



ASSESSING THE IMPACT OF UNIVERSITY-BASED ENTREPRENEURIAL ECOSYSTEMS ON STUDENT ENTREPRENEURIAL INTENTIONS: A STUDY OF SELECTED STATE PUBLIC UNIVERSITIES IN EASTERN INDIA

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ABSTRACT

This research article examines the impact of university-based entrepreneurial ecosystems on student entrepreneurial intentions across selected state public universities in Eastern India. Using a mixed-methods approach involving purposive sampling and descriptive statistical analysis, the study investigates how institutional support mechanisms, including mentorship, funding, technology infrastructure, and curriculum alignment, influence students' entrepreneurial aspirations and perceptions of their readiness to establish new ventures. The findings reveal significant variations in student awareness levels regarding entrepreneurial facilities and their intentions to pursue self-employment. The study provides valuable insights for policymakers and university administrators in designing and implementing effective entrepreneurial ecosystems to foster job creators rather than job seekers among the student population.

KEYWORDS: Entrepreneurial Ecosystem, Higher Education, Student Entrepreneurial Intentions, University Facilities, Eastern India, Entrepreneurship Education

1. INTRODUCTION

1.1 Background on Entrepreneurial Ecosystems

An entrepreneurial ecosystem represents a complex, interdependent network of actors, organizations, and institutions that collectively facilitate the creation, development, and growth of new ventures[1]. The concept extends beyond traditional business definitions to encompass the broader socio-economic, political, and cultural environment that enables productive entrepreneurship within a specific geographic region[2]. Stam[3] defines an entrepreneurial ecosystem as "a set of interdependent actors and factors coordinated in such a way that they enable productive entrepreneurship," providing start-up enterprises access to critical resources including capital, human talent, market opportunities, and physical infrastructure within an open, supportive cultural framework.

The entrepreneurial ecosystem comprises both tangible and intangible elements. Tangible components include incubation centers, technology parks, funding mechanisms, and research facilities. Intangible elements encompass entrepreneurial culture, knowledge networks, institutional support, and mentorship systems[4]. The ecosystem's effectiveness depends not on individual components in isolation, but on the synergistic interactions among these diverse elements[5].

1.2 Role of Universities in Entrepreneurial Ecosystems

Universities have emerged as critical anchors within entrepreneurial ecosystems, particularly in developing

economies. Beyond their traditional role as knowledge generators, contemporary higher education institutions function as catalysts for entrepreneurial action through curriculum innovation, incubation support, networking facilitation, and commercialization of research outputs[6]. The Triple Helix model, pioneered by Etzkowitz[7], demonstrates how universities, in collaboration with industry and government, create knowledge-driven entrepreneurial ecosystems.

In the Indian context, universities serve as vital sources of capable and competent human capital, essential for fostering educated youth to establish enterprises[8]. According to NITI Aayog[9], despite favorable framework conditions and encouraging government policies, very few engineering and management students consider entrepreneurship as a career path. This gap presents a critical challenge that university-based entrepreneurial ecosystems must address through structured interventions, mentorship, practical skills development, and motivational support[10].

1.3 Research Problem and Significance

While India has emerged as the world's third-largest startup ecosystem with over 50,000 new companies and a growth rate of 30% annually[11], significant disparities exist in entrepreneurial readiness across regions and educational institutions[12]. The higher education institutions in Eastern India face particular challenges in transitioning student mindsets from job-seeking to job-creation orientation. Limited empirical research has



systematically examined how university-based entrepreneurial ecosystems in Eastern India influence student entrepreneurial intentions and awareness of available facilities.

This study addresses the gap between theoretical understanding of entrepreneurial ecosystems and practical implementation realities in Indian universities, particularly in Eastern states. By assessing student perceptions of university-provided entrepreneurial facilities and their correlation with entrepreneurial intentions, this research provides evidence-based insights for institutional strengthening and policy development.

1.4 Objectives of the Study

The primary objective of this research is to evaluate the impact of university-based entrepreneurial ecosystem facilities on student entrepreneurial intentions in selected higher education institutions of Eastern India. The specific objectives are:

- i) To identify the key components and facilities of entrepreneurial ecosystems available in selected universities
- ii) To assess students' awareness levels regarding entrepreneurial support mechanisms and resources
- iii) To examine the relationship between perceived entrepreneurial ecosystem facilities and student entrepreneurial intentions
- iv) To analyze demographic variations in entrepreneurial intentions among the student population
- v) To provide evidence-based recommendations for enhancing university-based entrepreneurial ecosystems

2. REVIEW OF LITERATURE

2.1 Defining Entrepreneurship and Entrepreneurial Ecosystem

Entrepreneurship, fundamentally, involves the process of identifying opportunities, marshaling resources, and taking calculated risks to establish and grow business enterprises[13]. Classical definitions from Cantillon[14] emphasizing risk-bearing, through Schumpeter's[15] focus on innovation and creative destruction, to contemporary frameworks highlighting opportunity exploitation, reflect the evolving conceptualization of entrepreneurship.

Drucker[16] articulated that "entrepreneurs innovate. Innovation is the specific instrument of entrepreneurship. It is the act that endows resources with a new capacity to create wealth." This perspective positions entrepreneurship as fundamentally linked to innovation and value creation in society[17].

The entrepreneurial ecosystem concept synthesizes these individual definitions within a systemic framework. Isenberg[18] proposed a six-domain model encompassing policy, finance, culture, support, human capital, and markets. The World Economic Forum[19] extended this to eight pillars, while the OECD[20] identified actors, organizations, institutions, and processes as foundational elements.

2.2 University-Based Entrepreneurial Ecosystems: Theoretical Foundations

Universities occupy a unique position within entrepreneurial ecosystems, serving simultaneously as knowledge generators, talent incubators, and commercialization platforms[21]. The Triple Helix model demonstrates how universities, industry, and government interact to create innovation ecosystems[22]. More recently, the Quadruple Helix framework incorporates civil society as the fourth pillar[23].

Graham[24] identified seven institutional factors essential for ecosystem strength: leadership commitment, entrepreneurship curriculum, incubation infrastructure, mentorship systems, financial support mechanisms, industry partnerships, and institutional culture. These factors interact dynamically; leadership commitment, for instance, influences resource allocation and cultural priorities[25].

Brush[26] emphasized that university-based entrepreneurial ecosystems must integrate entrepreneurship education as an essential component with active systems for interaction among various stakeholders. Guerrero and Urbano[27] demonstrated empirically that universities with stronger stakeholder collaboration achieved significantly higher student entrepreneurial outcomes.

2.3 Student Entrepreneurial Intentions: Predictors and Outcomes

Entrepreneurial intention—defined as the likelihood that an individual will establish a new venture—represents a critical intermediate variable between educational exposure and actual entrepreneurial action[28]. Multiple studies across diverse contexts have examined factors predicting student entrepreneurial intentions.

Singh[29] found that student qualifications and parental occupation significantly influence entrepreneurial intention among management students in India. Kolvereid[30] demonstrated that attitude toward entrepreneurship (ATB), subjective norms (SN), and perceived behavioral control (PBC) correlate significantly with entrepreneurial intentions, while gender and prior self-employment experience prove influential. Uddin and Bose[31] identified risk-taking propensity, need for achievement, business environment factors, and education quality as significant positive correlates of entrepreneurial intentions among business students in Bangladesh.

Lee and colleagues[32] conducted comparative research between American and Korean students, finding that cultural context and educational program intensity significantly affect entrepreneurial intention development. Entrepreneurship education programs, when properly designed and implemented, demonstrate measurable impacts on student intentions and entrepreneurial motivations[33].



2.4 Entrepreneurial Facilities and Support Mechanisms in Universities

Effective university-based entrepreneurial ecosystems provide multifaceted support systems addressing financial, informational, mentorship, and infrastructural needs. Key components include:

Funding and Financial Support: Access to seed funding, grants, and startup capital significantly influences student entrepreneurial intentions[34]. Venture funding availability reduces perceived barriers and increases entrepreneurial self-efficacy[35].

Mentorship and Guidance: Mentorship from experienced entrepreneurs and faculty members provides crucial guidance, networks, and encouragement[36]. Mentorship relationships strengthen self-confidence and provide practical problem-solving approaches[37].

Technology Infrastructure: Access to laboratories, digital tools, prototyping facilities, and collaborative spaces enables innovation[38]. ICT integration facilitates entrepreneurial learning and venture development[39].

Curriculum Alignment: Entrepreneurship education embedded in academic curricula develops essential competencies including creativity, opportunity recognition, resource management, and business acumen[40].

Industry Partnerships: Collaborations with established businesses provide internship opportunities, market insights, and potential venture customers[41].

2.5 Research Gap and Contribution

While substantial literature exists on entrepreneurial ecosystems globally, empirical research specifically examining university-based entrepreneurial ecosystems in Eastern India remains limited. Available studies[42][43][44] demonstrate that ecosystem outcomes vary significantly based on institutional infrastructure, geographic location, curriculum design, and student demographics. No systematic research has comprehensively assessed how multiple ecosystem components collectively influence student entrepreneurial intentions in Eastern Indian universities.

This study addresses this gap by employing descriptive statistical analysis to examine empirical data on student perceptions of entrepreneurial facilities and their stated intentions, providing insights specific to the Eastern Indian context.

- i) **Demographic Variables:** Age, gender, current status
- ii) **Entrepreneurial Experience:** Prior entrepreneurial experience
- iii) **Ecosystem Facility Perception:** University funding adequacy, technology and infrastructure access, mentorship quality, investor networks, curriculum relevance, practical skills development, creative thinking encouragement, accessibility, support environment
- iv) **Entrepreneurial Intentions:** Desire to establish ventures, perceived skill and knowledge adequacy, career viability perception, active opportunity seeking
- v) **Faculty and Industry Engagement:** Faculty knowledge and support, industry involvement in curriculum, mentorship opportunities
- vi) **Perceived Barriers:** Cost barriers, capital access limitations, network scarcity, limited institutional support
- vii) **Future Plans:** Post-graduation career intentions

3. RESEARCH METHODOLOGY

3.1 Research Design

This study employed a mixed-methods approach combining exploratory and descriptive research designs. Exploratory research identified factors affecting entrepreneurial ecosystems in selected universities, while descriptive research examined the measures universities implement and their impact on student awareness levels regarding entrepreneurial facilities.

3.2 Population and Sampling

Population: The study population comprised students enrolled in selected state public universities of Eastern India according to University Grants Commission classifications.

Sampling Technique: Non-probabilistic purposive sampling was employed, appropriate for the heterogeneous nature of the university population. This technique, while requiring careful application to minimize bias, proves effective for educational research where randomization cannot always be achieved[45].

Sample Characteristics: The final sample comprised university students with diverse academic backgrounds, entrepreneurial experience levels, and demographic profiles, enabling comprehensive assessment of ecosystem impact across heterogeneous populations.

3.3 Data Collection Methods

Primary Data: Primary data were collected through structured self-explanatory questionnaires administered via Google Forms and supplemented by personal institutional visits. The questionnaire design ensured clarity and ease of completion, facilitating comprehensive data collection aligned with the sampling plan.

Secondary Data: Secondary data were gathered from published research papers, government websites, e-newspapers, official university websites, academic journals, and books to support literature review and contextualization.

3.4 Instruments and Variables

The questionnaire measured 29 variables encompassing:



3.5 Data Analysis Techniques

The following statistical techniques were applied:

- i) **Percentage Analysis:** Frequency distributions and percentage calculations for categorical variables
- ii) **Descriptive Statistics:** Mean, standard deviation, minimum, and maximum values for interval variables
- iii) **Correlation Analysis:** Bivariate relationships between ecosystem facility perceptions and entrepreneurial intentions

Variable	Mean	Std. Dev.	N
Age (years)	22.15	2.47	150
Gender (F=0, M=1)	0.52	0.50	150

Table 1: Demographic Characteristics of Respondents

The sample comprises students with a mean age of 22.15 years (SD=2.47), reflecting upper undergraduate and postgraduate populations. Gender distribution shows approximately equal representation (52% male, 48% female), enabling comparative analysis across gender lines.

4.2 Entrepreneurial Experience Distribution

Frequency analysis indicates that 38% of respondents possess prior entrepreneurial experience, either through family business

iv) **Qualitative Synthesis:** Integration of qualitative insights from open-ended responses

4. DATA ANALYSIS AND FINDINGS

4.1 Demographic Characteristics of Respondents

The descriptive statistics reveal the demographic composition of the study sample:

involvement or personal ventures, while 62% lack direct entrepreneurial experience. This variation enables assessment of how prior experience influences perceptions and intentions.

4.3 Perceived Entrepreneurial Ecosystem Facilities

Respondents rated their agreement with statements regarding available entrepreneurial facilities using 5-point Likert scales (1=Strongly Disagree to 5=Strongly Agree). The analysis reveals:

Facility Dimension	Mean	Std. Dev.
University Funding Adequacy	3.24	1.18
Technology and Infrastructure	3.42	1.15
Mentorship and Guidance	3.31	1.22
Investor Network Access	2.89	1.27
Curriculum Relevance	3.52	1.10
Practical Skills Development	3.68	1.05
Creative Thinking Encouragement	3.75	0.98
Accessibility	3.41	1.13
Supportive Environment	3.45	1.12

Table 2: Perceived Entrepreneurial Ecosystem Facilities (N=150)

Key Findings

- **Strongest Perceived Strengths:** Creative thinking encouragement (M=3.75, SD=0.98) and practical skills development (M=3.68, SD=1.05) receive highest ratings, suggesting universities successfully foster innovation and skill development.
- **Notable Weakness:** Investor network access shows the lowest mean (M=2.89, SD=1.27), indicating significant gaps

in connecting students with capital sources and experienced entrepreneurs.

- **Moderate Gaps:** University funding adequacy (M=3.24) and mentorship quality (M=3.31) fall below the hypothetical midpoint of 3.5, suggesting incomplete implementation of financial support and mentorship systems.

4.4 Student Entrepreneurial Intentions

Frequency analysis of entrepreneurial intention variables reveals:

Intention Item	Strongly Agree	Agree	Neutral	Disagree	%
Strong desire to start venture	28%	31%	23%	18%	59%
Necessary skills and knowledge	22%	29%	27%	22%	51%
Viable career option	25%	34%	22%	19%	59%
Actively seeking opportunities	18%	27%	31%	24%	45%

Table 3: Student Entrepreneurial Intentions Frequency Distribution (N=150)

Interpretation

- **Expressed Desire:** 59% of students express desire to establish their own business (combining "Strongly Agree" and "Agree" responses), indicating substantial entrepreneurial potential.
- **Skill-Knowledge Gap:** While 59% view entrepreneurship as a viable career option, only 51% believe they possess

necessary skills and knowledge, revealing a critical confidence and capability gap.

- **Action-Intention Discrepancy:** Only 45% actively seek entrepreneurial opportunities, suggesting that aspiration exceeds action-readiness. This gap highlights the importance of practical support systems that translate intentions into actual entrepreneurial action.



4.5 Faculty Support and Industry Involvement

Variable	Mean	Agreement %
Faculty Knowledge and Support	3.38	58%
Industry Involvement in Curriculum	3.15	52%
Mentorship Involvement	3.28	55%

Table 4: Faculty and Industry Engagement Metrics

Faculty support receives moderate ratings (M=3.38), with 58% of students agreeing that faculty members are knowledgeable and supportive. Industry curriculum involvement (M=3.15, 52% agreement) indicates partial integration of industry perspectives

into educational programs, suggesting opportunities for strengthening industry-university collaboration.

4.6 Perceived Barriers to Entrepreneurship

Students identified multiple barriers limiting their entrepreneurial pursuit:

Barrier	Mean	Std. Dev.	High Impact %
Cost of Starting	3.82	1.15	68%
Lack of Capital Access	3.91	1.12	72%
Network Scarcity	3.65	1.18	62%
Limited University Support	3.48	1.22	55%

Table 5: Perceived Entrepreneurial Barriers (N=150)

Critical Insights

- **Financial Barriers Predominate:** Lack of capital access (M=3.91) and startup costs (M=3.82) emerge as the most significant perceived barriers, with 72% and 68% of students respectively rating these as substantial obstacles.
- **Network Limitations:** Network scarcity (M=3.65, 62% reporting high impact) prevents students from accessing mentorship, partnerships, and customer opportunities.
- **Institutional Support Gaps:** 55% perceive limited institutional support, suggesting that despite identified ecosystem facilities, their accessibility or effectiveness remains questioned by students.

4.7 Overall Perception of University Entrepreneurial Ecosystem

Overall ecosystem perception (M=3.41, SD=1.09) falls at the borderline of neutral-to-positive assessment. This moderate rating, despite identified individual strengths, suggests that ecosystem components do not integrate synergistically to create compelling perception of comprehensive entrepreneurial support.

5. INTERPRETATION OF FINDINGS

5.1 Ecosystem Strengths and Student Perception

The data reveals that universities successfully foster educational foundations for entrepreneurship through curriculum design and creative thinking encouragement. Mean ratings for practical skills (M=3.68) and creative thinking (M=3.75) indicate that pedagogical approaches effectively develop entrepreneurial mindsets and core competencies.

However, this pedagogical success does not translate uniformly into strong entrepreneurial intentions. The discrepancy between moderate-to-strong faculty perceptions and modest overall ecosystem perception (M=3.41) suggests that essential bridge mechanisms connecting education to action remain underdeveloped.

5.2 The Intention-Action Chasm

The critical finding emerges in the gap between entrepreneurial intention and action-readiness. While 59% express entrepreneurial desire, only 45% actively seek opportunities. This reflects a common pattern in entrepreneurship research: psychological intention frequently exceeds behavioral commitment, particularly among students lacking direct venture experience[46].

The skill-knowledge gap (51% confidence vs. 59% intention) proves particularly revealing. Students recognize the aspiration-capacity mismatch and lack confidence in their ability to succeed. This gap represents a critical intervention point: strengthening practical competency development, particularly in business planning, financial management, and venture launching processes[47].

5.3 Financial Barriers as Primary Constraints

The prominence of financial barriers (72% identifying capital access as highly problematic) aligns with global entrepreneurship literature identifying resource constraints as primary obstacles, particularly in developing economies[48]. However, the finding takes on greater significance within Indian universities, where startup ecosystem awareness and access mechanisms remain nascent in many institutions.

The relatively low rating for university funding adequacy (M=3.24) combined with high barrier perception regarding capital access suggests that current funding mechanisms—whether nonexistent or insufficiently promoted—fail to adequately address student needs.

5.4 Network-Building Deficiency

Investor network access shows the lowest faculty rating (M=2.89), with 62% reporting network scarcity as a significant barrier. This reflects inadequate ecosystem integration with investor communities, mentorship networks, and entrepreneurial role models. Network gaps prevent students from accessing critical resources for venture development and limit exposure to successful entrepreneurial examples that inspire action[49].



5.5 Demographic Variations in Entrepreneurial Intentions

Students with prior entrepreneurial experience show significantly higher intention levels (average 3.87) compared to those without experience (average 3.21). This finding aligns with research indicating that direct entrepreneurial exposure substantially increases subsequent intention [50]. Universities should intentionally design programs providing vicarious entrepreneurial experiences through case studies, guest lectures, incubation exposure, and mentorship engagement.

6. CONCLUSIONS

This research demonstrates that university-based entrepreneurial ecosystems in Eastern Indian higher education institutions exhibit uneven development across essential components. While pedagogical mechanisms for building entrepreneurial mindsets and creative thinking show relative strength, support infrastructure for translating intentions into action remains underdeveloped.

Principal Conclusions

- Pedagogical Success, Systemic Incompleteness:** Universities successfully deliver entrepreneurship education and foster creative thinking, yet fail to provide comprehensive support ecosystems integrating financial, mentorship, network, and practical resources essential for bridging intention-action gaps.
- Critical Finance-Network Gap:** The inadequacy of funding mechanisms and investor network access emerges as the primary systemic weakness, preventing capable and motivated students from pursuing entrepreneurial paths.
- Intention-Action Mismatch:** While 59% express entrepreneurial desire, only 45% actively pursue opportunities, indicating that aspiration requires complementary support systems for actualization.
- Experience-Intention Correlation:** Students with prior entrepreneurial experience demonstrate substantially higher entrepreneurial intentions, validating experiential learning as a critical pedagogical approach.
- Ecosystem Integration Requirement:** The data suggests that individual facility strengths do not automatically create comprehensive entrepreneurial ecosystems; active integration and student awareness-building prove essential.

7. SUGGESTIONS AND RECOMMENDATIONS

7.1 For University Administrators

- Strengthen Financial Support Mechanisms:** Establish dedicated seed funding pools, startup grants, and revolving funds specifically for student ventures. Develop transparent allocation mechanisms ensuring student awareness and accessibility.
- Develop Investor Networks:** Create formal mechanisms connecting students with angel investors, venture capitalists, and successful entrepreneurs through regular networking events, entrepreneur-in-residence programs, and digital platforms.
- Enhance Mentorship Infrastructure:** Implement structured mentorship programs matching students with experienced entrepreneurs and business professionals who provide ongoing

guidance, business planning support, and accountability mechanisms.

iv) Integrate Industry Participation: Formalize industry involvement in curriculum design, practical training delivery, internship coordination, and opportunity mentoring rather than treating industry engagement as peripheral activity.

v) Create Incubation Ecosystems: Establish or strengthen on-campus incubation facilities providing workspace, basic infrastructure, technical support, and business development services enabling venture launching.

7.2 For Faculty Members

i) Develop Entrepreneurial Pedagogy: Transition from lecture-based delivery to experiential learning incorporating case studies, business plan competitions, live case consulting, and venture simulation exercises.

ii) Integrate Real Venture Exposure: Facilitate student interactions with operating ventures through site visits, guest lectures by functioning entrepreneurs, mentorship engagement, and case study development.

iii) Provide Business Skill Training: Supplement entrepreneurship courses with practical training in accounting, financial management, marketing, and regulatory compliance—competencies essential for venture success.

iv) Support Student Ventures: Encourage and mentor student-initiated ventures, potentially offering academic credit or recognition for significant entrepreneurial engagement.

7.3 For Government and Policy Bodies

i) Incentivize University Ecosystem Development: Allocate specific funding components for university entrepreneurial ecosystem strengthening, with accountability metrics tied to student startup creation and sustainability.

ii) Facilitate University-Industry Partnerships: Create policy and incentive frameworks encouraging formal partnerships between universities and industry for curriculum co-development, mentorship provision, and opportunity creation.

iii) Establish Student Startup Support Programs: Develop state or regional student startup funds, incubation hubs, and mentorship networks specifically designed for early-career entrepreneurs emerging from universities.

iv) Support Regional Entrepreneurial Networks: Create platforms connecting entrepreneurs, investors, and support service providers across Eastern Indian regions, reducing information and network asymmetries.

7.4 For Students

i) Seek Diverse Experiences: Actively engage with entrepreneurship programs, internships, and mentorship opportunities to develop competencies and expand networks.

ii) Build Financial Literacy: Develop understanding of venture financing, business planning, and resource management essential for successful venture launching.

iii) Develop Support Networks: Actively cultivate relationships with mentors, peer entrepreneurs, and potential partners who provide guidance and collaborative opportunities.



iv) **Pursue Experiential Learning:** Engage in live case consulting, business plan competitions, and venture exposure activities providing practical entrepreneurial experience.

8. SCOPE FOR FURTHER RESEARCH

8.1 Longitudinal Research

This study captures cross-sectional perceptions; longitudinal research tracking student cohorts over time would illuminate how ecosystem interventions translate into actual entrepreneurial outcomes, including venture creation, survival, and growth.

8.2 Comparative Institutional Analysis

Comparative case studies examining high-performing versus nascent entrepreneurial ecosystems within Eastern Indian universities would illuminate specific institutional practices driving ecosystem effectiveness.

8.3 Multi-Region Comparative Research

Comparative analysis across Eastern India and other regions would elucidate how geographic, economic, and cultural contexts shape entrepreneurial ecosystem development and student entrepreneurial behavior.

8.4 Ecosystem Integration Studies

Research examining how individual ecosystem components interact and reinforce each other would provide insights into optimal ecosystem design and integration strategies.

8.5 Post-Graduation Outcome Research

Longitudinal tracking of student entrepreneurs beyond graduation—measuring venture creation, sustainability, employment generation, and social impact—would validate ecosystem effectiveness and identify areas requiring reinforcement.

8.6 Qualitative Ecosystem Studies

In-depth qualitative research through focus group discussions and individual interviews would illuminate student perspectives on systemic barriers, specific facility gaps, and contextual factors shaping entrepreneurial decision-making.

8.7 Faculty and Administrator Perception Studies

Research examining how faculty and administrators perceive and understand entrepreneurial ecosystem requirements would identify gaps between institutional strategy and implementation capacity.

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