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Logic and Practice of Empowering the Silver Economy through University Students'Horticultural Therapy Entrepreneurship from an Interdisciplinary Perspective

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Abstract: The deepening of population aging in China has driven the silver economy to evolve into a composite model integrating health, experience, and social interaction, while a significant gap remains in meeting the elderly population's multidimensional needs across physiological, psychological, social, and spiritual dimensions. The therapeutic value of horticultural therapy, combined with the resource integration advantages of interdisciplinary entrepreneurship among university students, provides an innovative pathway for empowering the silver economy. Anchored in the strategy of active aging, this study employs survey methods and multi-model comparative analysis to systematically construct a three-dimensional empowerment model encompassing "needs–mechanism–pathway." It analyzes the contextual applicability and implementation outcomes of four core empowerment mechanisms of horticultural therapy, explores the progressive logic of two representative entrepreneurial models—community-embedded "healing gardens" and the B2B model of "horticultural therapy plus elderly care institutions"—and verifies their multidimensional empowerment effects in health, consumption, and industry domains.The study finds that the multifaceted needs of the silver-haired population serve as the logical starting point for entrepreneurial empowerment, with the enabling mechanism of horticultural therapy functioning as the technological core. The three-tiered value transformation pathway

of university students facilitates the closed-loop conversion of therapeutic value into economic value. The two models correspond to different stages of entrepreneurship, forming a progressive development pattern that ultimately achieves the integration of social and economic benefits. The theoretical framework and practical model constructed in this study provide significant references for revitalizing the silver economy, expanding entrepreneurial pathways for university students, and advancing the practice of active aging.

Keywords: interdisciplinary integration; university student entrepreneurship; horticultural therapy; silver economy; empowerment mechanism

1. Introduction

1.1. Research Background: Deepening Population Aging and the Evolution of the Silver Economy

China's aging process continues to deepen. By 2024, the population aged 60 and above accounted for 22 percent of the total, and the demographic transformation has driven the silver economy to become an important growth pole of economic development. Within policy frameworks, the silver economy has been assigned a strategic mission to address population aging and promote high-quality economic development. Its envisioned blueprint encompasses the provision of services across the entire life cycle, the construction of a diversified industrial ecosystem, and the release of domestic demand potential [1]. At present, the needs of the elderly have expanded from basic survival security to multiple dimensions such as high-quality health experiences and social participation. Consequently, the connotation of the silver economy has evolved into a composite model integrating "health, experience, and social interaction." Horticultural therapy (HT), as a psychological intervention method [2], combines physiological healing with psychological counseling functions and demonstrates significant application value in the field of elderly health. However, a large-scale commercial transformation pathway has yet to be established. The resource integration advantages of interdisciplinary entrepreneurship among university students naturally align with the emerging opportunities of the silver economy. Exploring the logic of their integration is not only an inevitable requirement for responding to the active aging strategy but also a practical necessity for stimulating the vitality of the silver economy and expanding entrepreneurial pathways for university students.

1.2. Definition of Core Concepts

The essential connotations and key orientations of the core concepts are presented in the following table:

Table 1. Core Concepts, Definitions, and Value Orientations

Concept Name	Core Definition	Key Elements	Value Orientation
Interdisciplinary Integration-Oriented College	An entrepreneurial form where college students, relying on the interdisciplinary	College student subjects; university interdisciplinary	Achieving the dual transformation of healing

Concept Name	Core Definition	Key Elements	Value Orientation
Student Entrepreneurship in Horticultural Therapy	resources of universities to integrate knowledge in horticulture, rehabilitation medicine, etc., realize the transformation of horticultural healing functions into sustainable commercial and social values through standardized healing program design and market-oriented operations.	resources; standardized programs; market-oriented operations	value into commercial and social values
Silver Economy Empowerment	A process where innovative college student entrepreneurship projects accurately match the in-depth needs of the elderly, activate the consumption potential of health and experience-oriented services, promote the upgrading of the silver economy towards a composite industrial format, and drive the coordinated development of upstream and downstream industries.	Demand matching; consumption activation; industrial format upgrading; industrial synergy	Promoting the high-quality development of the silver economy
Entrepreneurial Empowerment	Focusing on the tripartite linkage of "college student entrepreneurship subjects - horticultural therapy carriers - silver economy objects", realizing the large-scale application and commercial transformation of horticultural therapy, and achieving the dynamic goals of meeting the needs of the elderly and activating economic vitality.	Tripartite linkage; large-scale application; commercial transformation	Balancing the satisfaction of elderly needs and the activation of economic vitality

1.3. Foundation of Interdisciplinary Theoretical Integration

As an educational model that transcends traditional disciplinary boundaries, interdisciplinary learning facilitates the integration and comprehensive application of knowledge from diverse fields. This approach provides students with a broader perspective and a more diversified set of problem-solving pathways[3]. In modern society, people's attention is often under intense strain. Prolonged periods of study and work, combined with the constant influx of information from various electronic devices, can easily lead to directed attention fatigue. The natural environment, however, possesses a unique form of "soft fascination" that draws upon involuntary attention. Kaplan (1995) proposed that natural environments, through this "soft fascination," activate the unconscious attention system, thereby restoring fatigued directed attention[4].For example, observing the rhythmic swaying of leaves can reduce activity in the prefrontal cortex and alleviate cognitive overload[5]. Compared with the intense and abrupt stimuli commonly found in urban environments, the stimuli in natural settings are gentler and more pleasant, thus imposing less strain on the brain.

As an emerging approach to mental health intervention, nature-based psychotherapy has attracted increasing attention in recent years. This therapeutic model emphasizes the harmonious coexistence between humans and nature, positing that there exists an intrinsic connection between the two. Through direct engagement with natural environments, individuals can activate their innate psychological restorative capacities. Its non-invasive and low-cost characteristics align well with the educational resources available in higher vocational institutions[6].This study integrates several theoretical foundations: natural psychotherapy and attention restoration theory support the ecological psychological recovery mechanisms of horticultural therapy; rehabilitation medicine and occupational therapy theories guide the design of age-friendly horticultural labor programs; social work and social

support network theories underpin the construction of social support systems for the elderly; and the business model canvas and value co-creation theory provide a framework for designing pathways of entrepreneurial value transformation. Together, these four theoretical systems constitute the theoretical foundation of the research.

2. Construction of the “Demand–Mechanism–Pathway”Three-Dimensional Empowerment Model

2.1. Deconstruction of the Deep Composite Needs of the Silver-Age Population

Based on the research team’s survey conducted from 2023 to 2025 among 320 older adults from communities in 12 cities across China (covering first- to third-tier cities, with 52.8% being empty-nest seniors and 23.4% mildly disabled), the needs of the silver-age population have evolved into a four-dimensional composite structure encompassing physiological, psychological, social, and spiritual aspects. First, the need for mind–body integration: 63.5% of older adults demonstrate an awareness of proactive health management, yet only 17.2% have access to suitable light-intervention services. Second, the need for social connection: 48.7% of empty-nest seniors experience insufficient social interaction frequency. Third, the need for self-efficacy: 56.2% of retirees wish to affirm their self-worth through labor participation. Fourth, the need for meaning-seeking: 39.4% of older adults prefer to sustain their sense of life value through engagement in cultural and public welfare activities.Significant differences exist in the demand priorities among groups with varying health conditions. The healthy and active group places greater emphasis on social interaction and the pursuit of meaning, while the mildly disabled or depressive group focuses more on mind-body integration and self-efficacy needs.

2.2. Analysis of the Interdisciplinary Empowerment Mechanisms of Horticultural Therapy

Drawing on interdisciplinary theories, horticultural therapy establishes four core empowerment mechanisms. Each mechanism has clearly defined implementation scenarios and target populations, enabling precise and tailored interventions. The ecological psychological restoration mechanism is suited to elderly individuals experiencing anxiety or cognitive fatigue, including those who are healthy or mildly depressed. Through dual settings that combine “indoor micro-gardening corners” and “outdoor shared vegetable gardens,” participants engage with natural elements. A three-month pilot study showed that the proportion of participants in the intervention group exhibiting improved anxiety symptoms (68.3%) was significantly higher than in the control group (21.5%), with more pronounced effects among elderly women. The occupational rehabilitation mechanism is designed for older adults with mild physical disabilities. It adopts a progressive labor scheme that gradually increases physical activity intensity through tasks such as sowing, watering, pruning, and grafting. Pilot data indicate that continuous participation led to an average 19.7% improvement in physical function scores, with particularly notable gains in fine motor skills. The social capital construction mechanism targets elderly individuals who live alone or

experience social isolation, such as those in empty-nest households. It fosters emotional connection through interactive activities like collective planting and harvest-sharing events. The social network density of participants in collective gardening activities increased by 51.2% compared with nonparticipants, with the highest engagement observed among younger seniors aged 60 to 70. The narrative meaning-construction mechanism addresses the needs of older adults seeking spiritual fulfillment. It encourages them to record plant growth diaries, share life stories, or donate horticultural products for public welfare. Among participants in plant story-sharing activities, 76.5% reported a stronger sense of life value, effectively alleviating feelings of "retirement uselessness."The four mechanisms do not operate in isolation but are integrated into combined empowerment programs tailored to the complex needs of older adults. For instance, for mildly disabled and empty-nest seniors, both the occupational rehabilitation mechanism and the social capital construction mechanism can be activated simultaneously to achieve dual empowerment in physical and social dimensions. A summary of the core information for each mechanism is presented in the table below:

Table 2. Core Information of Horticultural Therapy's Interdisciplinary Empowerment Mechanisms

Empowerment Mechanism	Target Group	Core Implementation Scenarios	Key Implementation Methods	Core Effect Data
Ecological Psychological Restoration Mechanism	Healthy or mildly depressed elderly people with anxiety and cognitive fatigue	Indoor micro-gardening corners, outdoor shared vegetable gardens	Exposing to natural elements	The proportion of anxiety improvement in the intervention group (68.3%) was significantly higher than that in the control group (21.5%)
Occupational Rehabilitation Mechanism	Elderly people with mild disabilities	Healing gardens, institutional rehabilitation areas	Gradient horticultural labor (sowing - watering - pruning - cutting)	The average score of physical function increased by 19.7%, with significant improvement in fine motor skills of the hands
Social Capital Construction Mechanism	Elderly people facing social isolation such as the elderly living alone and empty-nesters	Community shared vegetable gardens, collective activity venues	Interactive activities such as collective sowing and fruit sharing meetings	The density of social networks increased by 51.2%, and young elderly people aged 60-70 showed the highest enthusiasm for social participation
Narrative Meaning Construction Mechanism	Elderly people with spiritual sustenance needs	Healing classrooms, achievement exhibition areas	Recording plant growth diaries, sharing life stories, public welfare donation of gardening achievements	76.5% of participants reported a stronger sense of life value, effectively alleviating the "sense of uselessness after retirement"

2.3. Pathways for Transforming the Entrepreneurial Value of University Students

A three-tier value transformation pathway is established, consisting of "intervention value concretization, commercial value realization, and economic empowerment diffusion."

Each pathway draws deeply on university students' unique institutional resource endowments to form differentiated competitive advantages.Within the path of concretizing intervention value, university student teams integrate resources through "linking university research platforms with cross-disciplinary studio collaboration." They connect with horticultural laboratories to screen plant species suitable for older adults, collaborate with medical and nursing training centers to design tiered standardized programs, and work with the Department of Social Work to develop needs assessment scales. This process results in a core service package comprising 12 categories of age-friendly plants, 8 standardized curricula, and 3 evaluation tools. Community pilot testing demonstrates a user adaptability rate of 82.6 percent, with the mildly disabled group showing the highest satisfaction with customized programs. In addition, by utilizing the facilities of university entrepreneurship incubation centers for preliminary training, initial operating costs are reduced. The path of commercial value realization adopts a tiered pricing strategy of "basic free services plus value-added paid services." The basic services include free horticultural lectures and group planting experiences aimed at building trust and attracting participants. The value-added services consist of personalized therapeutic guidance (30–80 yuan per session), customized home gardening packages (200–500 yuan per set), and creative cultural products derived from horticultural achievements (50–200 yuan per piece). During pilot implementation, the conversion rate for value-added services reaches 32.8 percent. Customer acquisition relies on community service cooperation projects organized by university youth leagues and student unions, reducing acquisition costs by 65.3 percent compared with traditional commercial institutions, with an average cost per user of only 28 yuan. The path of economic empowerment and diffusion stimulates developmental consumption demand among the elderly through targeted services, promoting coordinated growth across upstream and downstream industries. On average, three pilot projects increase surrounding horticultural base orders for age-friendly seedlings by 16.8 percent. Meanwhile, collaboration with local cultural and tourism enterprises results in the development of "horticultural therapy one-day tour" products, generating an average annual increase of more than 30,000 yuan in cultural and tourism consumption per project and fostering new business models such as "horticultural therapy plus cultural tourism" and "horticultural therapy plus cultural creativity."2.4 Model Integration and Explanation

The three-dimensional empowerment model forms a closed-loop system encompassing "demand identification, mechanism response, pathway transformation, resource accumulation, and demand upgrading." The needs of the silver-haired population serve as the logical starting point, horticultural therapy functions as the core mediating mechanism, and university student entrepreneurship acts as the practical vehicle for implementation. The model clarifies the intrinsic logic of the tripartite interaction and provides a systematic guiding framework for entrepreneurial practice that integrates demand orientation, mechanism support, and pathway implementation.

3. Study on Typical Entrepreneurial Models

3.1. Research Methods and Selection Criteria

A multi-model comparative research approach was adopted, involving longitudinal investigations of 15 university-based entrepreneurial projects in China. Typical models were selected for analysis based on their coverage of both consumer-end (C-end) and business-end (B-end) scenarios, interdisciplinary characteristics, alignment with the light-asset entrepreneurial profile of university students, and strong replicability.

3.2. Analysis of Classic Models

3.2.1. Community-Embedded "Healing Garden" Operation Model

This model is designed for the initial stage of entrepreneurship (0–1 year). It utilizes idle urban community spaces to create a "campus–community co-constructed healing garden," focusing on serving elderly residents who live alone, are empty nesters, or have mild disabilities. Relying on university resources, the model enables low-cost initiation and rapid validation. The team connects university career and entrepreneurship guidance centers or youth leagues with community neighborhood committees to secure free venue use through the approach of "public welfare services entering communities combined with low-cost operation." It also integrates horticulture and landscape experimental bases to obtain age-friendly seedlings and collaborates with nursing school training centers to acquire basic therapeutic tools, thereby reducing material costs. The team adopts a lightweight structure of "core professionals supported by volunteers." The five to eight core members specialize in horticulture, rehabilitation, social work, and business management, while ten to fifteen university volunteers assist with basic activities, reducing labor costs by more than 40 percent. Service operations follow a dual system of "basic public welfare plus value-added paid services." Basic services quickly attract elderly participants and build trust, while value-added services meet differentiated needs. Pilot data show a repurchase rate of 81.3 percent for value-added services, with home gardening packages being the most popular. Each month, feedback is collected through the "Elderly Horticultural Service Satisfaction and Demand Feedback Scale." University mentors collaborate with the team to optimize service plans, and elderly participants are encouraged to share their experiences. Typical cases are disseminated through community bulletin boards and university new media platforms to enhance reputation and influence.The core advantage of this model lies in its close alignment with the daily lives of older adults and its low customer acquisition cost (28 yuan per user, approximately one-third that of traditional commercial institutions). It features a distinct light-asset operational model that can be launched with an initial investment of 30,000 to 50,000 yuan, which can be covered through university entrepreneurship support funds and community welfare subsidies. A stable operational and profit cycle can typically be established within four to six months. In terms of risk management, it is necessary to sign a one- to two-year cooperation agreement with the community in advance and identify alternative communities for contingency. In addition, the team should collaborate with the

community to organize “Neighborhood Invitation” activities to refine activity formats and enhance participation.

3.2.2. B2B Service Delivery Model of “Horticultural Therapy plus Elderly Care Institutions”

This model is suitable for the mid-stage of entrepreneurship (one to three years). After the team has accumulated professional service experience and operational capacity, the focus shifts to addressing the “specialized therapeutic service gap” in mid- to high-end private elderly care institutions and wellness communities. It provides customized horticultural therapy solutions through a B2B service model, facilitating the transition from small-scale pilot operations to large-scale profitable expansion.Customer acquisition relies on university–industry collaboration platforms and employment and entrepreneurship guidance centers to connect with local mid- to high-end eldercare institutions. An “academic research commercialization plus one- to two-month free pilot” strategy is adopted to establish initial partnerships. Service outcomes are evaluated through a dual-dimensional assessment system combining physiological indicators and psychological status. When pilot satisfaction reaches 92.5 percent, a long-term cooperation agreement of one to three years is signed. In terms of service system development, interdisciplinary university resources are leveraged to design core modules that include customized spatial planning, standardized service implementation, and dynamic service optimization, ensuring that service quality remains both controllable and replicable. Regarding profitability and scalability, a diversified revenue model is established, consisting of basic service fees, value-added service fees, and research collaboration funding. The scaling approach follows a “regional replication plus talent output” model, using the university’s location as the central hub to extend services to surrounding cities, supported by the university’s entrepreneurship incubation platform to cultivate a pool of professional talent.The core advantages of this model lie in its stable customer base and the continuity of cash flow ensured by long-term cooperation agreements, with annual revenue fluctuations kept within 10 percent. Supported by the reputation and research resources of universities, the difficulty of market expansion is reduced by more than 30 percent compared with the C-end model. Collaboration with institutions enables the accumulation of practical cases that, in turn, contribute to academic research, forming a virtuous cycle. To mitigate risks, a dual-review mechanism and monthly internal training should be established to prevent deviations in standardized service implementation. In addition, mentors from university schools of management should be introduced as operational consultants to guide phased scaling.

3.3. Model Comparison and Implications

The two models differ significantly in dimensions such as adaptation stages and resource requirements, as shown in the table below. The key implication is that in the early stage of entrepreneurship, priority should be given to adopting the community-embedded model for validation, while in the mid-term, the B2B model should be expanded to achieve scalability. Throughout the process, university resources should be leveraged to build core competitiveness and establish a closed-loop mechanism of “user feedback–university research optimization.”

Table 3. Comparison Between Typical Entrepreneurship Modes

Comparison Dimension	Community-Embedded "Healing Garden" Mode	"Horticultural Therapy + Elderly Care Institution" B2B Service Output Mode
Core Adaptation Stage	Early entrepreneurship stage (0-1 year)	Mid-term entrepreneurship stage (1-3 years)
Initial Capital Threshold	Low (30,000-50,000 yuan)	Medium (80,000-150,000 yuan)
Profit Stability	Medium (quarterly revenue fluctuation ±15%)	High (quarterly revenue fluctuation ±5%)
Core Advantages	Low-cost startup, low difficulty in customer acquisition	Stable customer source, easy scaling
College Student Adaptation Strategy	Relying on university Youth League committees to connect with communities and recruiting volunteers to reduce costs	Leveraging university-enterprise cooperation platforms and jointly formulating standardized manuals

Note: Data is summarized based on the follow-up research of 15 university entrepreneurship projects by the research team

4. Multi-dimensional Effect Analysis

4.1. Health Empowerment Effect

Based on six-month tracking data from twelve pilot projects (eight under the Community model and four under the B2B model), university student horticultural therapy entrepreneurship demonstrated a significant health empowerment effect for the silver-haired group, forming a dual value transmission of direct healing and indirect burden reduction. At the physiological health level, elderly living alone served under the community-embedded model showed an average increase of 20.3% in limb flexibility score and an 18.5% improvement in chronic disease index stabilization rate, with the most notable progress observed among younger elderly living alone aged 60 to 70. Under the B2B model, elderly with mild disabilities exhibited a 25.1% increase in daily activity ability score, and some participants were able to reduce the frequency of assistive device use. In addition, the average family care duration for elderly with mild disabilities participating in the service decreased by 2.5 hours per day, effectively alleviating family care pressure.At the psychological health level, 69.8% of participating older adults reported a significant alleviation of negative emotions such as anxiety and depression. The social horticultural activities under the community model were notably effective in mitigating social isolation. Among those who participated in collective planting activities, the frequency of emotional support acquisition increased by 45.7%, and the loneliness score declined from 6.2 to 3.5. In the B2B model, narrative activities enabled 82.3% of participants to gain a stronger sense of psychological belonging and sense of life value, effectively reducing alienation from institutional elderly care.

In the long term, health empowerment contributes to the indirect reduction of medical resources burden. Among older adults who participated in horticultural therapy services over an extended period, the average annual outpatient visits decreased by 17.8%, and the average annual medical expenses dropped by 15.3%, forming a virtuous transmission chain of

personal health improvement, family care burden reduction, and social medical efficiency increase.

4.2. Consumption Empowerment Effect

University interdisciplinary entrepreneurial teams, leveraging university resource advantages and youthful innovative thinking, have broken through the traditional barriers of mismatch between supply and demand in the silver economy market. This transformation has enabled a shift from passive supply to active activation, thereby realizing consumption empowerment. In the stage of activation of consumption intention, the lightweight promotion model of online popularization + offline experience has produced significant results. Awareness of horticultural therapy services among the elderly increased from 18.6% to 65.3%, and 62.4% of participating seniors reported enhanced consumption trust because the services were provided by university students, which encouraged them to try paid services.

In the stage of consumption structure upgrade, the entrepreneurial projects effectively stimulated the development-oriented consumption demand of the elderly. The proportion of expenditures on health experience and cultural and social consumption rose from 12.1% to 28.5%, while traditional survival consumption declined by 8.2 percentage points.Significant differences exist in payment preferences among different groups. The payment rate for social horticultural courses among healthy and active elderly individuals reaches 42.3 percent, while that for personalized horticultural therapy guidance among elderly with mild disabilities is 37.6 percent. Younger elderly individuals spend an average of 200–300 yuan per month on related consumption, whereas older elderly individuals mainly consume low-priced services, with an average monthly expenditure of 150–200 yuan. Overall, 80.7 percent of participating elderly individuals demonstrate a consumption repurchase intention related to horticultural therapy, forming a complete consumption loop. The derivative value of consumption empowerment is reflected in family consumption linkage. About 35.6 percent of participating elderly individuals encourage family members to engage in horticultural activities, indirectly stimulating family health consumption demand and further expanding the silver economy market radiation range.

4.3. Industry Empowerment Effect

Interdisciplinary horticultural therapy entrepreneurship centers on ecosystem construction characterized by “core services + supporting products + cross-border cooperation.” This approach promotes the transformation of the silver economy format from a single elderly care service to an integrated model of “horticultural therapy + diversified industries,” thereby generating an industry empowerment effect that follows the pattern of core-driven, peripheral radiation, and ecological upgrading.In terms of driving upstream and downstream of the industrial chain, the upstream connection with local horticultural bases has generated a customized demand for elderly-friendly seedlings. A single entrepreneurial project can drive a 15%–20% increase in elderly-friendly seedling orders for two to three horticultural bases, promoting their transformation toward the cultivation of subdivided elderly-friendly seedlings. In the midstream segment, the development of gardening tools and creative and cultural products has advanced steadily, with mature entrepreneurial projects achieving annual sales of 50,000–100,000 yuan in midstream creative and cultural products,

giving rise to a new niche in elderly-friendly horticultural creative products. Downstream cross-sector cooperation with healthcare and wellness institutions and cultural and tourism enterprises has enhanced the service premium of partner institutions by 10%–15%, forming a collaborative development pattern of the industrial chain.

At the level of business format innovation, three types of sustainable new business formats have emerged. Community horticultural therapy stations have developed into standardized community health service nodes that can be rapidly replicated. Institution-customized therapy services have filled the gap in professional therapy services within elderly care institutions. Horticultural therapy + cultural tourism experiential projects have expanded the connotation and boundary of silver-haired cultural tourism.In terms of industrial efficiency improvement, the digital innovation introduced by university student entrepreneurial teams has injected new momentum. The Simple gardening guidance mini-program has enhanced service operation efficiency by more than 30 percent. The elderly demand database has achieved precise matching of services and needs, promoting the transformation of the silver-haired economy toward precision and efficiency.

5. Conclusion and Outlook

5.1. Core Research Conclusions

The core research conclusions are as follows. First, the four-dimensional composite needs of the silver-haired group constitute the logical starting point of entrepreneurial empowerment, while the demand gap provides the core market foundation. Second, the four empowerment mechanisms of horticultural therapy precisely match elderly needs, offering a technical core for entrepreneurship. Third, the three-level value transformation path of university student entrepreneurship realizes the closed loop of healing value to economic empowerment, aligning with their resource endowment. Fourth, the two typical models provide adaptive solutions for different stages of entrepreneurship, forming an advancement path. Fifth, entrepreneurship achieves the three-dimensional synergistic effect of health, consumption, and industry, thereby realizing the unification of social and economic benefits.

5.2. Future Research Prospects

Future research can advance in three directions: (1) refining the Research on the adaptability of interdisciplinary team capabilities by constructing a “professional competence–service scenario–demand type” matching matrix; (2) exploring the deep integration of Intelligent planting monitoring equipment and other Digital tools with entrepreneurial projects; and (3) investigating the University-community-government-industry linkage support mechanism to address Pain points related to Entrepreneurial qualifications, Funding, and Trust.

5.3. Practical Implications

At the practical level, for university students, it is advisable to form teams by leveraging interdisciplinary resources within universities. In the initial stage, they should adopt a community-embedded model to validate market feasibility. In the intermediate stage, they

can expand through B2B cooperation to achieve scalability and establish a “user feedback–research optimization” closed loop. For the silver economy, universities and local governments should be encouraged to cooperate in project implementation. Services combining health experience + social participation can help bridge the mental health gap for the elderly and promote the transformation of the silver economy toward a development-oriented model.

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