



Research Article

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## Research on the Implementation of Entrepreneurship Education

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### ABSTRACT

Since the 1980s, the world higher education entered in order to improve the quality as the core target of the age. In 1996, the United Nations educational, scientific and cultural organization will be "quality, pertinence and internationalization" as the higher education of the key words about higher education officially published in the reform and development of the file. In the international financial crisis led to the severe employment situation, improve business education quality in order to enlarge employment opportunity strong social appeal, make entrepreneurship education quality evaluation become the education theory and practice of the hot issue. However, the domestic current "school satisfaction" as the standard quality evaluation system is difficult to objectively reflect the status of the social needs. Therefore, overcome "school satisfaction" evaluation standard, the disadvantages of building the society needs the venture education quality evaluation system, to promote the healthy development of the business education has important significance in theory and practice. In this paper, we investigate the problems for evaluating the effectiveness of customer relationship management with interval grey linguistic variables. We utilize the interval grey linguistic weighted geometric (IGLWG) operator to aggregate the interval grey linguistic variables corresponding to each alternative and get the overall value of the alternatives, then rank the alternatives and select the most desirable one(s). Finally, an illustrative example is given.

**Key words:** Quality Evaluation; Interval Grey Linguistic Variables; Interval Grey Linguistic Variables Weighted Geometric (IGLWG) Operator; Entrepreneurship Education Based on Efficiency

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### INTRODUCTION

Higher education assessment, as to promote the healthy development of higher education, higher education as an effective mechanism of higher education management mode and quality guarantee means, increasingly for the government, universities, students, parents, unit of choose and employ persons, ordinary citizens and evaluate users make the right decision and behavior choice service. If higher education assessment itself quality is difficult to get guarantee, so, to evaluate based on the user's decision and the behavior choice of quality and higher education quality is difficult to obtain the safeguard and improve[1-4]. "Can be seen as a rational decision by two kinds of different premise concluded, these two types of value premise is the premise and the fact that premise." And assessment, as based on fact judgment on the value judgment and decision, not only the fact of the premise, and with decision value premise associated. Undoubtedly, evaluate the user can make the right decision and choice of action, and evaluate the discretion of the quality directly. However, at present our country's higher education evaluation in the index system, the evaluation information, evaluate the results, the appraisal institution and staff there is a serious problem, leading to evaluate quality is not high. At the same time, it also faces from popular, industrialization and internationalization of higher education, such as internal factors challenge and government, public accountability and external environmental challenges, need to constantly improve the quality of evaluation, and to evaluate users evaluate quality certificate[5-8]. Based on this, this topic the higher education evaluation quality assurance as the research object, from the perspective of RMB evaluation, follow the why to study our country's higher education evaluation quality assurance, according to what kind of standard to ensure higher education evaluation and measure quality, how to carry on the higher education evaluation quality assurance research ideas, to Chinese higher education assessment of comprehensive reflection and criticism, with Chinese characteristics to build higher

education evaluation quality guarantee system, ensure and improve the quality of higher education evaluation and higher education quality. Higher education evaluation quality assurance is according to certain standards, through monitoring, guide the whole higher education evaluation, recognition, review mechanism and evaluation of personnel, to improve and continue to improve evaluation quality, and to assess the user to provide quality certificate required in a planned and organized all activities[9-11]. Higher education evaluation quality standards for higher education evaluation quality assurance activities to provide basis and scale, including three types of standard. First standards, require into higher education evaluation market institutions and personnel get by with the most basic professional ability, the level of qualification. Principles-based standard, to assess the quality standards and provide the overall concept basis, mainly including the regularity and purposefulness, close the unity of the whole instrumental value unity and the unity of the rational and reasonable. The technical standards for higher education evaluation of all the important factors and provide technical specifications, including the evaluation indicator system of correctness, independence and practicability, evaluate information acquisition and statistical reliability, validity, evaluate the results of practicability, reliability and validity. They supplement each other, forming a higher education evaluation quality standard system, the measure of higher education evaluation quality high and low, and guidance, regulate appraisal institution, evaluation personnel assessment activities. Higher education evaluation quality assurance implementation ways including internal guarantee and external guarantee. Ensure that the internal evaluation mechanism, evaluation personnel (insiders) according to the evaluation standard of the quality evaluation, especially for the evaluation of the key link and important factors on reflection, review, inspection, such as, the evaluation index system of correctness, independence, practical, how to evaluate information acquisition and statistical reliability and accuracy, how to evaluate the results of practicability, reliability and validity of how, to find the advantages and disadvantages of assessment, prompt improvement, and to evaluate users evaluate quality certificate. And external guarantee, mainly by the government and the establishment of special external guarantee mechanism implementation[12-14]. In our country have not established the specialized agency of the specific national conditions, especially discusses the United States, the Netherlands this type institutions and their experience and enlightenment, and our country's higher education evaluation quality assurance in higher education evaluation, the government agencies, universities, and puts forward the game between construction should be as soon as possible in our country higher education evaluation quality characteristics of the external guarantee institutions (with guild nature of the government agency/official guild). The mechanism of the implementation of the external guarantee activities, in addition to the supervision and review outside, the most main is recognition, supervision and higher education evaluation mechanism and evaluation of personnel, to prove their assessment activities and the operation of the organization system is qualified, prove whether they have the basic professional qualification and ability, and make them actively take effective measures to ensure and improve the quality of evaluation[15-19].

The aim of this paper is to investigate the problems for evaluating the effectiveness of customer relationship management with interval grey linguistic variables. Then, we utilize the interval grey linguistic variables weighted geometric (IGLWG) operator[20] to aggregate the interval grey linguistic variables corresponding to each alternative and get the overall value of the alternatives, then rank the alternatives and select the most desirable one(s). Finally, an illustrative example is given. The remainder of this paper is set out as follows. In the next section, we introduce some basic concepts related to interval grey linguistic variables. In Section 3 we introduce the problems for evaluating the effectiveness of customer relationship management with interval grey linguistic variables. Then, we utilize the interval grey linguistic weighted geometric (IGLWG) operator to aggregate the interval grey linguistic variables corresponding to each alternative and get the overall value of the alternatives, then rank the alternatives and select the most desirable one(s). In Section 4, an illustrative example is pointed out. In Section 5 we conclude the paper and give some remarks.

#### RESEARCH ON THE QUALITY EVALUATION SYSTEM OF ENTREPRENEURSHIP EDUCATION BASED ON EFFICIENCY

With the development of the society, the 21st century college students should have not only theoretical knowledge, but also to possess the pioneering consciousness, ability and entrepreneurial psychological quality. Entrepreneurship education as a kind of new education idea, in the knowledge economy rapid development, science and technology rapid progress, the world education rapid change and situation play an important role. Since 1998, Tsinghua University to carry out the first since the business plan competition, Chinese colleges and universities have to develop the students in business education courses, but at present our country college students' venture rate and entrepreneurial success rate is very low, the situation is not optimistic. So in "quality is life" the idea for the public widely accepted today, how to ensure that the business education quality has become a widely concerned problem. The following assumptions or notations are used to represent the MADM problems for evaluating the effectiveness of customer relationship management with interval grey linguistic variables. Let  $A = \{A_1, A_2, \dots, A_m\}$  be a discrete set of alternatives. Let  $G = \{G_1, G_2, \dots, G_n\}$  be a set of attributes. The information about attribute weights is completely known. Let  $\omega = (\omega_1, \omega_2, \dots, \omega_n)$  be the weight vector of

attributes, where  $\omega_j \geq 0$ ,  $j = 1, 2, \dots, n$ . Supposed that  $\tilde{A}_{\otimes a_i}(x_j) = (s_{\alpha_{ij}}, [g_{ij}^L, g_{ij}^U])$  be the attribute value in the

attribute set  $x_j$  with respect to the alternative  $a_i$  which given by experts and  $R = \left( \tilde{A}_{\otimes a_i}(x_j) \right)_{m \times n}$  be the decision

making matrix.,  $i = 1, 2, \dots, m$ ,  $j = 1, 2, \dots, n$ .

In the following, we apply the IGLWG operator to MADM for evaluating the effectiveness of customer relationship management with interval grey linguistic variables.

**Step 1.** Utilize the decision information given in the interval grey linguistic decision matrix  $\tilde{R}$ , and the IGLWG operator

$$\begin{aligned} z_i &= IGLWG \left( \tilde{A}_{\otimes a_i}(x_1), \tilde{A}_{\otimes a_i}(x_2), \dots, \tilde{A}_{\otimes a_i}(x_n) \right) \\ &= \prod_{j=1}^n \left( \tilde{A}_{\otimes a_i}(x_j) \right)^{\omega_j} \\ &= \left( s_{\prod_{j=1}^n (\alpha_j)^{\omega_j}}, \left[ \left( 1 - \prod_{j=1}^n (1 - g_j^L) \right), \left( 1 - \prod_{j=1}^n (1 - g_j^U) \right) \right] \right), i = 1, 2, \dots, m \end{aligned}$$

to derive the overall interval grey linguistic variables  $\tilde{r}_i$  of the alternative  $A_i$ , where

$\omega = (\omega_1, \omega_2, \dots, \omega_n)$  is the weighting vector of the IGLWG operator, with  $\omega_j \in [0, 1]$ ,  $\sum_{j=1}^n \omega_j = 1$ .

**Step 2.** We rank the above the interval grey linguistic variables by using the method presented in Section 2. The ranking of the alternatives can be gained and the best one can be find out.

**Step 3.** End.

## NUMERICAL EXAMPLE

Since the 1980 s, higher education quality of higher education reform to become the world the most concern problem. Many countries and regions implement higher education reform, has set up with the distinctive features of the higher education quality assurance system. In China, along with the socialist market economic system gradually establish and higher education system, the deepening of the reform of the higher education in our country, especially with the quickening pace of popularization of higher education, improve the quality also become increasingly cause social attention of all parties. Summary, absorb international higher education quality assurance experience, the establishment of higher education with Chinese characteristics, quality assurance model, and comprehensively improve the quality of higher education, higher education will be the country's reform and development of the important issues. This paper argues that the model has important methodology, it is practical theory and practical theoretical intermediary form, with its own unique knowledge form different from theoretical knowledge and practical knowledge. Can say, no model research, the successful experience is difficult to abstract, sublimation for theory, at the same time, the application of the theory has lost its basic knowledge basis. Based on this understanding, this paper USES the method of model research, the higher education quality assurance problems in a system, in-depth research. In 1999, the Chinese higher education enrollment since, higher education quality problems become the focus of attention of the parties. But whatever the government at the evaluation or academia, government officials and private debate, most according to the industrial economy era of "product quality", the quality of higher education on the input and output, rather than the process of higher education services. This process will lead to ignore the lack of students main body status. Therefore, "service quality" as the guidance, and make students become higher education service quality evaluation as the main body, help to correct our higher education for a long time on the value orientation deviation; Through the student satisfaction evaluation of service quality higher education and to higher education popularization, deal with the challenges of the marketization and internationalization of far-reaching significance. Today's China is facing more and more college graduates employment pressure, and the cultivation of the students came out to the state and society have the dependence of the strong, the lack of initiative, pioneering and innovative spirit and innovation ability insufficiency, weak in college students' employment force is not strong, one of the important reasons. This section presents a numerical example to illustrate the method proposed in this paper. Suppose a company plans to evaluate the effectiveness of customer relationship management. There is a panel with three possible enterprises  $A_i$  ( $i = 1, 2, 3, 4, 5$ ) to select.

The desirability levels of three possible enterprises  $A_i$  ( $i = 1, 2, 3$ ) are evaluated. The team of experts must take a decision according to the following five attributes: ① $G_1$  is the customer knowledge; ② $G_2$  is the customer interactive; ③ $G_3$  is the customer value; ④ $G_4$  is the customer satisfaction; ⑤ $G_5$  is the customer talent. The three enterprises  $A_i$  ( $i = 1, 2, 3$ ) are to be evaluated using the interval grey linguistic variables by the decision maker under the above three attributes whose weighting vector  $\omega = (0.20, 0.25, 0.30, 0.15, 0.10)^T$ , as listed in the following matrix which is shown in table1.

Table 1. Decision matrix

enterprises	$A_1$	$A_2$	$A_3$
$G_1$	$(s_4, [0.5, 0.6])$	$(s_1, [0.4, 0.5])$	$(s_6, [0.7, 0.8])$
$G_2$	$(s_5, [0.6, 0.7])$	$(s_3, [0.6, 0.8])$	$(s_5, [0.7, 0.8])$
$G_3$	$(s_4, [0.2, 0.3])$	$(s_2, [0.7, 0.8])$	$(s_3, [0.8, 0.9])$
$G_4$	$(s_6, [0.5, 0.7])$	$(s_4, [0.2, 0.4])$	$(s_2, [0.8, 0.9])$
$G_5$	$(s_2, [0.2, 0.3])$	$(s_1, [0.7, 0.8])$	$(s_6, [0.8, 0.9])$

Then, we utilize the approach developed to evaluate the effectiveness of customer relationship management with interval grey linguistic variables.

**Step 1.** Utilize the decision information given in the interval grey linguistic decision matrix  $\tilde{R}$ , and the IGLWG operator to derive the overall interval grey linguistic variables  $\tilde{r}_i$  of the enterprise  $A_i$  (Let  $\omega = (0.20, 0.25, 0.30, 0.15, 0.10)^T$ )

$$z_1 = (s_{3.4}, [0.6, 0.7]); z_2 = (s_{4.7}, [0.5, 0.6]); z_3 = (s_{6.3}, [0.2, 0.3])$$

**Step 2.** We rank the above the interval grey linguistic variables by using the method presented.

$$Q(z_1) = s_{3.34}, Q(z_2) = s_{5.98}, Q(z_3) = s_{4.33}$$

**Step 3.** The ranking of the alternatives can be gained:  $A_2 \succ A_3 \succ A_1$ ,  $A_2$  is the best school.

## CONCLUSIONS

Since the 1980 s, the world higher education entered in order to improve the quality as the core target of the age. In 1996, the United Nations educational, scientific and cultural organization will be "quality, pertinence and internationalization" as the higher education of the key words about higher education officially published in the reform and development of the file. In the international financial crisis led to the severe employment situation, improve business education quality in order to enlarge employment opportunity strong social appeal, make entrepreneurship education quality evaluation become the education theory and practice of the hot issue. However, the domestic current "school satisfaction" as the standard quality evaluation system is difficult to objectively reflect the status of the social needs. Therefore, overcome "school satisfaction" evaluation standard, the disadvantages of building the society needs the venture education quality evaluation system, to promote the healthy development of the business education has important significance in theory and practice. In this paper, we investigate the problems for evaluating the effectiveness of customer relationship management with interval grey linguistic variables. We utilize the interval grey linguistic weighted geometric (IGLWG) operator to aggregate the interval grey linguistic variables corresponding to each alternative and get the overall value of the alternatives, then rank the alternatives and select the most desirable one(s). Finally, an illustrative example is given.

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