is the lowest point of talent development quality, also known as the threshold of collapse. m is the power growth index, representing the acceleration of talent development quality improvement, m the smaller, the faster the acceleration of talent development quality improvement; ω is the angular frequency of oscillation; ϕ is the initial phase of talent development quality oscillation.

The underlying LPPL model does not incorporate talent development quality factors into the modeling process. In this paper, we innovatively modify the probability equation $h(t)$ of low-quality of talent development in the LPPL model to the role of the LPPL model in talent development evaluation. The function $h(t)$ after considering talent cultivation is:

$$h(t) = B'(t_c - t)^{m-1}(1 + sentiment_{t-1})^{\lambda} + C'(t_c - t)^{m-1}\cos(\omega In(t_c - t_i) - \phi) \tag{14}$$

Where: $sentiment_{t-1}$ is the $t-1$ moment talent cultivation quality. $\lambda > 0$ then indicates that higher talent cultivation will amplify the positive feedback effect, and low talent cultivation will suppress the positive feedback effect. Otherwise, it does not hold.

2.2 Log-periodic power-law oscillations

From the above equation, it is clear that talent development based on the power law of the logarithmic cycle is cyclically turbulent. By $E_t[d_j] = h(t)dt$, $E_t[dw] = 0$ and the talent demand market does not have a demand for high or low-quality of talent, i.e.:

$$E_t[dp] = 0 \tag{15}$$

Taking the expectation at both ends of equation (12), we get:

$$\mu(t) = kh(t) \tag{16}$$

Further, equation (14) can be simplified as follows:

$$\frac{dp}{p} = \mu(t)dt + \sigma(t)dW = kh(t)dt + \sigma(t)dW \tag{17}$$

Further taking the expectation for both ends of the above equation, we get:

$$E_t\left[\frac{dp}{p}\right] = kht(t)dt \tag{18}$$

Eq. (17) is obtained by taking the integral and combining it with Eq. (13):

$$In(p(t)) = A + B(t_c - t)^m + C(t_c - t)^m \times \cos(\omega In(t_c - t) - \phi) \tag{19}$$

Where: $A > 0$, is the quality of talent development critical point. $B = -kB'/m$; $B = -kC'/\sqrt{m^2+\omega^2}$, and $B(t_c - t)^m$ reflects the power-law growth characteristic of talent development quality driven by positive feedback mechanism. $C(t_c - t)^m \times \cos(\omega In(t_c - t) - \phi)$ portrays the log-periodic oscillation of talent development quality near the minimum, which is a modification of the power-law growth behavior of talent development quality. The log-periodic power-law oscillation presented in the LPPL model is shown in Figure 1.

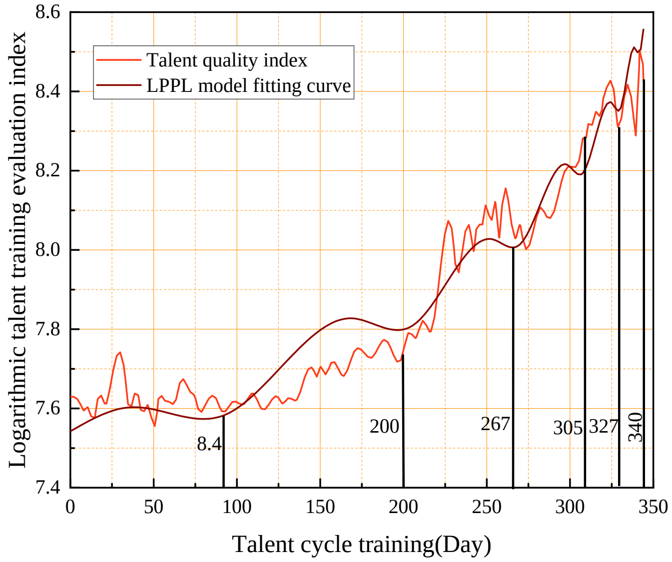


Figure 1. LPPL model log-periodic power-law oscillation fit

From Figure 1, we can see that the closer to the critical point of talent cultivation in the linear scale, the faster the frequency of its oscillation, which is expressed by the increasingly shorter interval period of exponential oscillation in the graph. The period of oscillation can be obtained by subtracting the peak or trough values of the cosine function. For example, the first period is 200 days minus 84 days, that is, 116 days, and so on. Taking the logarithm of the oscillation period under the linear scale separately, it can be seen that the growth rate of talent training shows monotonically increasing characteristics, which can be predicted accurately.

2.3 Talent development judging content and model construction

In this paper, we believe that the intelligent accounting professionals cultivated by colleges and universities are a synthesis of relevant skill states and long-term development capabilities that should be possessed to meet future development. Therefore, in the process of constructing the judging model of intelligent accounting professional talents training, attention should be paid to the classification and level to match the development needs of talents at different stages, and the judging content is shown in Figure 2.

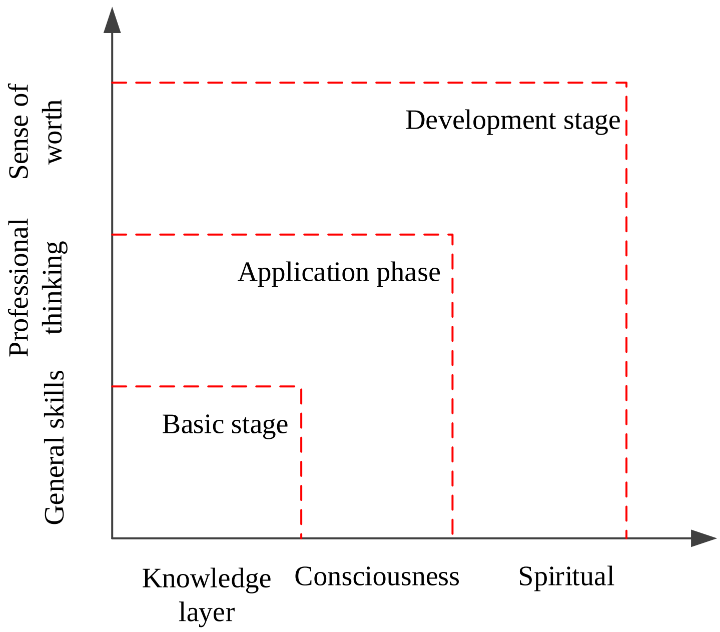


Figure 2. Schematic representation of the content of the talent development evaluation model

From Figure 2, we can see that intelligent accounting professional talent training judging needs to be carried out in three stages. Among them, the main judgment target of the basic stage is the achievement of the knowledge layer of talents, with general knowledge skills as the main judgment content, judging the basic ability of talents to cope with problems. When the skill layer is judged to a certain degree, it enters the application stage judging, and the consciousness level of intelligent accounting professionals is judged. The formation of professional consciousness of talents in a certain field is used as the judging index, and the discovery of problems is used as the judging basis. With the continuous precipitation of professional thinking, professional thinking is further internalized into values, forming the core literacy of talents' spiritual level, thus gradually entering the development stage. This stage is mainly judged by the awareness of expanded thinking and the spirit of exploration.

The above analysis is combined with the LPPL model to construct a judging framework for the cultivation of intelligent accounting professionals in colleges and universities, as shown in Figure 3.

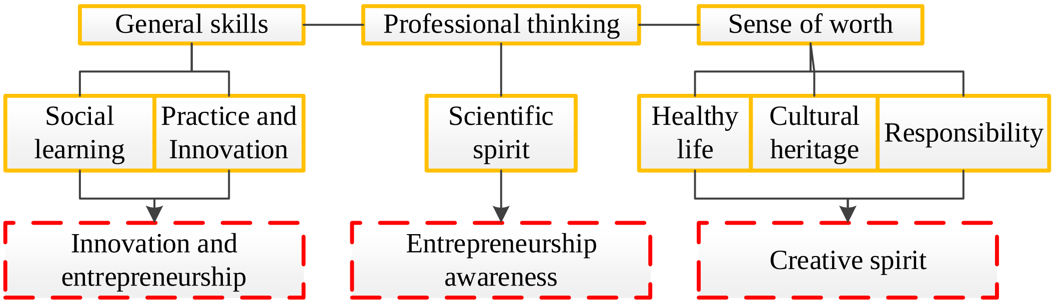


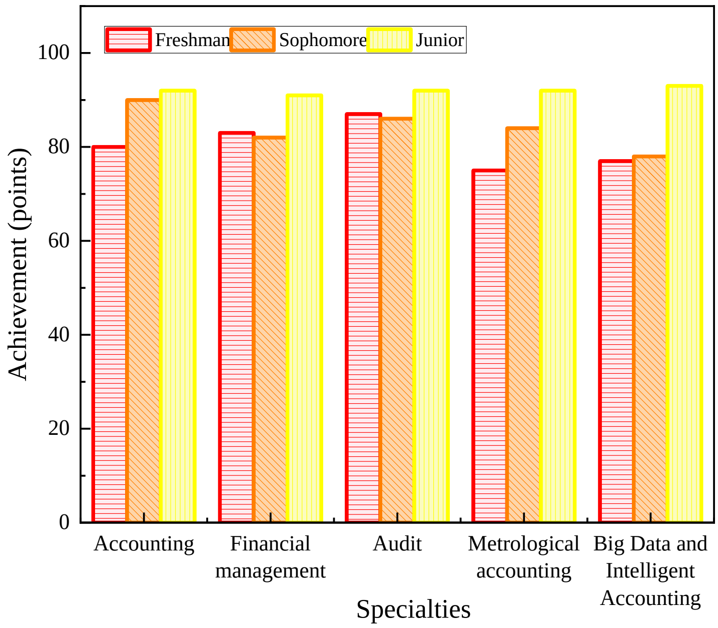
Figure 3. Judgment model of intelligent accounting professional talent training

From Figure 3, we can see that the talent cultivation judgment model of intelligent accounting professionals in colleges and universities established in this paper based on the LPPL model divides the talent cultivation judgment into three major dimensions of the conclusion, where every two to three key points are a group constituting the core of a certain dimension. However, it should be pointed out that the content of each group of key points is only different aspects of the talent cultivation judgment dimension, and the three aspects are related to each other but not necessarily each other, which reflects the complex relationship between the key points and the corresponding talent cultivation dimension that are both related and independent. Accordingly, when calculating the corresponding indicators by using a certain group of key points, it should be assumed that the relationship between the key points and the corresponding investigated indicators is non-linear. The calculation of linear parameters using the LPPL model to obtain the respective values has a high accuracy rate.

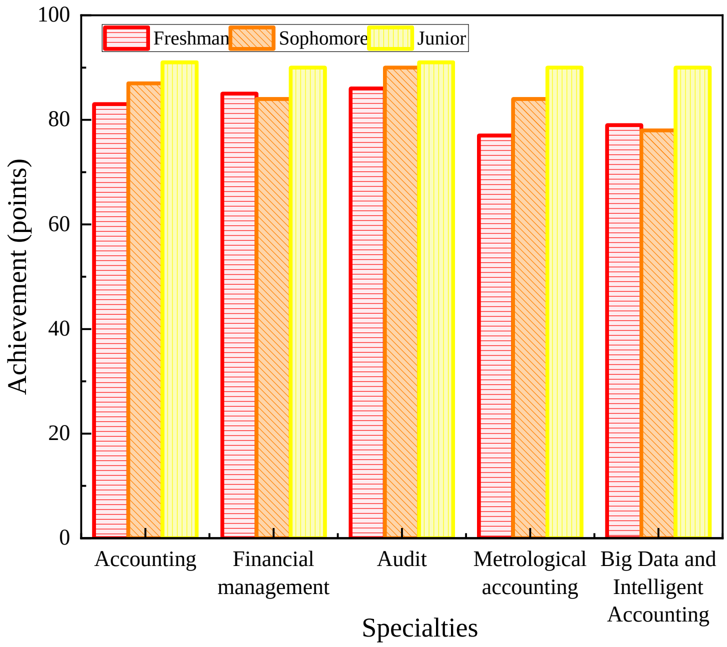
3 Empirical analysis of talent development judgment model

3.1 Generalist Skills Judgment

The level of students' generalist skills is mainly reflected by their academic performance. Moreover, in most cases, grades are also the main means of measuring students' progress in school and are a quantitative representation of the quality of talent cultivation. In order to more intuitively reflect the evaluation of the talent cultivation model of intelligent accounting majors based on the log-periodic power law model, this paper selects a financial school and conducts a professional achievement test of five subjects for its freshman to junior students of intelligent accounting majors, as shown in Figure 4. The LPPL model was used to predict the students' professional knowledge performance, as shown in Figure 4(a). Then it is compared with the actual test scores of students, and the real scores of students are shown in Figure 4(b) to prove their judging ability. However, considering the large sample size, all the data obtained in this paper are average values.



(a) Talent Development Judgment Model Predicted Performance



(b) Actual student test scores

Figure 4. Student professional achievement test

From Figure 4(a), we can see that the judging model based on the LPPL model for the cultivation of intelligent accounting professionals in colleges and universities predicts that the scores of freshmen students are generally lower compared with those of sophomores and juniors, especially in the subject of econometric accounting and the subject of big data and intelligent accounting. The test scores of freshmen students in the subject of econometric accounting were only 76 and 77 in the subject of big data and smart accounting. Although well above the passing mark of 60, the scores were lower when compared to the other three subjects. Considering the developmental nature of students, the judging model for cultivating intelligent accounting professionals in colleges and universities based on the

LPPL model predicted that the sophomore and junior students' performance in the subject of econometric accounting and the subject of big data and intelligent accounting gradually improved, and the junior students' performance also proved the prediction of the model. The junior students scored 89 points in the subject of econometric accounting, 13 points higher than the freshman students. The score on the Big Data and Smart Accounting subject reached 90 points, which is an excellent score.

As we can see in Figure 4(b), the actual scores of smart accounting students are generally high. Especially in accounting subjects, financial management subjects, and auditing subjects, the scores were all in the 80s and above. The highest scores were achieved by the juniors, who scored 90 and above in all five professional subjects tested.

Comparing Figure 4(a) with Figure 4(b), we can clearly see the accuracy of the prediction of the model for judging the training of intelligent accounting professionals in colleges and universities based on the LPPL model. In terms of accounting subjects, the error between the model-predicted scores and students' actual scores is no more than 2 points. From the financial management subject, the error between the model prediction and the student's actual grades does not exceed 2 points, and even the prediction of the junior students' grades reaches 100% correct, without the existence of errors. In terms of auditing subjects, the error between the model-predicted grades and the actual student grades was only 1 point. From the subject of econometric accounting, the error between the model prediction and the student's actual grades was only 1 point in all 5 subjects. From the Big Data and Smart Accounting subjects, the model predicted scores were basically the same as the actual student scores. Thus, it can be seen that the judging model of intelligent accounting professional talent training in colleges and universities based on the LPPL model can effectively judge talent training.

3.2 Professional Thinking Judgment

Judgment of the professional thinking of intelligent accounting professionals is actually a judgment of their consciousness level. The evaluation process is based on the formation of professional awareness in the field of intelligent accounting and the identification of problems. Accordingly, a practical exercise was conducted for the senior students of the experimental university. A random sample of 50 students in their senior year of intelligent accounting was selected, and 10 representative problematic audit projects of listed companies were chosen as samples for students to re-audit. The model was used to predict the number of students who found problems and compare it with the number of students who found problems with the actual problems, and the results are shown in Figure 5.

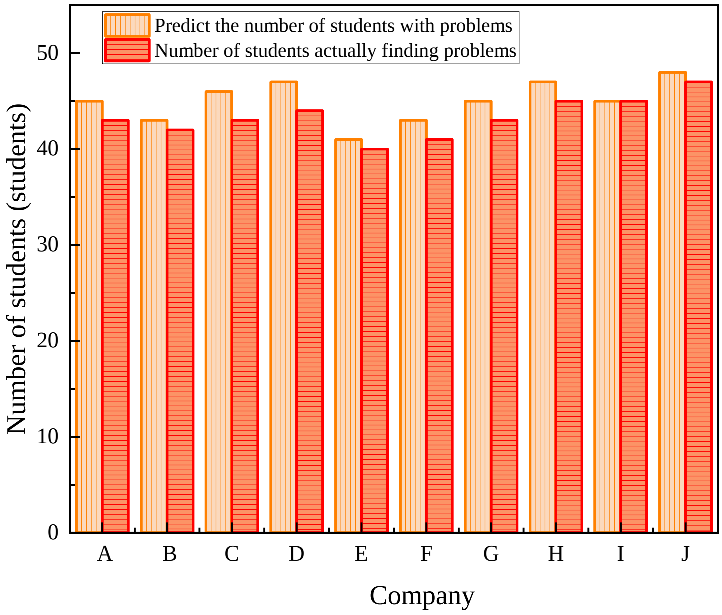


Figure 5. Number of students found with audit program issues

As we can see in Figure 5, the model predicts more problem-finding students than the number of problem-finding students during the hands-on exercise. The model predicts that 45 out of 50 students found problems with the audit project of Company A, and 47 students found problems with the audit project of Company H during the hands-on exercise. In fact, 43 students and 45 students found problems with the audit projects of both companies during the hands-on exercises, and the model predicted a small error of only 2 students. The number of students who found problems with the audit projects of Company B and Company G during the hands-on exercises was 42 and 48, respectively, which differed from the model prediction by only one student. As we can see from the histogram, the number of students found to have problems with the audit projects of Company C and Company D differed significantly from the actual number compared to the other company samples, but the difference was only 3 students. For the problems of the Company I audit program, the number of students found by the model prediction is the same as the number of students found by the actual problem. Both of them are 45, which shows the accuracy of the model evaluation. The model predictions were based on the test scores in subsection 3.1, which are more idealized. As stated above, college students are constantly evolving, and it is believed that students will be able to improve their awareness of professional thinking as they continue to learn, thus bringing the number of actual problem findings closer to the number predicted by the model.

3.3 Values Judgment

Generalist skills and professional thinking will gradually stabilize with learning, where professional thinking will further internalize and form values. At this stage, the evaluation of talent cultivation is mainly based on the sense of extended thinking and the spirit of exploration. In order to prove more accurately that the model established in this paper can judge talent cultivation, this paper only predicts from the spirit of exploration.

Fifty students, from freshmen to seniors at each of the experimental universities, were randomly selected and given the same project related to the smart accounting profession to advance individually. The number of students who persisted in completing the project was aggregated to get the actual persistence rate, and then the predicted persistence rate was calculated by the model for comparison, and the results are shown in Figure 6.

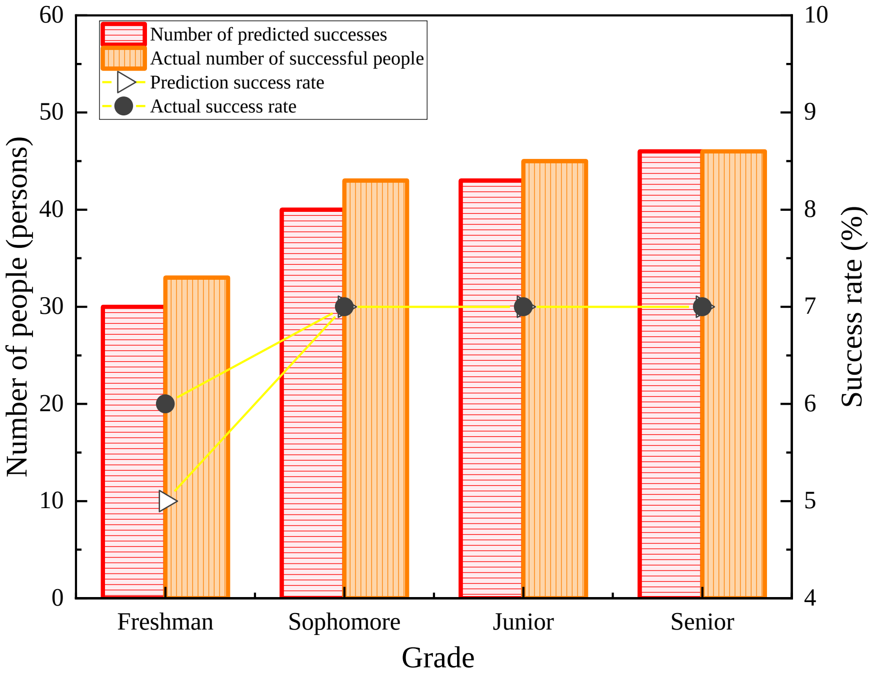


Figure 6. Project completion rate forecast

From Figure 6, we can see that the model has a high accuracy rate in judging the spirit of exploration. The values judgment is the last judgment indicator of talent training judgment, and its judgment is based on the general knowledge skills judgment and the professional thinking judgment.

Thus, among the four grades, the model predicted the lowest project completion success rate for freshmen students. The difference between models predicted a 60% success rate of project advancement for freshmen students, and the actual success rate of 66% was only 6%, and the model predicted a difference of only 3 students. The success rate predicted by the model was 20% higher than the success rate of freshmen students, and the actual success rate of sophomores was 26% higher than the success rate of freshmen students, which was still only 6% different, with high accuracy. The model predicted 43 juniors to be successful in advancing the project, with a success rate of 86%. In fact, 45 out of 50 juniors successfully completed their projects, with a project success rate of 90%, which is only 4% different from the model's predicted value. The actual number of juniors completing their projects was consistent with the number predicted by the model, and the success rate was always the same, both at 92%, achieving 0 errors. In conclusion, the judging model of intelligent accounting professional talent cultivation in colleges and universities based on the log-period power law model can make accurate judgments on talent cultivation.

4 Conclusion

As a special model, the log-periodic power-law model can both help the construction of the judging model and validate the judging model with its powerful prediction and calculation ability. In order to verify that the judging model based on the log-periodic power-law model can accurately predict the talent cultivation of university intelligent accounting professionals. In this paper, we design the judging model based on the log-periodic power-law model to calculate talent cultivation judging. The experiment proves that the log-periodic power-law model can accurately predict the talent training evaluation by applying the log-periodic power-law model to the construction of the talent training evaluation model. Based on the log-period power-law model, the maximum error between the prediction and the actual judgment is only 6% in the evaluation of talent training values. The maximum error of the score prediction on the general knowledge skill cultivation judgment is 2 points. The prediction error of the number of people on the professional thinking judgment is no more than 3. The experimental data confirmed that the judging model of intelligent accounting professional talent training in universities based on the log-period power law model could make an accurate prediction on talent training.

Funding

1. This research was supported by projects established by the Chinese Higher Education Society regarding the 2022 higher education scientific research planning topics (22CJ0205).

2. This research was supported by Research on the integration development model and practice of digital online courses and classroom teaching (22SZH0207).

3. This research was supported by Online Open Course Steering Committee Research Topics for Undergraduate Universities in Guangdong Province in 2022 (2022ZXKC179).

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