Academic Education Publishing House

Economic Society and Humanities Vol. 3 No. 5, 2026

Research on Human Resource Allocation in a Reptile Pet Intelligent Care Entrepreneurial Team

Kaiyue Hou[1]*, Kunqi Feng[2]
Beijing City University, Beijing, China
**Corresponding Author*

Abstract: Pet consumption is going up in China. Niche pet segments are growing. Reptile pets need smart care. This is a new entrepreneurial direction. It has a lot of potential in the pet economy market. Micro-sized university student startup teams have problems. They don't have enough people. Their team setup does not fit their business model well. This paper looks at a student project. It is called "Turtle Guardian". It is a smart turtle rearing system. The system uses a Traditional Chinese Medicine (TCM) idea. That idea is "preventive treatment of disease". It also uses IoT-based ecological filtration technology. We use a single-case study method. We look at human resource allocation in micro-sized student teams. These teams work in the reptile pet smart care niche. We find a new human resource allocation model. It has simple features. One feature is a minimalistic division of labor. Another feature is cross-disciplinary professional supplementation. Our results show this model works well. It reduces team operating costs. It improves private-domain commercial conversion efficiency. It also provides theoretical support. It gives practical references too. These help micro-sized university student entrepreneurial teams in niche pet sectors. They can optimize human resources. They can implement their business models better.

Keywords: Human Resource Allocation; Business Model; University Student Entrepreneurial Team; New Paradigm

1. Introduction

Urbanization is progressing. Demographics are shifting. Emotional consumption is upgrading [1]. These things are driving change. China's pet economy is entering a stage of high-quality development. In 2025, China's urban pet market size was over 310 billion RMB. By 2028, it is expected to reach 405 billion RMB. The reptile pet market is a niche pet sector. It has gained favor quickly. The new generation of consumers like it. These consumers are post-90s and post-00s. The reptile pet market has advantages. It takes low space. It offers uniqueness. Ornamental turtle care is a core sub-sector of the reptile pet market. This area faces problems. Maintenance has high technical barriers. Turtles die easily due to environmental stress. There is a lack of preventive care. The user maintenance experience is poor. So intelligent care and systematic solutions are needed. The market demands them.

University student entrepreneurial teams are important players. These teams face common constraints. They have insufficient funding. Their team sizes are small and lack of concentrated professional resources [2]. Whether human resource allocation can adapt to the business model plays a crucial role in project feasibility and market competitiveness. Existing literature mostly focuses on human resource allocation in large enterprises or business models in the general pet industry. There is limited research on human resource allocation and business model fit for university student entrepreneurial teams in the cross-disciplinary niche of reptile pet intelligent care. In view of this, this study selects the “Turtle Guardian” university student entrepreneurial project's smart turtle rearing system as a typical case, aiming to explore the optimization paths and adaptive mechanisms of human resource allocation for university student entrepreneurial teams in reptile pet intelligent care. By enriching the research framework on human resource allocation for university student entrepreneurial teams, this study fills the gap in human resource allocation research under the cross-disciplinary integration of TCM care, IoT technology, and commercial operations. Furthermore, it improves

the theoretical system of fit between business models and human resource allocation, opening up new theoretical perspectives for human resource management research in the pet niche sector. It also provides a replicable minimalist human resource allocation solution for reptile pet intelligent care and similar niche pet entrepreneurial teams, helping university student entrepreneurial teams overcome resource constraints, enhance the efficiency of business plan implementation and market profitability, and promote the transformation of the reptile pet care industry towards a more scientific, intelligent, and refined direction. The technical roadmap of this study is shown in Figure 1.

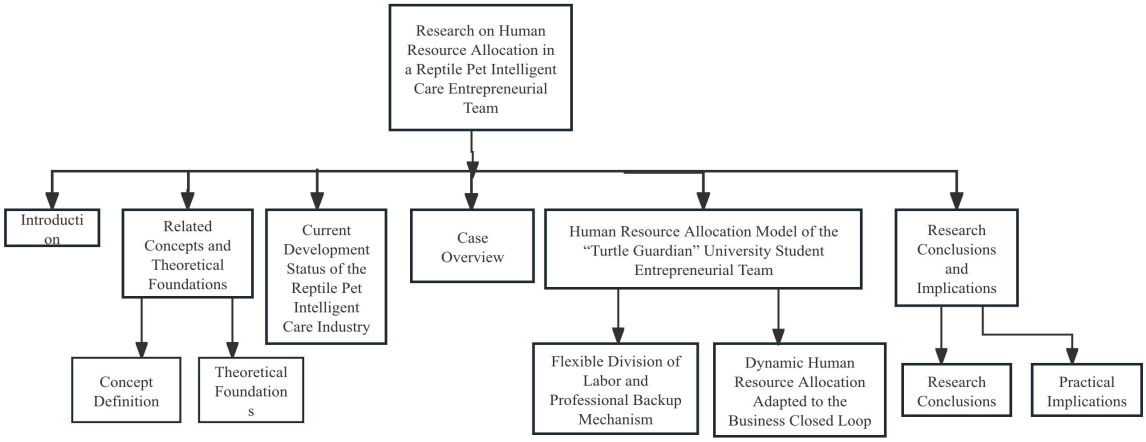

Figure 1. Technical Roadmap

2. Related Concepts and Theoretical Foundations

2.1 Conceptual Definition

Talent allocation is systematic planning. It is also dynamic adjustment. Organizations do this work. They depend on their strategy, business structure and operation needs [3]. They manage employee number, professional mix, job division and cooperation. Its core goal is to match people with jobs. It also aims to reach maximum value. It is a key part of talent management. It connects strategy and business execution. Traditional companies plan talent in fixed roles. They divide work in a professional way. They use complete organization structures. They cover all job functions. This fits large and medium organizations. These groups have enough resources. They follow standard work processes.

Reptile pet intelligent care is a niche cross-field pet economy field. Talent allocation here focuses on knowledge integration. This industry includes many fields. Team talent allocation meets basic operation needs. It also uses cross-professional skills. It turns these skills into practical work. Flexible talent allocation builds strong product technology barriers. University student entrepreneurial teams have fewer members and weaker resource-integration capabilities. Consequently, their human resource allocation needs to be lean and efficient, adopting methods in which one person assumes multiple responsibilities and different fields cooperate with each other, thereby achieving the team's key functions with minimal human resource expenditure [4].

2.2 Theoretical Foundation

In the 1960s, Schultz and Becker introduced a major theory to the field of economics—human capital theory. This theory regards human knowledge and abilities as critical forms of capital. According to this theory, labor capital formed through investments in education, training, and health can enhance labor productivity and facilitate the diffusion of technological innovations [5]. Investment in human capital not only directly improves work efficiency but also accelerates the adoption of new technologies, thus serving as a genuine driving force for economic development.

Traditional human capital theory largely uses observable forms of investment as metrics—measuring the stock of human capital, calculating the rate of return on investment for individual persons, and assessing its contribution to macroeconomic growth. However, this theoretical framework does not adequately incorporate differences in personality traits, intrinsic motivation, and other aspects among individuals. Therefore, the academic community has gradually developed a new human capital theory. Human capital theory suggests that

entrepreneurial teams should recruit new members who bring critical resources and can generate actual value, while gradually reducing or phasing out original resources and capabilities that no longer contribute to the enterprise's growth or have diminished in importance. Only by doing so can the team ensure its continuous operation and development [6].

3. Current Development Status of the Reptile Pet Intelligent Care Industry

The pet economy is also known as the "it economy" [7]. Currently, China's pet consumption is steadily developing towards segmentation, refinement, and scientization. With the continuous deepening of urbanization, pets are gradually entering thousands of households, becoming an important part of daily life, thereby giving rise to and expanding the pet economy market. Driven by the vigorous development of the domestic pet economy, the reptile pet market is gradually opening up development space. Younger generations increasingly favor such pets for their unique natural attributes and the fact that they do not require significant time for care and companionship [8]. Ornamental turtles, due to their low maintenance threshold and outstanding ornamental value, have become the mainstream entry-level choice in the reptile pet field. New generation consumers also have an increasing demand for intelligent, convenient, professional, and safe care solutions.

Human resource allocation in university student entrepreneurial teams in niche sectors mainly has the following characteristics. Team size is relatively small, constrained by funding, facilities, and the initial needs of the project. Taking the "Turtle Guardian" project as an example, the project has three core members. They cover project research and development, operations, and sales with the minimal human resource cost, enabling rapid execution. There is no strict division of labor boundaries; the organizational form exhibits flat operational dynamics, and the method of "one person holding multiple posts" is adopted. Team members complement each other professionally. Niche sectors integrate various elements such as technology, knowledge, and services; team members need to learn each other's cross-disciplinary knowledge. In micro-sized university student entrepreneurial teams, due to factors such as academic planning and graduation job seeking, personnel turnover occurs frequently among team members. Current university students lack practical experience, have limited business management experience, and possess weak market operation capabilities; their practical experience in human resource allocation is relatively scarce.

4. Case Overview

This study uses a single-case study method. It looks deep into the project's real-life process. It tries to find out how things work.

The "Turtle Guardian" project is run by university students. It builds a full system for smart care of ornamental turtles. The system has technical parts and business parts.

One technical part uses a TCM idea. The idea is "preventing disease" [9]. This idea is moved to reptile pet care. The project picks some herbs. Examples are dandelion, Houttuynia cordata, and Bidens pilosa. These herbs are made into conditioning products. The products come in powders and ointments. They stop common turtle diseases. White-eye disease and enteritis are two examples. They also help turtles get used to their environment.

A self-developed intelligent ecological circulation hardware system has also been constructed. This system integrates a three-stage filtration architecture combining physical filtration, bog filtration, and biochemical filtration. Equipped with an IoT sensor cluster [10], it monitors key indicators such as water temperature and pH value in real time, significantly simplifying the originally complex ecological maintenance process.

They were about the pet economy. The team also collected public industry white papers. They collected statistics. One example is the "2025 China Pet Industry Consumption Report." Another is reptile pet market industry analysis. These materials supported the theoretical analysis. They also supported the industry background review. A third method was operational data collection. The team collected the project's market data. This data came from private-domain channels. The channels were Xianyu (Idle Fish) and WeChat. The data included user transaction records. It included repurchase rates. It included care loss rates. Consumables sales data, and other quantitative information. This served to verify the fit between human resource allocation and the business model and provide data support. The

"Turtle Guardian" team has three core members. The team leader already operates a business involving the care, breeding, and sale of pet turtles, conducting transactions through platforms such as WeChat Moments and Xianyu. Additionally, combining this with live streaming has yielded positive results.

5. Human Resource Allocation Model of the "Turtle Guardian" University Student Entrepreneurial Team

The "Turtle Guardian" team is a university student entrepreneurial team. They focus on a niche market. That market is reptile pet intelligent care. Early in their startup, they had real problems. They did not have enough money. They had limited industry resources. Their team was very small. They used their own professional knowledge. They used the project's business logic. They built a human resource allocation model.

5.1 Minimalist and Lean Human Resource Structure

The team adheres to the principles of a small core, lightweight configuration, self-financing, and no redundant personnel. Because their startup capital comes from their own funds, the entire set of processes—from breeding turtles, treating turtle diseases, to contacting customers—is borne by the team members themselves. Their profits are also distributed through negotiation among the members. Therefore, only when the product is better, the service is more thorough, and customers are willing to pay will they have profits. Thus, to maintain a balance between cost and profit, they need to select the smallest number of core members to accomplish all the tasks of the project. From this project, it can be seen that the reason the team has been able to operate continuously is precisely the adoption of a lightweight human resource allocation. The team leader, as the project initiator and a lover of pet turtles, is responsible for the overall strategic planning of the project. The other members follow the team leader's arrangements, thereby reducing human resource costs. The funds thus saved can be reinvested into the research and development stage, developing more useful products for pet turtle breeding and supporting the reptile pet market. This model is suitable for the initiation of small-scale entrepreneurial projects with limited funds and rapid implementation, and it also meets market demands.

5.2 Flexible Division of Labor and Professional Backup Mechanism

For a small entrepreneurial team, with continuous development of the team, in order to obtain better products, provide better services, and achieve greater profits, the cooperation among team members cannot remain static; instead, it must be dynamically adjusted in response to market changes. The reptile pet market is characterized by a young customer base, strong professionalism in breeding, and insufficient standardization. Facing fierce market competition, the division of labor among team members needs to follow the commercial cycle of "products attract customers, consumables generate profits, and services retain customers." Business priorities differ across stages, and market demands are constantly changing. Therefore, human resource allocation also needs to be dynamically adjusted to better adapt to the market. For a micro-sized university student entrepreneurial team, each member must fully utilize their own strengths and value, accurately align with their own tasks, cooperate with each other, communicate, and solve problems together. Human resource allocation should be adjusted according to the rhythm of the business model, and while doing a good job in human resource allocation, the conversion of commercial value should also be well managed.

6. Research Conclusions and Implications

6.1 Research Conclusions

Through an in-depth analysis of the "Turtle Guardian" intelligent turtle rearing system university student entrepreneurial project, this study focuses on the niche sector of reptile intelligent care, examining the human resource characteristics of small university student entrepreneurial teams, as well as the formation process of this human resource allocation model and how it adapts to business model and market changes. The following conclusions have been drawn.

The reptile pet intelligent care market is a high-growth niche entrepreneurial sector within the pet industry. This sector integrates multiple elements, including TCM-based care, IoT technology, and private-domain operations. It is not a purely traditional niche sector but

combines many technical components and represents a pet care sector with substantial growth potential. The market share of the reptile pet sector is far lower than that of cats and dogs. However, through this study, we have observed that the growth rate of the reptile pet market has been relatively fast in recent years. The members of our entrepreneurial project happen to be enthusiasts of pet turtle breeding. Driven by this passion, they began to start a business in this market, starting from simply breeding pet turtles. During the breeding process, they gradually explored how to prevent pet turtles from getting sick and how to treat them if they became ill. The team leader began by treating simple conditions such as colds, skin diseases, and gastroenteritis, and developed some TCM herbal packs. At the same time, during the breeding process, they discovered that pet turtles have relatively high requirements for peripheral products such as temperature, humidity, feed, turtle tanks, and smart devices. Only by providing them with a better environment can mortality be effectively reduced and their growth improved. Therefore, the motivation behind our entrepreneurial project, as well as the research and development and profits obtained from it, originally stemmed from the team members' love and interest in pet turtles. If the members did not like pet turtles, they would not be able to carry out the breeding process.

6.2 Practical Implications

6.2.1 Implications for reptile pet care and similar niche industries

For practitioners in reptile pet care and similar industries, the project model studied in this paper is worth emulating. Cultivating a preventive care concept can reduce pet owners' use of antibiotics, thereby increasing pet survival rates. At the same time, combining smart hardware with ecological filtration technology can increase the success rate of care. The variety of peripheral products generated during the breeding process will also increase, and profitability can be improved. By analyzing the entrepreneurial process of reptile pet care, it has been found that university student entrepreneurial teams are very suitable for this kind of lightweight entrepreneurship. At the same time, those who have limited capital but wish to start a business are encouraged to choose this market characterized by low investment and high specialization.

6.2.2 Implications for university entrepreneurship education and guidance

For university entrepreneurship education and guidance, because the classroom audience consists mainly of university students, curriculum design should be arranged according to the characteristics of the students. Students should be encouraged to master their own professional knowledge well, and at the same time guided to learn knowledge from different disciplines, integrate knowledge from different fields, and improve cross-disciplinary collaboration skills. On the basis of having sufficient professional knowledge, students should be guided first to choose fields they are genuinely interested in and willing to dedicate themselves to over the long term, so that they can persevere. They should also seek like-minded partners to start a business together.

Acknowledgement

Supported by Beijing City University in 2026 "the innovation and entrepreneurship training program for college students"

References

[1] Zhu Lin. Pet Economy: "Pet"-ing a Trillion Blue Ocean. Business Management, 2026, (05): 15-20.

[2] Zhang Yuanyuan. Project-Driven Innovation and Entrepreneurship Education for University Students. Shanxi Youth, 2024, (13): 73-75.

[3] Jiang Yan. Strategies for Optimizing Human Resource Allocation in Public Institutions. Investment and Entrepreneurship, 2025, 36(21): 185-187.

[4] Li Li, Ge Menglei, Wang Shuai. "Three Refinements" Management Practice and Exploration of Passenger-Ro-Ro Ferry Companies. Containerization, 2023, 34(06): 8-9+15.

[5] Zhang Xueying, Bai Yun. Investing in People and Lifelong Skill Formation: A Perspective from Human Capital Theory. Contemporary Vocational Education, 1-10 [2026-05-20].

[6] Buchholtz A., Ribbens B., Houle I. The Role of Human Capital in Post-Acquisition CEO Departure. Academy of Management Journal, 2003, 46(4): 506-530.

[7] Chen Li, Jiang Huijie, Zhang Xiuying, et al. Research on the Current Situation and Countermeasures of China's Pet Economy

Development. Contemporary Animal Husbandry, 2023, (09): 117-120.
[8] Du Yuelin. Design of a Reptile Pet Community Platform Under the Background of Pet Economy. Guangdong University of Technology, 2023. DOI: 10.27029/d.cnki.ggdgu.2023.000563.
[9] Liu Jingjing, Guo Wangyuerui, Lu Yu. Hot Development and Cold Thinking of the Pet Economy Under the New Consumption Wave. New Economy Herald, 2025, (08): 77-82.
[10] Wang Shunyao. Functional Design of Pet Toys Based on Animal Behaviorism. Toy World, 2025, (12): 27-29.