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Exploration of Innovation and Entrepreneurship Talent Training Mechanism for New Liberal Arts Based on Academic Competitions

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Abstract: The New Liberal Arts initiative, guided by the core principles of interdisciplinary integration, practical innovation, and digital empowerment, imposes unprecedented demands on the entrepreneurial and innovative capabilities of contemporary liberal arts talents. In an era characterized by rapid technological advancement, academic competitions serve as a pivotal bridge connecting theoretical instruction, practical training, and dynamic industry needs. These competitions effectively address the persistent shortcomings of traditional liberal arts education, which is frequently characterized by an overemphasis on theoretical knowledge, a neglect of practical application, and fundamentally weak innovation. Starting from the foundational conceptual framework of the New Liberal Arts and its specific talent cultivation objectives for innovation and entrepreneurship, this comprehensive study critically analyzes current systemic challenges. These include outdated curriculum design, insufficient practical platforms, inadequate faculty development, and poor research commercialization within existing educational frameworks. Furthermore, it elucidates how academic competitions fulfill essential functions: goal-oriented guidance, rigorous skill refinement, strategic resource integration, and tangible achievement incubation. To resolve these identified deficiencies, the research proposes a robust four-dimensional cultivation mechanism that seamlessly integrates curriculum-competition synergy, academic-industry collaboration, and competition-innovation alignment. Additionally, it outlines strategic implementation pathways focusing on institutional safeguards, optimized resource allocation, and comprehensive evaluation reforms. Ultimately, these findings provide vital theoretical references and actionable practical models for cultivating highly adaptable, innovative talents in modern university New Liberal Arts programs.

Keywords: new liberal arts; academic competitions; entrepreneurship; talent cultivation; educational innovation

Received: 03 November 2025

Revised: 18 December 2025

Accepted: 28 December 2025

Published: 31 December 2025



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1. Introduction

The deep integration of the digital economy with intelligent technologies has catalyzed transformative shifts in the humanities and social sciences, leading to the emergence of the New Liberal Arts initiative. This initiative emphasizes the convergence of humanities and STEM disciplines, advocating for interdisciplinary collaboration that bridges traditional academic boundaries [1]. Central to this approach is the promotion of practice-based education and innovation-driven methodologies, which aim to cultivate a new generation of interdisciplinary liberal arts talents. These individuals are expected to possess a robust combination of humanistic literacy, specialized professional skills, innovative problem-solving abilities, and entrepreneurial acumen. Innovation and entrepreneurship education, as a cornerstone of this initiative, plays a critical role in addressing the misalignment between the development of liberal arts talent and the evolving demands of society. By fostering these competencies, the initiative seeks to

enhance the overall effectiveness and adaptability of the talent ecosystem, ensuring that graduates are better equipped to meet the challenges of a rapidly changing world.

Traditional approaches to innovation and entrepreneurship education in the liberal arts face significant obstacles, including fragmented curricula, insufficiently practical training environments, a lack of diversity in faculty expertise, and evaluation systems overly focused on exams. These limitations often result in students exhibiting low levels of innovation awareness and inadequate entrepreneurial skills. Academic competitions have emerged as a powerful tool to address these challenges. These competitions are designed to simulate real-world problem-solving scenarios, emphasizing practical application, collaborative teamwork, and outcome-oriented strategies [2, 3]. Examples include the "Internet+" College Students Innovation and Entrepreneurship Competition, the "Challenge Cup" awards, New Liberal Arts Practical Innovation Competitions, and various specialized disciplinary contests. These initiatives provide a structured, multi-tiered framework that transforms abstract innovation concepts into tangible, measurable, and transferable skills. By engaging students in these activities, the competitions serve as a critical mechanism for fostering innovation and entrepreneurial capabilities, thereby advancing the goals of the new liberal arts education ecosystem and preparing students to excel in complex, interdisciplinary environments.

2. Core Concepts and Theoretical Foundations

2.1. Definition of Core Concepts

New Liberal Arts Education represents a transformative approach that builds upon the foundational strengths of traditional liberal arts while integrating advancements in digital technologies, interdisciplinary methodologies, and practice-oriented strategies. This educational model emphasizes the harmonious integration of three core elements: value cultivation, knowledge transmission, and skill development. By fostering interdisciplinary convergence, promoting innovative applications, and addressing societal needs, it aims to prepare professionals who are versatile and adaptable to the demands of the modern era. Academic competitions, organized by governments, universities, and industry associations, serve as a platform to evaluate essential competencies such as professional expertise, innovative capabilities, and practical skills [4, 5]. These competitions are categorized into comprehensive innovation, specialized skill, and New Liberal Arts-specific domains. They are characterized by their focus on practical application, competitive dynamics, collaborative engagement, and outcome-oriented evaluation, ensuring participants are equipped to tackle real-world challenges effectively.

New Liberal Arts Innovation and Entrepreneurship Talents are individuals equipped with a robust foundation in humanities and social sciences, complemented by interdisciplinary knowledge and proficiency in digital tools [4]. These talents exhibit innovative thinking, advanced problem-solving abilities, effective teamwork skills, and entrepreneurial practice capabilities. Their versatility enables them to implement innovative and entrepreneurial solutions across diverse fields, including cultural creativity, social governance, the digital economy, and public services. By leveraging their interdisciplinary expertise and technological proficiency, they contribute to the development of sustainable and impactful solutions that address complex societal challenges. This new generation of professionals is uniquely positioned to drive progress in areas requiring both creative and analytical approaches, ensuring their relevance and effectiveness in the rapidly evolving global landscape.

2.2. Theoretical Basis

Competency-Based Education Theory focuses on developing students' core competencies by emphasizing practical applications and task-oriented learning. This approach leverages academic competitions as a dynamic tool to transform theoretical knowledge into practical skills through real-world project-based training. Such competitions align with the innovative and entrepreneurial skill development goals of new liberal arts education, fostering adaptability and creativity among students.

Collaborative Education Theory advocates for the integration of resources from universities, enterprises, industries, and governments to create a cohesive educational ecosystem. Academic competitions act as collaborative platforms that connect the "teaching-learning-competition-innovation-industry" continuum, promoting synergy across diverse sectors. Outcome-Based Education (OBE) Theory prioritizes final learning outcomes by reverse-engineering curriculum design, instructional methods, and evaluation processes. Academic competitions emphasize measurable results, driving pedagogical innovation and refining talent cultivation models to better meet societal and industrial demands. These theories collectively underscore the transformative potential of academic competitions in modern education systems.

3. Practical Challenges in Cultivating Innovative and Entrepreneurial Talents in New Liberal Arts

3.1. Curriculum System: Insufficient Integration of Specialization and Innovation, Severe Disconnection between Competition and Teaching

Traditional liberal arts courses have historically emphasized theoretical instruction, often neglecting the practical integration of innovation and entrepreneurship. This has resulted in a significant gap between specialized education and the broader objectives of fostering entrepreneurial skills. Innovation and entrepreneurship programs, which are typically structured as general education lectures, fail to align with the specialized needs of students, leaving them ill-prepared for the demands of the digital economy and evolving industrial landscapes [6, 7]. Furthermore, the curriculum lacks interdisciplinary modules that could bridge the gap between traditional liberal arts and emerging fields. Another critical issue is the disconnection between competition content and teaching methodologies. The absence of competition-related content and evaluation criteria within the syllabus creates a scenario where students are unable to develop the core competencies required for success in competitions or entrepreneurial activities. This disconnect hinders their ability to translate theoretical knowledge into practical, innovative solutions.

3.2. Practice Platform: Insufficient Resource Supply and Lack of Real-World Scenarios

Liberal arts practice platforms primarily depend on simulated laboratories and social surveys, which often fail to replicate the complexities and dynamics of authentic industrial environments. These platforms lack access to real-world scenarios, project incubation systems, and advanced digital tools that are essential for fostering practical skills. Collaborations between educational institutions and enterprises tend to remain superficial, with limited integration of genuine corporate challenges and industry-specific resources into the curriculum. Furthermore, academic competition platforms are characterized by fragmented structures, lacking a well-defined, tiered progression system that spans university, provincial, and national levels. Additionally, there is an absence of a comprehensive framework that integrates specialized disciplines, interdisciplinary approaches, and innovation-driven entrepreneurship, which are critical for holistic academic development [5].

3.3. Faculty Team: Weak Dual-Competency Capabilities and Insufficient Instructional Efficacy

A significant challenge in innovation and entrepreneurship education lies in the composition and expertise of the faculty team. Many educators involved in this field predominantly come from liberal arts backgrounds, which often limits their practical exposure to corporate operations, project management, and the intricacies of guiding students in competitive environments. This lack of hands-on experience can hinder the effectiveness of their instructional methods [8]. Furthermore, there is a noticeable gap in the recruitment of industry professionals and entrepreneurship mentors who could bring real-world insights into the classroom. The absence of interdisciplinary mentor teams further exacerbates this issue, as collaboration across diverse fields is essential for fostering innovation. Compounding these challenges is the current teacher evaluation system, which places minimal emphasis on contributions to competition guidance and

innovation or entrepreneurship education. This undervaluation reduces motivation among educators to prioritize these areas, thereby impacting the overall professionalism and quality of instruction. Addressing these systemic issues is crucial for enhancing the efficacy of innovation and entrepreneurship education programs.

3.4. Technology Transfer: Inadequate Integration between Innovation Competitions and Practical Implementation, Absence of Implementation Mechanisms

Many universities approach academic competitions primarily as a means of evaluating honors, placing greater emphasis on participation and recognition rather than fostering meaningful skill development or innovation. This focus often results in prioritizing awards over the practical application of ideas [9]. Consequently, exceptional competition projects frequently lack the necessary follow-up mechanisms, such as incubation programs, financial backing, and supportive policies, to transition them into viable entrepreneurial ventures, innovative products, or impactful social service solutions. Without these critical elements, the potential of these competitions to drive real-world innovation and societal benefits remains largely untapped, leaving a significant gap in the integration of academic achievements with practical implementation frameworks.

4. The Core Role of Academic Competitions in Cultivating Innovative and Entrepreneurial Talents in New Liberal Arts

4.1. Target-Driven Function: Anchoring the Direction of Innovation and Entrepreneurship Competency Development

Academic competitions play a pivotal role in aligning with the evolving talent demands of new liberal arts disciplines and addressing critical industrial challenges. By transforming abstract concepts such as innovative thinking, entrepreneurial awareness, and practical skills into tangible, measurable, and verifiable competition objectives, these events serve as a bridge between theoretical knowledge and real-world application. This structured approach not only clarifies the dimensions of innovation and entrepreneurship competencies but also delineates the specific knowledge modules and practical standards required for effective talent cultivation. Furthermore, academic competitions provide a robust framework for guiding curriculum reform and optimizing teaching methodologies. By fostering a clear and targeted development pathway, they ensure that students are equipped with the necessary skills to meet the dynamic needs of modern industries and contribute meaningfully to societal progress.

4.2. Capability Enhancement Function: Establishing Practical Training Scenarios

The competition incorporates real-world problem-solving tasks, collaborative team formats, and structured stages such as pitch presentations, solution design, and market research. These elements are designed to holistically improve students' competencies in interdisciplinary integration, critical problem analysis, innovative solution development, effective communication, and strategic risk management. By addressing existing gaps in practical humanities education, this approach fosters a dynamic learning environment where participants gain valuable experience through active engagement. The initiative successfully achieves the dual objectives of "learning through competition" and "practicing through competition," ensuring that students are better prepared for real-world challenges and professional scenarios.

4.3. Resource Integration Function: Building a Collaborative Education Platform

Academic competitions serve as a dynamic mechanism for integrating resources from universities, enterprises, industries, and governments, fostering the creation of collaborative educational platforms. These platforms enable interdisciplinary exchange, promote industry-academia-research collaboration, and strengthen university-enterprise partnerships. Enterprises contribute by offering authentic exam questions, experienced mentors, and financial support, ensuring practical relevance and professional guidance. Universities provide essential teaching resources, advanced research capabilities, and a pool of talented individuals, enriching the academic foundation. Governments play a

pivotal role by delivering policy support and facilitating access to platforms that encourage cooperation across sectors. Together, these entities form a diversified and synergistic educational ecosystem that drives innovation and enhances learning outcomes.

4.4. Achievement Incubation Function: Bridging the Path from Innovation to Entrepreneurship

Outstanding competition projects are characterized by their innovation, practicality, and potential market value. These projects, when subjected to systematic post-competition cultivation and incubation, can evolve into entrepreneurial ventures, scientific research outputs, social service products, or intellectual property assets. This transformation facilitates the establishment of a comprehensive closed-loop process encompassing "competition achievements---innovative practices---entrepreneurial implementation." Such a process significantly enhances the impact and effectiveness of innovation and entrepreneurship education by bridging the gap between theoretical innovation and practical entrepreneurial application. Furthermore, this approach fosters a dynamic ecosystem that supports the sustainable development of innovative ideas into tangible societal contributions.

4.5. Teaching Feedback Function: Promoting Educational Reform

Competitions serve as a critical mechanism for identifying gaps in knowledge, deficiencies in competencies, and practical shortcomings within teaching frameworks. These insights compel universities to undertake comprehensive reforms, including the reconstruction of curriculum systems, the modernization of teaching content, and the innovation of instructional methodologies. Such efforts foster a deeper integration of theoretical instruction with hands-on practical training, ensuring that students are better equipped to meet real-world challenges. Additionally, these reforms promote the convergence of specialized education with innovation and entrepreneurship training, thereby achieving the overarching objective of enhancing teaching quality and driving educational reform through the strategic use of competitions.

5. Construction of Talent Cultivation Mechanism for Innovation and Entrepreneurship in New Liberal Arts Based on Academic Competitions

Guided by academic competitions and rooted in the principles of the new liberal arts, this framework emphasizes the cultivation of innovation and entrepreneurship capabilities [6]. The proposed four-dimensional integrated training mechanism incorporates "course-competition integration, science-education collaboration, industry-education linkage, and competition-innovation alignment." This approach ensures a comprehensive and holistic educational process, fostering the development of students' practical skills and theoretical knowledge. By aligning academic competitions with curriculum design and industry needs, the mechanism bridges the gap between theoretical learning and real-world application, creating a dynamic environment that supports continuous learning and innovation throughout the educational journey.

5.1. Course-Sport Integration Mechanism: Restructuring the Curriculum System to Achieve Integration of Competition and Teaching

Hierarchical Curriculum Design: A structured curriculum system is established, encompassing three levels: "Foundation Level," "Intermediate Level," and "Innovation Level." The Foundation Level integrates competition fundamentals into general education and professional foundation courses, ensuring students acquire essential knowledge and skills. The Intermediate Level emphasizes interdisciplinary modules and competition skill courses, aligning with core competencies to foster practical expertise. The Innovation Level focuses on project-based practice and entrepreneurship training, utilizing real competition questions as teaching materials to enhance problem-solving and innovative thinking. **Reverse Integration of Competition Content:** Competition questions, evaluation criteria, and skill requirements are systematically incorporated into curricula and syllabi. Courses such as "Social Research Methods," "Digital Media Technology," and "Fundamentals of Innovation and Entrepreneurship" employ competition projects as

assignments, case studies, and practical exercises. This approach ensures that competition becomes an integral part of the learning process, transforming competitions into valuable educational experiences. **Interdisciplinary Module Development:** By leveraging the interdisciplinary nature of emerging humanities disciplines, modules such as "Liberal Arts + Digital Technology," "Liberal Arts + Management," and "Liberal Arts + Design" are developed. These modules address cross-disciplinary competition demands and cultivate students' ability to integrate knowledge across fields. This comprehensive approach equips students with the skills and adaptability required to excel in diverse academic and professional environments.

5.2. Science and Education Collaboration Mechanism: Integrating Research and Competitions to Enhance Innovation Depth

The Research Project Transformation Competition Initiative represents a strategic approach to bridging academic research with practical student engagement. Faculty members play a pivotal role by breaking down complex academic research projects and societal research topics into manageable competition themes. This process not only aligns student efforts with faculty research directions but also transforms valuable research resources into competition-ready materials. By doing so, it extends scientific training into the realm of competitive practice, fostering a deeper understanding of innovation processes. Furthermore, the outcomes of these competitions, including survey data, project designs, and innovative insights, can be reintegrated into academic research. These materials serve as foundational resources for graduation theses, academic papers, and broader research projects, establishing a mutually beneficial cycle of "competition-driven research and research-enhanced competition." To support this initiative, universities provide open access to their humanities laboratories, research bases, and data centers. These platforms offer competition teams essential data support, technical assistance, and research guidance, ensuring that their projects maintain high academic rigor and foster groundbreaking innovation. This integrated approach significantly enhances the depth and quality of student-led competition projects.

5.3. Industry-Education Collaboration Mechanism: Aligning with Industrial Demands and Enhancing Practical Competencies

Collaborative competition systems are developed by partnering with industry enterprises and associations to design competition topics, establish evaluation criteria, and form judging panels. This approach integrates authentic industrial challenges and cutting-edge technologies, ensuring that competitions reflect real-world practices while delivering solutions that address industrial needs. The dual-mentor team framework combines academic instructors, industry experts, and entrepreneurial coaches. Academic instructors provide theoretical guidance, industry mentors facilitate collaboration between academia and industry, and entrepreneurial coaches oversee project execution. This structure enhances the professionalism of mentorship and fosters innovation. Industry-integrated practice involves organizing competition teams for corporate internships, field research, and practical drills, aligning projects with business operations. Students engage in solution design, market promotion, and implementation testing within real-world scenarios, significantly strengthening their practical competencies. By immersing students in industry settings, they gain hands-on experience and develop skills that are directly applicable to professional environments, bridging the gap between academic learning and industrial demands.

5.4. Competition-Innovation Linkage Mechanism: Enhancing Incubation Systems to Facilitate Technology Transfer

The hierarchical cultivation mechanism aims to establish a structured, tiered development system that progresses from university-level selection to provincial-level refinement and culminates in a national-level sprint. This approach provides comprehensive guidance for outstanding projects, ensuring enhanced competition performance and improved project quality [10]. To further support post-competition

success, incubation relay systems are proposed, including the establishment of dedicated incubation bases and innovation studios. These facilities offer award-winning projects essential resources such as office space, funding support, policy consultation, and assistance with intellectual property applications. This enables the seamless transformation of ideas and prototypes into tangible products and, ultimately, market-ready commodities. Additionally, the mechanism encourages diversified outcomes by guiding competition projects to evolve into startups, social service solutions, policy recommendations, cultural and creative products, software copyrights, and more. This strategy not only maximizes the value derived from competitions but also strengthens students' entrepreneurial skills and fosters sustainable innovation ecosystems.

6. Safeguard Mechanisms and Implementation Pathways

6.1. Institutional Safeguards: Refining Top-Level Design and Strengthening Policy Support

Introducing specialized management measures is essential for ensuring the effective operation of academic and innovation-related mechanisms. This involves establishing comprehensive regulations for managing discipline competitions, fostering innovation and entrepreneurship education, and integrating these competitions with teaching practices. Such regulations should clearly define norms for organizing competitions, delineate the responsibilities of mentors, outline proper fund utilization, and provide guidelines for transforming achievements into practical applications [11, 12]. These measures create a robust institutional foundation that supports the seamless operation of these mechanisms. Furthermore, incorporating these elements into core talent development processes is critical. By embedding discipline competitions and innovation practices into the framework of the new liberal arts talent cultivation program, with specific credit requirements, institutions can promote the normalization and institutionalization of competition-based education. This approach ensures that such activities become an integral part of academic and professional development, fostering a culture of continuous innovation and excellence.

6.2. Resource Assurance: Integration of Multi-Party Resources to Strengthen Support Conditions

Financial support mechanisms play a crucial role in fostering innovation and academic excellence [13, 14]. Establishing dedicated competition funds and innovation incubation funds can significantly enhance the organization of events, training of teams, incubation of projects, and collaboration between universities and industries. These financial resources ensure that institutions can sustain long-term initiatives aimed at advancing interdisciplinary education and research. In addition, platform resource development is essential for creating integrated systems that support New Liberal Arts education. By leveraging campus laboratories, external practice bases, and corporate resources, institutions can build comprehensive ecosystems that facilitate innovation training, interdisciplinary exchanges, and collaborative projects. Furthermore, digital technology empowerment is vital in meeting the demands of digital transformation within New Liberal Arts education. Utilizing big data analytics, artificial intelligence applications, and digital media tools can help develop smart innovation training systems, enhancing students' digital literacy and technical proficiency while preparing them for future challenges in a rapidly evolving technological landscape.

6.3. Faculty Support: Strengthening the Dual-Qualified Teacher Team to Enhance Guidance Capabilities

Teacher competency enhancement is a critical aspect of fostering a robust dual-qualified teaching team. To achieve this, specialized training programs should be implemented, focusing on areas such as competition coaching, innovation and entrepreneurship education, and initiatives that integrate industry and academia. These programs can provide faculty members with the necessary skills and knowledge to effectively guide students in both theoretical and practical domains. Additionally,

encouraging faculty to undertake corporate internships and participate in industry practices can significantly strengthen their dual-qualification expertise, enabling them to bridge the gap between academic instruction and real-world applications. Optimizing incentive mechanisms is equally important; incorporating achievements in competition guidance, innovation education, and technology transfer into workload assessments, professional title evaluations, and performance reviews can motivate teachers to actively engage in these activities. Furthermore, recruiting external mentors, including entrepreneurs and industry experts, as adjunct faculty can expand the teaching roster and enhance practical instructional capabilities, ensuring students receive comprehensive and industry-relevant guidance.

6.4. Evaluation Support: Reforming the Evaluation System to Enhance Educational Vitality

Diversified student evaluation systems aim to establish a more holistic approach to assessing learners by integrating multiple dimensions such as knowledge evaluation, competition performance, practical skills, and achievement transformation. This approach reduces the traditional overemphasis on exam scores and shifts the focus toward fostering innovative practices and outcomes in innovation-entrepreneurship [8]. For teacher evaluation, the orientation is redefined to include metrics such as innovation-entrepreneurship instruction, competition guidance, and the broader educational impact on students. This promotes an evaluation philosophy centered on student development and the practical application of knowledge. Additionally, a robust feedback mechanism is proposed, utilizing competition-based educational effectiveness assessments to regularly evaluate curriculum integration, industry-academia collaboration, and achievement transformation outcomes. This iterative feedback system ensures continuous optimization of training mechanisms, enhancing the overall vitality and effectiveness of the educational framework.

7. Conclusion and Prospects

The development of New Liberal Arts disciplines imposes increasingly higher demands on cultivating innovative and entrepreneurial talents capable of addressing complex, interdisciplinary challenges. Academic competitions, as a pivotal platform for practical education, serve five essential functions: goal-oriented guidance, skill refinement, resource integration, achievement incubation, and teaching feedback. However, the current landscape of innovation and entrepreneurship education within New Liberal Arts faces significant obstacles, including a lack of synergy between academic courses and competitions, insufficient opportunities for hands-on practical experience, limited availability of qualified faculty, and inefficiencies in transferring theoretical knowledge into actionable skills. To overcome these barriers, it is imperative to establish a comprehensive four-dimensional training mechanism that integrates curriculum-competition synergy, science-education collaboration, industry-academia linkage, and competition-innovation alignment. This mechanism should be supported by robust institutional safeguards, strategic resource allocation, enhanced faculty development programs, and rigorous evaluation systems. Such an integrated approach will enable deeper alignment between competition-based education and New Liberal Arts innovation initiatives, fostering the development of interdisciplinary, innovative, and practice-oriented professionals who are well-equipped to contribute to the evolving demands of modern society.

In the future, as digital technologies continue to permeate New Liberal Arts disciplines, academic competitions are expected to undergo transformative changes characterized by digitalization, interdisciplinary integration, industrialization, and internationalization. Universities must proactively adapt to these trends by optimizing competition-based education mechanisms to better align with technological advancements and societal needs. This includes leveraging digital tools to enhance educational delivery, fostering cross-disciplinary collaboration to address multifaceted challenges, and accelerating the transfer of innovative technologies to real-world

applications. Furthermore, exploring novel models such as "AI + Competitions + Innovation and Entrepreneurship" can unlock new pathways for talent cultivation, enabling students to develop cutting-edge skills and entrepreneurial mindsets. By prioritizing these advancements, universities can significantly elevate the quality of talent development in New Liberal Arts fields, ensuring a steady supply of highly skilled professionals capable of driving progress in education, culture, and industry. This forward-looking approach will not only strengthen the academic foundation of New Liberal Arts but also contribute to broader societal goals, including the creation of a resilient and dynamic knowledge-based economy.

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