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RESEARCH ON CONSTRUCTING THE INNOVATION AND ENTREPRENEURSHIP EDUCATION ECOSYSTEM OF APPLIED UNDERGRADUATE UNIVERSITIES IN CHINA IN THE DIGITAL ECONOMY ERA

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ABSTRACT

In the context of the rapid development of the digital economy, this paper meticulously constructs an innovation and entrepreneurship education ecosystem for applied undergraduate universities in China, based on the innovation ecosystem theory framework. This system comprehensively and systematically covers essential components such as ecological entities, key elements, organizational structure, internal connections, and core functions. The primary objective is to drive profound innovation in teaching models by establishing a multi-dimensional goal system, implementing cross-disciplinary talent cultivation strategies, designing an integrated curriculum system, and utilizing a data-driven, smart technology-integrated teaching practice platform. Based on this framework, the paper further proposes practical pathways for the innovation and entrepreneurship education ecosystem of applied undergraduate universities in China under the digital economy background. It aims to establish a collaborative operation mechanism among various elements, stimulate the innovation vitality of all entities, optimize the supporting structure of the innovation and entrepreneurship education ecosystem, and thus help applied undergraduate universities overcome development bottlenecks and move towards a broader stage of development.

Keywords : Digital Economy; Applied Undergraduate Universities; Innovation and Entrepreneurship Education; Ecosystem

1.0 INTRODUCTION

The digital economy is defined as "a new economic form that determines productivity through data information and its transmission technology". With the rapid development of the digital economy, profound changes have occurred in the global economic structure and social landscape. The widespread adoption and application of digital technology have not only driven industrial transformation and upgrading but also posed new demands and challenges for higher education. As the world's second-largest economy, China urgently needs to advance the construction of new engineering, new medical science, new agriculture, and new liberal arts (hereinafter referred to as the "Four News") in its universities to enhance their service capabilities for economic and social development. Given the complexity of economic and social changes and industrial development, applied undergraduate universities need to adapt

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their innovation and entrepreneurship education to meet the interdisciplinary and cross-border integration characteristics of the "Four News" construction in the digital economy era. Additionally, due to the close integration of applied undergraduate universities with local economic development and industry enterprises, there is an urgent and inevitable need to construct an innovation and entrepreneurship education ecosystem suitable for the digital economy era.

However, the traditional innovation and entrepreneurship education model overly emphasizes the role of universities as a single entity, neglecting the collaborative participation of multiple entities. This leads to insufficient internal motivation for education, a singular cooperation model, and an imbalance of interests among the entities, thereby restricting the high-quality development of university innovation and entrepreneurship education. To address these challenges, Chinese universities need to systematically optimize internal and external factors constraining entrepreneurial education development through a comprehensive coordination and resource-sharing mechanism involving multiple entities. By constructing a sound innovation and entrepreneurship education ecosystem, they can achieve resource sharing and comprehensive collaboration, promoting intensive and high-quality development of entrepreneurship education. This study leverages the theoretical model of the innovation ecosystem and China's national conditions to explore the construction of an innovation and entrepreneurship ecosystem for applied undergraduate universities in the digital economy era. It positions the government, industry, universities, and society as key participating entities, aiming to enhance the effectiveness and pertinence of education and support talent cultivation for the national innovation-driven development strategy. This effort not only aids the reform and development of higher education in China but also provides new perspectives and pathways for global innovation and entrepreneurship education.

2.0 INNOVATION ECOSYSTEM THEORY

The innovation and entrepreneurship education in applied undergraduate universities in China is a comprehensive project involving multiple stakeholders and full-process management. The evaluation of its implementation effectiveness should consider the needs and expectations of students, teachers, parents, enterprises, and the government. By leveraging modern information technologies such as digital technology, big data, and cloud computing, the educational outcomes can be further optimized and enhanced. In the context of the rapid development of the digital economy, applied undergraduate universities need to actively harness the power of new technologies to better meet the needs of local economic and social development, demonstrating the flexibility and adaptability of their educational models.

The innovation ecosystem theory offers a unique perspective for addressing complex social system issues. The concept of the ecosystem was introduced by Tansley in 1935, emphasizing the inseparability of organic complexes and their environmental complexes. As the interdependence among elements within social systems increases, interactions among entities become more frequent, leading to dynamic structural characteristics of the system. Thus, ecological thinking has been incorporated into innovation research. Ron Adner posits that an innovation ecosystem is a collaborative mechanism where resources are integrated and innovative outcomes are combined to create customer-oriented solutions, thereby driving value creation for enterprises and social progress. Chinese scholars Liu Xielin and others also point

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out that an innovation ecosystem is an innovation network based on a shared vision and goals, achieving a "win-win" objective through collaboration and resource integration.

In the construction and practice of an innovation ecosystem, core elements are indispensable, including ecological entities, key elements, structural connections, and core functions. Ecological entities encompass the diverse participants and their environments within the system; key elements are formed by the intertwined roles of these participants, whose boundaries become clear or blurred through interactions with different entities. Structural connections depict the blueprint of information and material flow among the entities within the system; core functions are realized through the collaborative interactions of different entities, fulfilling specific system functions and values. In the process of carrying out innovation and entrepreneurship education in applied undergraduate universities in China, it is essential to focus on the value pursuit of "what kind of people to cultivate and for whom," as well as the practical exploration of "how to cultivate people." The participants in this educational ecosystem are multi-level and diverse, including government agencies, universities, industry companies, social organizations, full-time and part-time instructors, students, and educational administrators. Through their engagement in innovation and entrepreneurship education activities, they collectively construct a robust and comprehensive innovation and entrepreneurship education ecosystem.

3.0 MODEL OF INNOVATION AND ENTREPRENEURSHIP EDUCATION ECOSYSTEM

In conducting innovation and entrepreneurship education, applied undergraduate universities need to enhance cross-disciplinary, cross-school, and university-enterprise cooperation to achieve integrated development of academic disciplines. It is essential to fully utilize digital technology, introduce digital courses, or embed digital content into professional courses to provide new scenarios, tools, and methods for innovation and entrepreneurship education, thereby achieving digital innovation in content and form. This study, guided by the "innovation ecosystem" theoretical model, explores the framework of the innovation and entrepreneurship education ecosystem for applied undergraduate universities that meet the needs of the "Four News" construction. This framework aims to achieve the deep integration of academic discipline systems, process management systems, and practical platform systems (Figure 1).

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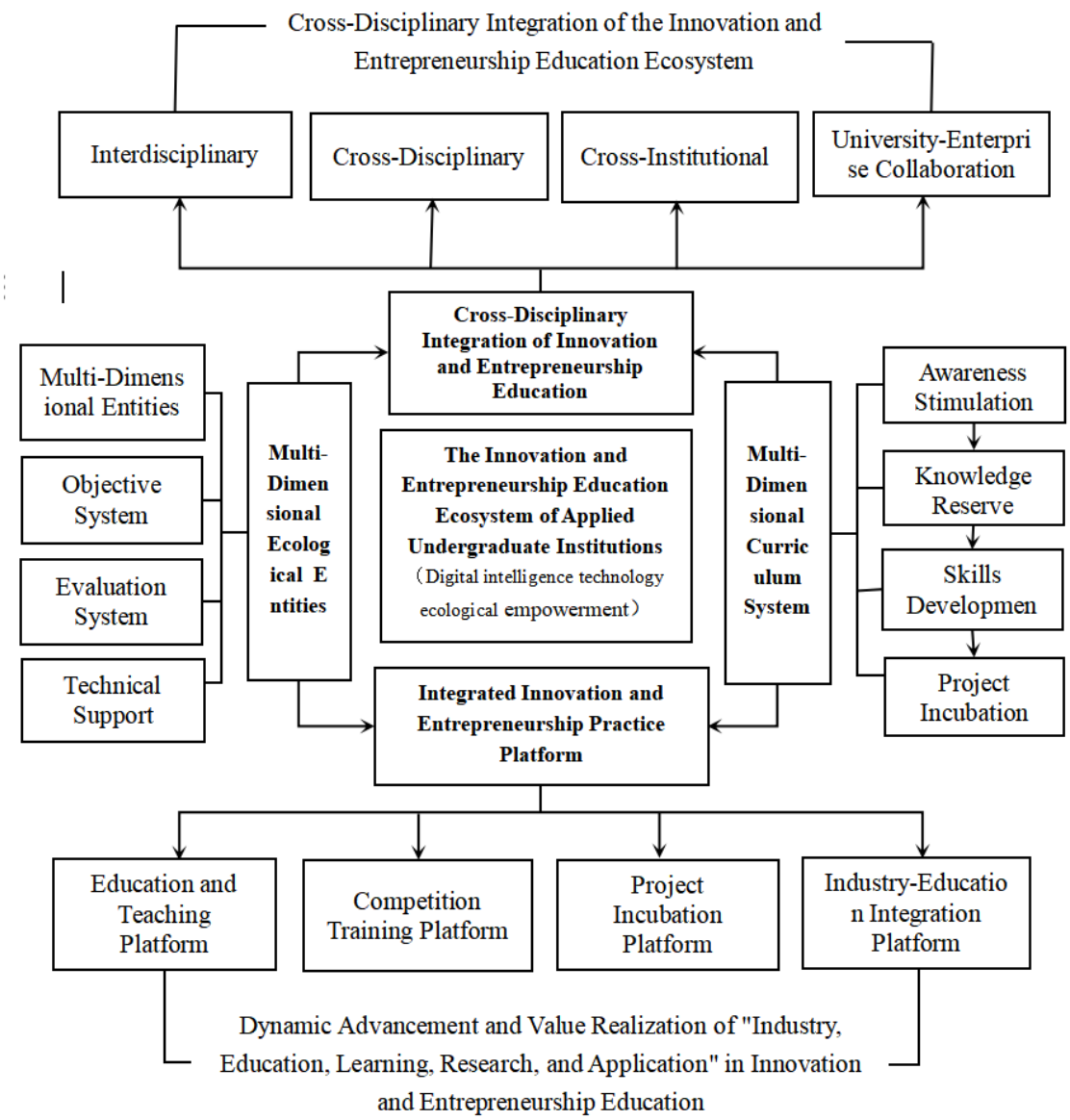

Figure 1: Model of the Innovation and Entrepreneurship Education Ecosystem in Applied Undergraduate Universities

Under the "Four News" construction background, the innovation and entrepreneurship education ecosystem of applied undergraduate universities should include: under the goal of cultivating high-quality, imaginative, and creative applied talents, multiple entities such as the government, universities, enterprises, teachers, and students collaborate across disciplines, schools, and university-enterprise boundaries to construct a comprehensive innovation and entrepreneurship education theoretical curriculum system. This system covers the entire process from awareness enlightenment to project incubation. It also includes an integrated comprehensive practice platform that dynamically advances "teaching, learning, research, and application," encompassing educational teaching platforms, competition cultivation platforms, project incubation platforms, and industry-education integration platforms. This approach

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promotes the dynamic evolution and value realization of the innovation and entrepreneurship education ecosystem.

3.1 Ecological Entities: Building an Innovation and Entrepreneurship Education System through Multi-dimensional Collaboration among Government, Enterprises, and Universities

Amid the rapid development of the digital economy, the "new infrastructure" centered on 5G communication, big data analytics, and the industrial internet is driving technological innovation and industrial restructuring. There is an increasing demand for high-level, application-oriented, interdisciplinary, and innovative talents in society. To build an innovation and entrepreneurship education ecosystem in applied undergraduate universities, it is crucial for governments, universities, and enterprises to collaborate and jointly undertake the mission of cultivating talents necessary for local economic development.

At the macro level, educational administrative departments should enhance the quality of innovation and entrepreneurship education through policy guidance and evaluation. This includes optimizing universities' talent cultivation goals, curriculum systems, and infrastructure to ensure that graduates precisely meet market demands. At the meso level, it is essential to strengthen university-enterprise cooperation and industry-education integration by incorporating real enterprise projects into teaching. This promotes curriculum innovation and provides students with real learning environments, equipment, and technologies, facilitating research and technology exchanges to cultivate high-quality talents with innovation and entrepreneurship capabilities. At the micro level, the roles of teachers and students must be emphasized. Methods such as case-based teaching, project-driven learning, and team collaboration should be used to stimulate students' innovative potential, with regular guidance and feedback to help them continuously improve their innovation and entrepreneurship projects and promote the comprehensive development of their innovative abilities.

3.2 Key Elements: Constructing a Cross-disciplinary Innovation and Entrepreneurship Talent Cultivation Model

In the context of the "Four News" construction, a key element of the multi-dimensional entities is the construction of a cross-disciplinary innovation and entrepreneurship talent cultivation model. This model, guided by the core principles of "demand-led, capability-driven, and outcome-oriented," focuses on cultivating innovation and entrepreneurship capabilities. It closely links talent cultivation goals with the needs of local economic and industrial development, highlighting the critical role of applied undergraduate universities in the innovation and entrepreneurship education ecosystem and their importance in the social system.

At the macro level, industry-education and science-education integration are essential. Industry-education integration balances university talent supply with enterprise demand, research outcomes with R&D needs, and teaching equipment with practical scenarios, fostering an innovative and entrepreneurial culture. Governments, enterprises, and universities collaborate through policy guidance, financial support, and the provision of real projects and internship opportunities to cultivate high-quality, application-oriented talents that meet market demands. Science-education integration involves leveraging high-level research outcomes

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from university teachers to support innovation and entrepreneurship education, enhancing teaching quality and aligning curriculum content with industry needs. Universities and research institutions collaborate to apply the latest research findings to teaching, integrating scientific achievements into courses through lectures and guidance to enhance students' knowledge and innovation capabilities.

At the micro level, cross-disciplinary integration and university-enterprise cooperation are core. Cross-disciplinary integration breaks down disciplinary barriers, enabling students to find innovative opportunities at the intersection of different fields. Through cross-disciplinary course design and project collaboration, students learn different disciplinary thinking and skills in practice, forming comprehensive and innovative solutions, expanding their knowledge, and improving their ability to solve complex problems. University-enterprise cooperation introduces real enterprise needs and projects into teaching, enhancing students' practical skills and employability. Enterprises provide internships, project guidance, and technical support, while universities adjust curricula based on enterprise needs to cultivate innovative talents required by the industry. This cooperation model seamlessly connects education with industry and nurtures high-quality, application-oriented talents who can meet market demands.

3.3 Structural Connections: Deepening Comprehensive Innovation and Entrepreneurship Curriculum Reform

The innovation and entrepreneurship education ecosystem in applied undergraduate universities is a dynamic, open system involving multiple levels and entities. Its effectiveness and adaptability hinge on the rational configuration of internal structures and the effective realization of connections. Surveys reveal that current innovation and entrepreneurship education courses in most universities are primarily composed of general courses, integrated courses, and auxiliary courses. Although each has its focus, overlapping content can dampen students' enthusiasm and lead to resource waste. Therefore, course structure design should consider interdisciplinarity and practicality, ensuring the organic integration of theory and practice and the close connection between formal and informal learning environments. This would make the curriculum system comprehensive, tiered, and differentiated, better aligning with the developmental patterns of students' innovation and entrepreneurship capabilities.

In the digital economy era, constructing a four-dimensional innovation and entrepreneurship curriculum system is particularly important. This includes foundational courses, cross-disciplinary integration courses, innovation thinking training courses, and practical courses, covering all stages of students' academic journey from entry to graduation, ensuring systematic cultivation and comprehensive enhancement of their innovation and entrepreneurship capabilities. Foundational courses like Introduction to the Digital Economy and Basics of Data Analysis lay the theoretical groundwork; cross-disciplinary integration courses, such as introducing business management courses into engineering programs, foster cross-field innovative thinking; innovation thinking training courses like Design Thinking Workshops inspire students' creativity and innovative spirit; practical courses, through enterprise collaboration, offer real projects and entrepreneurship competitions to improve students' hands-on skills and teamwork abilities. This curriculum system, achieved through the integration of course design, teaching teams, and platforms, deeply merges theory with practice and formal

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with informal learning environments, breaking down disciplinary barriers to provide innovation and entrepreneurship training that meets modern economic and social needs.

3.4 Core Functions: Building an Integrated Platform for Innovation and Entrepreneurship Education and Practice

In the rapidly developing digital economy era, applied undergraduate universities aim to build an integrated platform for innovation and entrepreneurship education and practice. This platform includes educational teaching platforms, competition cultivation platforms, project incubation platforms, and industry-education integration platforms, aiming to comprehensively enhance students' innovation and entrepreneurship capabilities, efficiently operating based on the core principles of "innovation, openness, collaboration, and sharing." Teaching practice forms the foundation of this platform, competition drives it, project incubation provides direction and motivation, and industry-education integration reflects future development trends. By promoting deep integration of multiple factors, this platform aims to strengthen students' innovation and entrepreneurship practice abilities, improve overall talent cultivation quality, and drive the dynamic evolution and value realization of the innovation and entrepreneurship education ecosystem.

To achieve these goals, a series of challenges must be overcome, relying on advanced digital technology and artificial intelligence to drive comprehensive development of "industry, education, learning, research, and application." "Industry" symbolizes close collaboration with governments and enterprises to jointly nurture excellent talents; "education" focuses on building a high-level team of innovation and entrepreneurship educators to provide students with excellent educational resources; "learning" emphasizes stimulating students' self-learning potential and developing their problem-solving abilities; "research" involves implementing innovation and entrepreneurship training projects and participating in competitions to cultivate students' innovative spirit and practical skills; "application" signifies effectively transforming students' innovative knowledge into entrepreneurial practice, creating more value for society. Utilizing advanced digital technology and artificial intelligence, this platform supports students' comprehensive development, provides personalized teaching resources for teachers, and offers robust data support for enterprises' personalized talent needs.

4.0 PRACTICAL PATHWAYS FOR THE INNOVATION AND ENTREPRENEURSHIP EDUCATION ECOSYSTEM

The innovation ecosystem model provides effective theoretical guidance for the reform of innovation and entrepreneurship education in applied undergraduate universities. In practical application, it is essential to focus on the educational goals driven by global economic and social development needs while clearly defining the pathways, methods, and conditions for implementation. Universities should adapt to the demands of the digital economy era, optimize top-level design, construct a multi-dimensional integrated ecosystem, and deepen the reform of teaching models empowered by digital technology and artificial intelligence. Through the construction of an integrated platform for innovation and entrepreneurship practice, universities can promote the deep integration of educational teaching platforms, competition cultivation platforms, project incubation platforms, and industry-education integration platforms in the practice of innovation and entrepreneurship education.

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4.1 Optimize Top-Level Design and Accurately Position Innovation and Entrepreneurship Education Goals

In the rapidly evolving digital economy era, precise positioning of innovation and entrepreneurship education in Chinese universities is particularly crucial. As the cornerstone of higher education, moral education holds a central position in innovation and entrepreneurship education. Following the "Guidance on Further Supporting College Students' Innovation and Entrepreneurship" issued by the General Office of the State Council, universities must deeply implement the concept of moral education, actively adapt to the new stage of development, integrate new development concepts, and construct new development patterns. To comprehensively promote innovation and entrepreneurship education, applied undergraduate universities in China should actively respond to national calls, accelerate reform, and improve the educational ecosystem. By constructing a tripartite collaborative innovation and entrepreneurship platform involving the government, enterprises, and universities, they can ensure that the goal of moral education permeates all aspects of education.

In addressing the shortage of talents in the digital economy and related industries, applied undergraduate universities should closely align with market demand, integrate resources, deeply explore industry trends and emerging industrial fields, and optimize the top-level design of innovation and entrepreneurship education. The primary task is to build a scientifically sound digital innovation and entrepreneurship education system that aims to cultivate innovative application-oriented talents who meet market demands and keep pace with the times. While drawing on advanced educational experiences from abroad, it is essential to localize educational models, closely align with national conditions and digital economy development trends, and explore innovative entrepreneurship teaching models that reflect the unique characteristics of each university. Concurrently, leveraging the digital economy and digital resources, universities should innovate their concepts of innovation and entrepreneurship education and conduct in-depth research. Applied universities must also establish a long-term, systematic innovation and entrepreneurship cultivation mechanism, enriching the educational system with digital resources through network technology to enhance students' innovation and entrepreneurship concepts and broaden their perspectives.

Equally important is the establishment of a comprehensive support system for college students' innovation and entrepreneurship. The government should formulate clear, practical entrepreneurship policies based on the actual situations of college students' innovation and entrepreneurship, creating an internal and external linkage, a vertically and horizontally interconnected mechanism that deepens educational reform, guides innovation and entrepreneurship, and serves high-quality economic development.

4.2 Coordinating Multiple Stakeholders to Build a Multi-dimensional Innovation and Entrepreneurship Education Ecosystem

Under the strategic guidance of the "Four News" construction, applied undergraduate universities should deeply grasp the characteristics of innovation, openness, integration, and sharing in the new era. They need to actively break down professional and disciplinary barriers and closely align with the actual needs of the digital economy and social development. By coordinating multiple stakeholders such as students, teachers, enterprises, industries, and the government, and through the deep integration of digital technology, disciplines, multi-

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dimensional stakeholders, and practical platforms, they can address the limitations in traditional applied undergraduate universities' innovation and entrepreneurship education, such as significant disciplinary limitations, insufficient integration, weak stakeholder connections, and the need for enhanced platform construction.

Firstly, the integration of information technology with the entire process of innovation and entrepreneurship education should be strengthened. Applied undergraduate universities should incorporate the latest developments in information technology into innovation and entrepreneurship education, reshaping the educational thinking and methodological system to help students better engage in innovative and entrepreneurial activities.

Secondly, the deep integration of multi-dimensional stakeholders in innovation and entrepreneurship education should be enhanced. This requires the joint participation of universities, enterprises, and the government. By integrating industry, enterprise, and market resources, and introducing market competition mechanisms and business culture, cross-disciplinary exchanges and industry cross-border cooperation can be achieved. Only with the collective concern and support of society for youth innovation and entrepreneurship, by creating a favorable environment and building a broad platform, attracting multiple parties, and investing more social and educational resources into innovation and entrepreneurship education, can high-level and collaborative development be promoted.

Thirdly, efforts should be made to integrate the advantageous resources of professional fields, promoting the close combination of innovation and entrepreneurship education with professional education. Focusing on professional integration, the existing disciplinary barriers and departmental boundaries should be broken, ensuring that innovation and entrepreneurship education is fully integrated into the professional talent training system of applied undergraduate universities. This requires relying on the inherent advantages of disciplines and professional fields while overcoming their limitations, deepening cross-disciplinary, cross-school, and university-enterprise cooperation. By combining the academic strengths and professional characteristics of universities, a robust and systematic development system and support mechanism for innovation and entrepreneurship education should be constructed.

Finally, the integrated and deep fusion of practical platforms should be promoted. This involves the establishment of an innovation and entrepreneurship education practice platform, which includes educational teaching platforms, competition cultivation platforms, project incubation platforms, and industry-education integration platforms, enhancing the awareness of open education and leveraging development in applied undergraduate universities. By further integrating innovation and entrepreneurship education resources and utilizing the combined efforts of multiple stakeholders in education, the integration of theory and practice, science and education, and university-enterprise cooperation can be achieved. This aims to realize the integrated development of the innovation and entrepreneurship capabilities of "Four News" professional talents.

4.3 Developing a Systematic Curriculum Framework and Advancing Project-Based Teaching Reform in Innovation and Entrepreneurship Education

In the context of the rapidly developing digital economy, applied undergraduate universities must establish a systematic curriculum framework and advance the reform of project-based

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teaching models in innovation and entrepreneurship education. This is essential to comprehensively enhance students' innovation and entrepreneurship capabilities. The curriculum framework should cover all levels from foundational theory to practical application, ensuring that students receive systematic innovation and entrepreneurship education at different stages, thus achieving a deep integration of theory and practice, as well as of classroom learning and extracurricular activities. Moreover, it is crucial to strengthen the quality control of educational outcomes throughout the process, ensuring that educational achievements and values are measurable and evaluable. This will create a virtuous cycle in education where teaching outcomes are assessable, teaching processes are controllable, and capability cultivation is continuously improved, fostering the robust development of high-quality innovation and entrepreneurship education.

Firstly, a foundational course module should be developed to provide students with a solid theoretical foundation. Introducing digital resources to update university innovation and entrepreneurship courses, including Introduction to the Digital Economy, Basics of Data Analysis, and Introduction to Information Technology, will help students grasp basic digital technology and economic knowledge. These courses not only help students understand fundamental concepts and principles of the digital economy but also cultivate their data thinking and information literacy.

Secondly, cross-disciplinary integration courses should be designed to break down disciplinary barriers and cultivate students' interdisciplinary innovation abilities. For example, incorporating business management courses into engineering programs and integrating information technology courses into business programs. This cross-disciplinary course design helps students understand and apply digital technology and entrepreneurial concepts in their professional studies, fostering cross-field innovative thinking and comprehensive abilities.

Additionally, innovation thinking training courses should be offered to help students break through traditional thinking patterns and cultivate divergent and critical thinking. Courses such as Innovation Thinking and Problem Solving and Design Thinking Workshops, using methods like case analysis, brainstorming, and team discussions, can stimulate students' creativity and innovation potential. Through these courses, students can learn to view problems from different perspectives and find innovative solutions.

Lastly, practical courses should be strengthened by developing real project-based practice courses in collaboration with enterprises, allowing students to hone their practical skills in real business environments. For instance, courses like Data-Driven Market Analysis and Digital Product Design and Development can include project cases provided by enterprises, which students complete under the guidance of instructors. This helps students learn project management, teamwork, and innovative practices. Organizing various forms of innovation and entrepreneurship competitions, such as the "Internet Plus" College Students Innovation and Entrepreneurship Competition, can further ignite students' entrepreneurial enthusiasm and innovation potential.

Furthermore, digital technology should be leveraged to update the classroom teaching model for innovation and entrepreneurship. Firstly, the reform of project-based teaching in innovation and entrepreneurship should emphasize the introduction of digital resources. Utilizing digital technology to adopt diversified classroom interaction forms can make knowledge explanation

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more vivid and engaging. Courses integrating Massive Open Online Courses (MOOCs), online resource collection, and integration can enhance students' ability to utilize digital technology, cultivating high-quality innovation and entrepreneurship talents who meet the demands of the modern economy and society. Secondly, a comprehensive quality management mechanism should be established. Transforming traditional "lecture-based" classrooms into student-centered dialogical classrooms requires comprehensive quality control throughout the educational activities. This involves systematically integrating the management entities, course teaching processes, and innovation and entrepreneurship drivers to enhance the synergy of multi-dimensional subsystems in the educational process. Lastly, a performance evaluation system should be established. The performance of innovation and entrepreneurship education is reflected not only in economic benefits but also in the improvement of students' innovation and entrepreneurship literacy and spirit. It encompasses both internal and external benefits of the school, assessing both direct entrepreneurial achievements and indirect entrepreneurial contributions. In the context of the "Four News" construction, the performance evaluation of innovation and entrepreneurship education in applied undergraduate universities should align with the needs of multiple stakeholders and systems. The evaluation results should be used to further refine the educational goal system.

4.4 Integrating Teaching, Competition, Training, and Incubation for a Unified Education Practice Platform

In the grand context of the digital economy, applied undergraduate universities should deeply integrate information technology, innovate teaching scenarios, methods, and tools, and promote the deep integration of classroom teaching, competition cultivation, project incubation, and industry-education collaboration.

Firstly, classroom teaching, as the cornerstone of innovation and entrepreneurship education, should leverage the power of virtual reality and artificial intelligence technologies. These technologies provide strong support for personalized and intelligent theoretical and practical teaching in classrooms, facilitating the implementation of new teaching methods and better reflecting the practical characteristics of innovation and entrepreneurship education in applied undergraduate universities.

Secondly, competition-driven approaches are crucial for enhancing innovation and entrepreneurship capabilities. Competitions such as China’s "Internet Plus" College Students Innovation and Entrepreneurship Competition not only enrich students' knowledge base and ignite their enthusiasm for innovation but also provide platforms for honing and showcasing their abilities. Universities should increase policy and financial support to encourage more students to participate in competitions. Additionally, promoting high-level competitions and creating a strong campus entrepreneurial culture can comprehensively elevate the standard of innovation and entrepreneurship education in universities.

Thirdly, project incubation serves as a guide and motivator. Universities should offer comprehensive services to student entrepreneurs, including business venues, skills training, shared facilities, project guidance, and talent development, to improve the success rate of project incubation. Such all-encompassing service platforms help achieve a seamless transition from theoretical education to practical application.

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Lastly, industry-education integration is an inevitable trend in contemporary educational development. Universities should enhance the participation of industry enterprises in innovation and entrepreneurship education, improving the diversified education system and achieving deep integration of education and industry. By establishing industry-university-research collaboration models, universities can combine academic faculty with enterprise technical talents to equip students with "dual mentors." Utilizing the practical application advantages of enterprises, this approach fosters the perfect integration of technology and digitization, cultivating "innovation and entrepreneurship" talents that meet the demands of the digital economy era.

In summary, applied undergraduate universities must focus on the integration of teaching, competition, training, and incubation, ensuring that each element complements and enhances the others. This holistic approach will create a robust and effective education practice platform, driving the comprehensive development of students' innovation and entrepreneurship capabilities.

5.0 CONCLUSION

In the current era of the booming digital economy, various fields of society are undergoing profound transformations. The social atmosphere for innovation and entrepreneurship is becoming increasingly robust, the cultivation of practical abilities in applied talents is continually being enhanced, policy support is significantly strengthened, and access to entrepreneurial resources is becoming more convenient. These positive factors have invisibly played a crucial role in promoting the growth of the innovation and entrepreneurship education ecosystem in applied undergraduate universities.

The "innovation ecosystem" theoretical model provides a solid theoretical foundation and guiding framework for constructing and improving the innovation and entrepreneurship education ecosystem. However, relying solely on a single theoretical framework, though instructive, can lead to rigid thinking in practice. Especially against the backdrop of the "Four News" construction and the digital economy, the innovation and entrepreneurship education in applied undergraduate universities is complex and diverse, necessitating the comprehensive application of multiple theoretical systems and practical experiences to explore more precise and effective development pathways.

The core of the innovation ecosystem lies in enhancing the value of system entities. For applied undergraduate universities, the fundamental goal is to cultivate high-quality applied talents and improve their innovation and entrepreneurship capabilities. Universities should deeply analyze the characteristics and strengths of the system entities, and, combined with regional industrial characteristics and policy environments, formulate development plans tailored to local conditions. This ensures that the innovation and entrepreneurship education ecosystem achieves continuous progress and high-quality development in the digital economy era.

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