Intelligent Information Management, 2023, 15, 160-168
https://www.scirp.org/journal/iim
ISSN Online: 2160-5920
ISSN Print: 2160-5912

Entrepreneur Education Level and Its Utility Maximization

Baozhu Liu[1], Mingxia Lyu[2*], Yirong Ying[1,3*]

[1]School of Economics, Shanghai University, Shanghai, China
[2]Institute of Higher Education, Shanghai University, Shanghai, China
[3]Xianda College of Economics and Humanities, Shanghai International Studies University, Shanghai, China
Email: *wendy@shu.edu.cn, *yrying@staff.shu.edu.cn

How to cite this paper: Liu, B.Z., Lyu, M.X. and Ying, Y.R. (2023) Entrepreneur Education Level and Its Utility Maximization. *Intelligent Information Management*, **15**, 160-168.
https://doi.org/10.4236/iim.2023.153008

Received: February 21, 2023
Accepted: May 15, 2023
Published: May 18, 2023

Abstract

The education level of entrepreneurs plays an important role in the decision-making process of loan financing. In this paper, the research method of optimization theory is used to study the problem of the education level and maximizing utility of entrepreneurs, and the optimal analytic solution is obtained. On this basis, the influence of the change of bank loan interest rate, the marginal effect of entrepreneur's effort, the marginal effect of entrepreneur's investment, the elastic coefficient of entrepreneur's effort and the elastic coefficient of entrepreneur's investment on the optimal solution of entrepreneur's effort and investment amount is discussed.

Keywords

Educational Background, Utility Function, Enterprise Performance

1. Introduction

The 20th National Congress of the Communist Party of China proposed to provide a favorable environment for the development of private enterprises and promote the development of private economy. This will greatly enhance the confidence of private entrepreneurs in entrepreneurship and help private entrepreneurs generally improve their education level (Edokobi, Tonna David, 2022) [1]. In the past decade, the total amount of innovation of the private economy has increased, and the innovation vitality has increased, but the transformation ability of innovation achievements has stagnated (Ren Xiaomeng, 2022) [2]. The driving force for the transformation and development of private enterprises is far from enough (Döll Luciano Mathias, 2022) [3]. In order to maintain sustainable development, enterprises must strive to improve

their innovation capabilities. Gao Wen (2022) [4] showed that the education level of entrepreneurs will affect the innovation ability of enterprises, and then affect the development of enterprises. Academic talents who are good at R&D and innovation as well as business management can combine technology and market to complete the transformation of innovation achievements (Huang Yongchun, 2021) [5]. Therefore, the research on the education level of entrepreneurs will greatly promote the development of enterprises. Entrepreneurs face the dual pressure of market competition and epidemic situation. It is a crucial issue for enterprises to promote scientific and technological innovation, maximize the profitability of enterprises and increase their core competitiveness (Banerjee Pradip, 2022) [6]. As the core figure in the operation of an enterprise, entrepreneurs are required to make decisions for finding investment opportunities and financing (Guo Li & Xu Ping, 2023) [7]. The decision of entrepreneurs will have a great impact on the development of enterprises, so it is particularly important to analyze the influencing factors of entrepreneurs in the decision-making process (Li Wenfei, Li Donghui & Yang Shijie, 2022 [8]; Shruti Shastri, Swati Shastri, Abhishek Pareek & Ridhi Sudan Sharma, 2020 [9]; Wang Shuai, Wareewanich Thitinant & Chankoson Thitinan, 2023 [10]; Xie Wenlong, 2020 [11]).

A person's education level will affect his cognitive level and development prospects (Wu Xinyue & Zeng Shaolun, 2022) [12]. Similarly, an entrepreneur's education level may affect the decisions he makes in the process of investment and financing, and then affect the development of the company. The more educated entrepreneurs are, the more quickly they can detect subtle changes in the market. Then they judge the environment according to their specialty, so as to take corresponding measures and formulate a more suitable plan. The research (Raphael Amit, 1990) [13] shows that there is a positive correlation between the education level of entrepreneurs and the profitability of an enterprise. Research on the education level of entrepreneurs and the maximization of their effectiveness can provide certain guidance for enterprises to select and train senior executives, predict the future profitability of enterprises, and improve the competitiveness of companies (Zhang Chenyu, 2022) [14]. For banks, the education level of entrepreneurs can be considered as one of the factors of loan approval when banks review loans (Ingeborg Nordbø, 2022 [15]; Jun Cui, Robin Bell, 2022 [16]). In fact, the educational level of entrepreneurs is included in the research framework of R&D investment and high-quality development of enterprises, and the relationship between the three is comprehensively considered, it is very likely to provide more valuable empirical experience for enterprises to achieve efficient R & D and high-quality development (Xincheng Zhao, Shiyi Ma, Yingying Liu, Xinyi Chen, Haokun Cai, Haobin Zheng & Yuezhong Shen, 2022) [17]. Therefore, it is of great significance for the development of enterprises to study the educational level of entrepreneurs and their utility maximization.

2. Methodology

This paper intends to explore the effectiveness of entrepreneurs' education in the process of loan financing decision-making under the theoretical framework of normal distribution. Based on the theoretical analysis framework of Amit (1990) [10] and others, two factors, bank loan interest rate, r, and bank loan guarantee rate, c, are added to further investigate the relationship between the effectiveness of corporate bank loans and the education level of entrepreneurs and the amount of venture capital. Assumptions: x is the income generated by an enterprise's investment in a project. The income is random, and the corresponding probability distribution function is $f(x:a,I)$; where a is the efforts of entrepreneurs; I is the amount of investment of the entrepreneur in the project. This paper selects the data of entrepreneurs' education level as the measurement of entrepreneurs' efforts.

The utility function of entrepreneurs is $U(\cdot)$, $U'>0$, $U''<0$, that is, the more wealth an entrepreneur has, the greater the utility he will get. However, with the increase of wealth, the increase of utility will decrease with each unit of wealth. At the same time, the utility loss brought by the effort to the entrepreneur is $V(a)$. That is, the greater the efforts of entrepreneurs, the more utility loss.

r is the interest paid by entrepreneurs when they choose bank loans for financing, c is the mortgage guarantee rate, r and c are exogenous variables, $r>0$, $c\geq 0$. When $c=0$, the bank loan is a credit loan. For entrepreneurs, the decision-making process of loan financing is shown in Equation (1). The entrepreneurs choose the appropriate effort, a, and loan amount, I, to maximize their utility.

$$\underset{a,I}{Max}\int U(x-kI)\,f(x:a,I)\mathrm{d}x-V(a) \tag{1}$$

Without losing generality, the utility function selected in this paper is $U(x)=x-bx^2$, where b is the risk preference coefficient, $V(a)=V_0$ is constant. This power function utility function is substituted into the unconstrained optimization problem (1). After simplification, it is obtained that:

$$\begin{aligned}\int U(x-kI)\,f(x:\gamma,a,I)\mathrm{d}x &= \int\left[(x-kI)-b(x-kI)^2\right]\frac{1}{\sqrt{2\pi}\sigma}\mathrm{e}^{-\frac{(x-\mu)^2}{2\sigma^2}}\mathrm{d}x\\ &= \mu-kI-b\left[\sigma^2+(\mu-kI)^2\right]\end{aligned}$$

The optimization problem (1) is equivalent to the optimization problem (2):

$$\underset{a,I}{Max}\left\{\mu-kI-b\left[\sigma^2+(\mu-kI)^2\right]-V(a)\right\} \tag{2}$$

$$\mu=ma+nI,\quad m>0,\quad n>0.$$

This paper considers the maximization of entrepreneur's utility under linear constraints

$$l_1a+l_2I=I_0\,(l_1>0,l_2>0):$$

$$\underset{a,I}{Max}\left\{\mu - kI - b\left[\sigma^2 + (\mu - kI)^2\right] - V(a)\right\}$$
$$\text{s.t. } l_1 a + l_2 I = I_0 \tag{3}$$

It is easy to obtain by using the Lagrange function method:

If $ml_2 \neq (n-k)l_1$, the optimal solution of optimization problem (3) exists and is:

$$a_e = \frac{-2mbl_2 I_0 (n-k) - (n-k)l_2 l_1 + 2bI_0 l_1 (n-k)^2 + l_2^2 m}{2b\left[(n-k)l_1 - ml_2\right]^2}$$
$$I_e = \frac{-2mbl_1 I_0 (n-k) + (n-k)l_1^2 + 2m^2 bl_2 I_0 - ml_1 l_2}{2b\left[(n-k)l_1 - ml_2\right]^2} \tag{4}$$

According to the expression of the optimal solution (4), it is easy to deduce:

The optimization problem (3) has a positive optimal solution if one of the following two conditions is true:

$$\text{(i)}\quad n-k > m,\ \frac{m}{n-k} l_2 > l_1 > 2mbI_0;$$
$$\text{(ii)}\quad n-k < m,\ \frac{n-k}{m} l_2 > l_1 > 2mbI_0 \tag{5}$$

If $2mbI_0 > l_1$ and one of the following two conditions holds, the optimization problem (3) has a positive optimal solution:

$$\text{(i)}\quad n-k > m, \text{ and } l_2 > \max\left\{\frac{n-k}{m} l_1, 2b(n-k)I_0\right\};$$
$$\text{(ii)}\quad n-k < m, \text{ and } l_2 > \max\left\{\frac{m}{n-k} l_1, 2b(n-k)I_0\right\}. \tag{6}$$

In this paper, we only consider the case of $n < k$. When $n < k$, there is $a_e > 0$, and the size of I_e depends on the size of $2mbI_0$ and l_1. If $2mbI_0 > l_1$, there is $I_e > 0$. The following conclusions can be drawn through calculation:

According to the optimal solution expression (4), the following partial derivative expression can be obtained:

$$\frac{\partial a_e}{\partial m} = -\frac{l_2\left[l_2 - 2bI_0(n-k)\right]}{2b\left[ml_2 - (n-k)l_1\right]^2},\ \frac{\partial^2 a_e}{\partial m^2} = \frac{l_2^2\left[l_2 - 2bI_0(n-k)\right]}{b\left[ml_2 - (n-k)l_1\right]^3};$$
$$\frac{\partial a_e}{\partial l_1} = \frac{\left[l_2 - 2bI_0(n-k)\right](n-k)}{2b\left[ml_2 - (n-k)l_1\right]^2},\ \frac{\partial^2 a_e}{\partial l_1^2} = \frac{\left[l_2 - 2bI_0(n-k)\right](n-k)^2}{b\left[ml_2 - (n-k)l_1\right]^3};$$
$$\frac{\partial I_e}{\partial m} = \frac{l_1\left[l_2 - 2bI_0(n-k)\right]}{2b\left[ml_2 - (n-k)l_1\right]^2},\ \frac{\partial^2 I_e}{\partial m^2} = -\frac{l_1 l_2\left[l_2 - 2bI_0(n-k)\right]}{b\left[ml_2 - (n-k)l_1\right]^3};$$
$$\frac{\partial I_e}{\partial l_1} = -\frac{m\left[l_2 - 2bI_0(n-k)\right]}{2b\left[ml_2 - (n-k)l_1\right]^2},\ \frac{\partial^2 I_e}{\partial l_1^2} = -\frac{m(n-k)\left[l_2 - 2bI_0(n-k)\right]}{b\left[ml_2 - (n-k)l_1\right]^3}.$$

The following proposition is obtained:

Proposition 1: If $l_2 > 2b(n-k)l_0$, there are:

(i) $\frac{\partial a_e}{\partial m} < 0$, $\frac{\partial^2 a_e}{\partial m^2} > 0$; (ii) $\frac{\partial a_e}{\partial l_1} < 0$, $\frac{\partial^2 a_e}{\partial l_1^2} > 0$;

(iii) $\frac{\partial I_e}{\partial m} > 0$, $\frac{\partial^2 I_e}{\partial m^2} < 0$; (iv) $\frac{\partial I_e}{\partial l_1} < 0$, $\frac{\partial^2 I_e}{\partial l_1^2} > 0$.

Proposition 1 shows that when $l_2 > 2b(n-k)l_0$, the increase of the marginal effect of the entrepreneur's efforts and the elasticity coefficient of the entrepreneur's efforts induce the reduction of the entrepreneur's optimal efforts at an increasing speed; With the increase of the marginal effect of the entrepreneur's efforts, the optimal investment of the entrepreneur increases in an accelerated manner. That is, when the marginal effect of the entrepreneur's efforts is high, the smaller increase will cause a substantial increase in the optimal investment. The optimal investment amount of entrepreneurs is a monotonically decreasing concave function of the elasticity coefficient of entrepreneurs' efforts. When the elasticity coefficient of entrepreneurs' efforts increases, the optimal investment amount of entrepreneurs will decline in the form of acceleration.

According to the optimal solution expression (4), it can be calculated that:

$$\frac{\partial a_e}{\partial r} = \frac{(2bmI_0 - l_1)l_2}{2b\left[ml_2 - (n-k)l_1\right]^2}, \quad \frac{\partial^2 a_e}{\partial r^2} = -\frac{(2mbI_0 - l_1)l_2 l_1}{b\left[ml_2 - (n-k)l_1\right]^3}.$$

The following proposition is obtained:

Proposition 2:

(i) if $l_1 < 2mbI_0$, then $\frac{\partial a_e}{\partial r} > 0, \frac{\partial^2 a_e}{\partial r^2} < 0$;

(ii) if $l_1 > 2mbI_0$, then $\frac{\partial a_e}{\partial r} < 0, \frac{\partial^2 a_e}{\partial r^2} > 0$.

Proposition 2 shows that when $l_1 < 2mbI_0$, the optimal effort of entrepreneurs has a positive correlation with the bank loan interest rate, but with the growth of the bank loan interest rate, the optimal effort of entrepreneurs will raise with accelerative rates. When $l_1 > 2mbI_0$, the increase of bank loan interest rate will cause the reduction of entrepreneurs' optimal efforts. The reduction speed is accelerating.

According to the optimal solution expression (4), it can be calculated that:

$$\frac{\partial a_e}{\partial n} = -\frac{l_2\left[2bmI_0 - l_1\right]}{2b\left[ml_2 - (n-k)l_1\right]^2}, \quad \frac{\partial^2 a_e}{\partial n^2} = -\frac{l_1 l_2\left[2bmI_0 - l_1\right]}{b\left[ml_2 - (n-k)l_1\right]^3}.$$

The following proposition is obtained:

Proposition 3:

(i) if $l_1 < 2mbI_0$, then $\frac{\partial a_e}{\partial n} < 0$, $\frac{\partial^2 a_e}{\partial n^2} < 0$;

(ii) if $l_1 > 2mbI_0$, then $\frac{\partial a_e}{\partial n} > 0$, $\frac{\partial^2 a_e}{\partial n^2} > 0$.

Proposition 3 shows that when $l_1 < 2mbI_0$, the optimal effort of entrepre-

neurs is a monotonically decreasing convex function of the marginal effect of entrepreneurs' investment, which will reduce with the enhancement of the marginal effect of entrepreneurs' investment, and the decrease trend is downward. When $l_1 > 2mbI_0$, the optimal effort of entrepreneurs increases at a decreasing rate with the increase of the marginal effect of entrepreneurs' investment. When the marginal effect of entrepreneurs' investment is high, its large increase will only cause a small increase in the optimal effort of entrepreneurs.

According to the optimal solution expression (4), it can be calculated that:

$$\frac{\partial a_e}{\partial l_2} = \frac{\left(2bI_0m - l_1\right)\left(n-k\right)}{2b\left[ml_2 - \left(n-k\right)l_1\right]^2}, \quad \frac{\partial^2 a_e}{\partial l_2^2} = -\frac{\left(2bI_0m - l_1\right)\left(n-k\right)m}{b\left[ml_2 - \left(n-k\right)l_1\right]^3}.$$

The following proposition is obtained:

Proposition 4:

(i) if $l_1 < 2mbI_0$, then $\frac{\partial a_e}{\partial l_2} < 0$, $\frac{\partial^2 a_e}{\partial l_2^2} > 0$;

(ii) if $l_1 > 2mbI_0$, then $\frac{\partial a_e}{\partial l_2} > 0$, $\frac{\partial^2 a_e}{\partial l_2^2} < 0$.

Proposition 4 shows that when $l_1 < 2mbI_0$, with the growth of the entrepreneur's investment elasticity coefficient, the entrepreneur's optimal effort declines at an increasing rate. When $l_1 > 2mbI_0$, the optimal effort degree of entrepreneurs is a monotonically increasing convex function of the entrepreneur's investment elasticity coefficient, which expands with the increase of the entrepreneur's investment elasticity coefficient. The increasing trend is upward.

According to the optimal solution expression (4), it can be calculated that:

$$\frac{\partial I_e}{\partial n} = \frac{l_1\left(2mbI_0 - l_1\right)}{2b\left[ml_2 - \left(n-k\right)l_1\right]^2}, \quad \frac{\partial^2 I_e}{\partial n^2} = \frac{l_1^2\left(2mbI_0 - l_1\right)}{b\left[ml_2 - \left(n-k\right)l_1\right]^3}.$$

The following proposition is obtained:

Proposition 5:

(i) if $l_1 < 2mbI_0$, then $\frac{\partial I_e}{\partial n} > 0$, $\frac{\partial^2 I_e}{\partial n^2} > 0$;

(ii) if $l_1 > 2mbI_0$, then $\frac{\partial I_e}{\partial n} < 0$, $\frac{\partial^2 I_e}{\partial n^2} < 0$.

Proposition 5 shows that when $l_1 < 2mbI_0$, the optimal investment amount of entrepreneurs has a positive correlation with the marginal effect of entrepreneurs' investment, but when the marginal effect of entrepreneurs' investment increases, the optimal investment amount of entrepreneurs gains at a decreasing speed rate. When $l_1 > 2mbI_0$, the greater the marginal effect of entrepreneurs' investment, the smaller the optimal investment amount of entrepreneurs, and the decreasing trend is downward.

According to the optimal solution expression (4), it can be calculated that:

$$\frac{\partial I_e}{\partial r} = -\frac{l_1\left(2mbI_0 - l_1\right)}{2b\left[ml_2 - \left(n-k\right)l_1\right]^2}, \quad \frac{\partial^2 I_e}{\partial r^2} = \frac{l_1^2\left(2mbI_0 - l_1\right)}{b\left[ml_2 - \left(n-k\right)l_1\right]^3}.$$

The following proposition is obtained:

Proposition 6:

(i) if $l_1 < 2mbI_0$, then $\frac{\partial I_e}{\partial r} < 0$, $\frac{\partial^2 I_e}{\partial r^2} > 0$;

(ii) if $l_1 > 2mbI_0$, then $\frac{\partial I_e}{\partial r} > 0$, $\frac{\partial^2 I_e}{\partial r^2} < 0$.

Proposition 6 shows that when $l_1 < 2mbI_0$, the optimal investment amount of entrepreneurs has a certain negative correlation with the bank loan interest rate. With the increase of the bank loan interest rate, the optimal investment amount of entrepreneurs diminishes at an increasing rate. When $l_1 > 2mbI_0$, the optimal investment amount of entrepreneurs is a monotonically increasing convex function of the bank loan interest rate. With the growth of the bank loan interest rate, the increase of the optimal investment amount of entrepreneurs gradually raises.

According to the optimal solution expression (4), it can be calculated that:

$$\frac{\partial I_e}{\partial l_2} = -\frac{m\left(2mbI_0 - l_1\right)}{2b\left[ml_2 - (n-k)l_1\right]^2}, \quad \frac{\partial^2 I_e}{\partial l_2^2} = \frac{m^2\left(2mbI_0 - l_1\right)}{b\left[ml_2 - (n-k)l_1\right]^3}.$$

The following proposition is obtained:

Proposition 7:

(i) if $l_1 < 2mbI_0$, then $\frac{\partial I_e}{\partial l_2} < 0$, $\frac{\partial^2 I_e}{\partial l_2^2} > 0$;

(ii) if $l_1 > 2mbI_0$, then $\frac{\partial I_e}{\partial l_2} > 0$, $\frac{\partial^2 I_e}{\partial l_2^2} < 0$.

Proposition 7 shows that when $l_1 < 2mbI_0$, the optimal investment amount of entrepreneurs reduces faster with the enhancement of the elasticity coefficient of entrepreneurs' investment. When $l_1 > 2mbI_0$, The optimal investment amount of entrepreneurs is a monotonically increasing convex function of the elasticity coefficient of entrepreneurs' investment. With the increase of the elasticity coefficient of entrepreneurs' investment, the speed of the raise of the optimal investment amount of entrepreneurs shows an upward trend.

3. Conclusions

Based on the above analysis, it can be concluded that the marginal effect of entrepreneur's efforts and the elasticity coefficient of entrepreneur's efforts are negatively correlated with the entrepreneur's optimal effort. That is, when the marginal effect and elasticity coefficient of entrepreneur's efforts are relatively large, even if the entrepreneur's effort is small, the utility can be maximized. The marginal effect of entrepreneurial efforts is positively correlated with the optimal investment amount, while the elasticity coefficient of entrepreneurial efforts is negatively correlated with the optimal investment amount. That is, when the marginal effect of entrepreneurial efforts is large and the elasticity coefficient is small, the increase of the optimal investment amount will maximize its utility. In

a word, under different conditions, the bank loan interest rate, the marginal effect and the elasticity coefficient of entrepreneur investment have different effects on the entrepreneur's optimal effort and optimal investment amount, and then affect its utility.

Therefore, for enterprises, in order to maximize the utility of enterprises in the decision-making of loan financing, they should choose the optimal effort degree and investment amount of entrepreneurs corresponding to the marginal effect of entrepreneurs' efforts, the elasticity coefficient, the marginal benefit of investment, the elasticity coefficient and the loan interest rate. For the loan bank, the utility level of the enterprise can be judged by these variables, which will give some enlightenment to the loan approval decision. For investors, the analysis of entrepreneurs' educational background and optimal investment amount can help investors judge whether the enterprise is trustworthy.

Acknowledgements

The authors thank Shanghai for the funding of the 2022 local high-level university construction project (N503-2022Y0007) (special teaching and research project).

Conflicts of Interest

The authors declare no conflicts of interest regarding the publication of this paper.

References

[1] Edokobi, T.D., Okoli, N.N. and Akwaeze, E.A. (2020) Entrepreneurs' Level of Education and Performance of Medium Enterprises in Automobile Industry, Anambra State, Nigeria. *International Journal of Trend in Scientific Research and Development*, **7**, 123-128.

[2] Ren, X., Qian, T., Pan, S. and Jiang, H. (2022) Promoting High-Quality Development of Private Economy in the New Era: Problems, Ideas and Measures. *Management World*, **8**, 40-54.

[3] Döll, L.M., Ulloa Micaela, I.C., Zammar, A., Prado, G.F. and Piekarski, C.M. (2022) Corporate Venture Capital and Sustainability. *Journal of Open Innovation*: *Technology*, *Market and Complexity*, **8**, Article 132. https://doi.org/10.3390/joitmc8030132

[4] Wen, G. (2022) Educational Background, R&D Innovation and Enterprise Performance of Private Entrepreneurs. *Mall Modernization*, No. 5, 89-91.

[5] Huang, Y., Xu, J. and Xu, G. (2021) Why Is There a Lack of Academic Entrepreneurs in China—Based on the Theory of "Cognitive Purpose". *Scientific Research Management*, No. 6, 139-149.

[6] Banerjee, P. (2022) Nature of Financial Constraints and R&D Intensity. *Finance Research Letters*, **50**, Article ID: 103184. https://doi.org/10.1016/j.frl.2022.103184

[7] Guo, L. and Xu, P. (2023) Controlling Shareholders' Equity Pledge, Financing Constraints and Corporate R&D Investment. *SHS Web of Conferences*, **154**, Article No. 02008. https://doi.org/10.1051/shsconf/202315402008

[8] Li, W., Li, D. and Yang, S.J. (2022) The Impact of Internet Penetration on Venture Capital Investments: Evidence from a Quasi-Natural Experiment. *Journal of Corporate Finance*, **76**, Article ID: 102281. https://doi.org/10.1016/j.jcorpfin.2022.102281

[9] Shastri, S., Shastri, S., Pareek, A. and Sharma, R.S. (2020) Exploring the Factors Affecting Performance of Women Entrepreneurs: A Study with Reference to msme Sector in Rajasthan. *ZENITH International Journal of Multidisciplinary Research*, **10**, 5-15.

[10] Wang, S., Wareewanich, T. and Chankoson, T. (2023) Factors Influencing Venture Capital Perforsmance in Emerging Technology: The Case of China. *International Journal of Innovation Studies*, **7**, 18-31. https://doi.org/10.1016/j.ijis.2022.08.004

[11] Xie Wenlong. (2020) How the Background Characteristics of Private Entrepreneurs Affect the Profitability of Enterprises. Master's Thesis, Guangdong University of Foreign Studies, Guangzhou.

[12] Wu, X. and Zeng, S. (2022) R&D Investment, Internal Control and Enterprise Performance—An Empirical Study Based on the Listed Companies in China of the Core Industry of the Digital Economy. *Sustainability*, **14**, Article No. 16700. https://doi.org/10.3390/su142416700

[13] Amit, R., Glosten, L. and Muller, E. (1990) Does Venture Capital Foster the Most Promising Entrepreneurial Firms? *California Management Review*, **32**, 102-111. https://doi.org/10.2307/41166621

[14] Zhang, C., Li, H., Gou, X., Feng, J. and Gao, X. (2022) CEO Educational Attainment, Green Innovation and Enterprise Performance: Evidence from China's Heavy-Polluting Enterprises. *Frontiers in Environmental Science*, **10**, Article ID: 1042400. https://doi.org/10.3389/fenvs.2022.1042400

[15] Nordbø, I. (2022) Female Entrepreneurs and Path-Dependency in Rural Tourism. *Journal of Rural Studies*, **96**, 198-206. https://doi.org/10.1016/j.jrurstud.2022.09.032

[16] Cui, J. and Bell, R. (2022) Behavioural Entrepreneurial Mindset: How Entrepreneurial Education Activity Impacts Entrepreneurial Intention and Behaviour. *The International Journal of Management Education*, **20**, Article ID: 100639. https://doi.org/10.1016/j.ijme.2022.100639

[17] Zhao, X., Ma, S., Liu, Y., Chen, X., Cai, H., Zheng, H. and Shen, Y. (2022) ESG Performance, R&D Innovation and High Quality Development of Corporate: A Perspective Based on Firm Performance. *Industrial Engineering and Innovation Management*, **5**, 23-34.