

INNOVATIVE STRATEGIES IN INTERNATIONAL HIGHER EDUCATION WITHIN THE CONTEXT OF HAINAN FREE TRADE PORT

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Abstract

Drawing on the establishment of the international free trade port in Hainan, this paper seeks to examine the prevalent challenges in the advancement of internationalization within higher education in Hainan province. With the research objective of developing a theoretical model and scale that can systematically explain the relationship between innovative strategies of international higher education and its impacting factors, this study uses mixed methodologies and combines a quantitative study with a qualitative analysis. The research findings support a comprehensive framework for driving innovative strategies in international higher education within the context of Hainan Free Trade Port. This paper also endeavors to propose remedies and recommendations across four key domains, including the establishment of a higher education innovation consortium, the implementation of student-centered global competency training, the formulation of an "internationalization" system engineering, and the facilitation of education for students from Aasen countries, which are intended to enhance the support of Hainan's international free trade port.

Keywords: Internationalization, Higher Education, Free Trade Port

INTRODUCTION

This research is centered on the topic of international higher education (IHE) in Hainan and examines the formulation of pioneering strategies for IHE within the framework of the Hainan Free Trade Port construction. Broadly, as an inexorable consequence of economic globalization, IHE represents a significant objective within the educational strategies of diverse governments. Fundamentally, IHE aims to leverage global resources in the context of economic globalization and trade liberalization to optimize the allocation of educational resources domestically by integrating international educational resources and nurturing high-caliber, globally-oriented talent. Currently, China is prioritizing the advancement of economic prosperity, growth, and bolstering its comprehensive competitiveness. In this context, IHE has emerged as a focal point of China's policy agenda. As a vital component of China's higher education landscape, higher education in Hainan Province is confronting substantial opportunities and pragmatic challenges in international development, particularly within the framework of Hainan's establishment of an international free trade port. The development of innovative and sustainable strategies for IHE in Hainan represents a pressing and pivotal area necessitating urgent scholarly inquiry.

1.1 Background

1.1.1 Response to Globalization Trends

In response to the global phenomenon of globalization, universities across different nations have adapted to varying degrees. The impact of economic globalization is evident in the internationalization of products, the formation of production elements, and the factors of production such as the labor force, capital, and technology (Lin, 2005). The term "internationalization of the labor force" primarily pertains to the globalization of human resources, and it is through the globalization of human resource training that the globalization of technology can be further realized. In the contemporary world, higher education plays a crucial role in skill development, making the international expansion of education a natural consequence of economic globalization (Lin, 2005). The internationalization of universities globally has attracted increasing attention from all countries. The international mobility of students stands as one of the most visible external manifestations of university internationalization. In recent years, there has been a notable increase in the number of international students from around the world. According to data released by the Ministry of Education, from 1978 to 2019, China sent a total of 6.6 million individuals to study abroad, with 420,000 returning to China after completing their studies (Ministry of Education, 2020).

1.1.2 Guided by China's National Strategy

The internationalization of higher education (IHE) is a priority for Chinese universities from the perspective of China's national strategy. It is inevitable that China's higher education will be integrated into the "One Belt and One Road" Initiative and other significant strategic initiatives, as international education and academic exchanges serve as essential forms of national public diplomacy (The State Council, 2015), significantly impacting the country's evolving strategies. In October 2015, the State Council issued the "Overall Plan for Coordinating and Promoting the Construction of World-Class Universities and First-Class Disciplines" to effectively develop outstanding talent. "Promoting international exchanges and cooperation" was specified as one of the five reform tasks, outlining the objectives and directions for the international development of higher education (The State Council, 2015). In January 2017, the Ministry of Education, the Ministry of Finance, and the National Development and Reform Commission jointly promulgated the "Implementation Measures for Coordinating and Promoting the Construction of World-Class Universities and First-Class Disciplines", which considers international exchanges and cooperation as one of the criteria for "Double First-Class" universities. The announcement of the first batch of lists in September 2017 marked the commencement of the full launch and implementation of the "Double First-Class" construction. Subsequently, in August 2018, the three ministries and commissions jointly issued the "Guiding Opinions on Accelerating the Construction of 'Double First-Class' in Colleges and Universities", emphasizing the vigorous promotion of high-level substantive international cooperation and exchanges, and the strengthening of substantive cooperation with overseas high-level universities and top scientific research institutions (Ministry of Education, 2018).

1.1.3 The Imperative of Constructing the Hainan Free Trade Port

In the context of constructing the Hainan Free Trade Port, there is an urgent need to elevate the level of regional human resources, including training and retraining numerous professionals, providing a substantial number of researchers with international prospects, and cultivating high-quality university graduates. Additionally, there is a requirement to establish internationally advanced research centers to support the repositioning and development of high value-added industries in the region. Essentially, there exists a significant market for educational and business opportunities. In June 2019, the Ministry of Education and the Hainan Provincial Government jointly issued the "Implementation Plan on Supporting Hainan's Deepening of Educational Reform and Opening-up", explicitly proposing to support Hainan's construction of an international education innovation island, which was subsequently included in the "Overall Development of Hainan Free Trade Port" plan in June 2020. Furthermore, on April 23, 2023, the Ministry of Education of the People's Republic of China and the People's Government of Hainan Province issued the "Interim Regulations on Overseas Higher Education Institutions Establishing Universities in Hainan Free Trade Port", systematically outlining the requirements for overseas colleges and universities to establish schools in the Hainan Free Trade Port. These policies specify that overseas high-level universities and vocational colleges can establish colleges or campuses specializing in science, technology, agriculture, and medicine in the Hainan Free Trade Port.

1.2. Problem Statement

The development of International Higher Education (IHE) in Hainan is confronted with numerous challenges as perceived by stakeholders. These challenges encompass inadequate implementation strategies, limited international cooperation in scientific research, insufficient support for international organization and management, and low levels of faculty and student mobility.

1.2.1 Deficiency in Strategy Implementation Mechanism

The absence of a strategy implementation mechanism within Hainan's IHE institutions serves as a fundamental impediment to their stable operation. While local universities have established clear planning and development plans, the incorporation of international development goals and tasks into these plans is limited. Furthermore, the absence of specialized strategies for international development reflects a general lack of understanding among most Hainan universities regarding the significance of internationalization for their own development. Consequently, the promotion of overall internationalization remains at a policy level, leading to a fragmented and disorganized approach. This situation hampers the in-depth development of internationalization and results in marginalized and formalized international exchanges and cooperation, with inadequate input, attention, and alignment with strategic goals.

1.2.2 Limited International Scientific Research Cooperation

Local universities in Hainan encounter challenges in investing in international scientific research cooperation, primarily due to limited resource input, capital investment, and research integration. Both individual and organizational resource inputs are relatively deficient, with few teachers and researchers engaging in cooperative research with foreign institutions. Jointly-established laboratories and research centers are also scarce, impeding the sharing of high-quality scientific research resources among universities in Hainan. The output of international scientific research cooperation is similarly poor, with a small number of achievements, low-level accomplishments, and difficulties in transforming research outcomes.

1.2.3 Inadequate International Faculty or Student Mobility

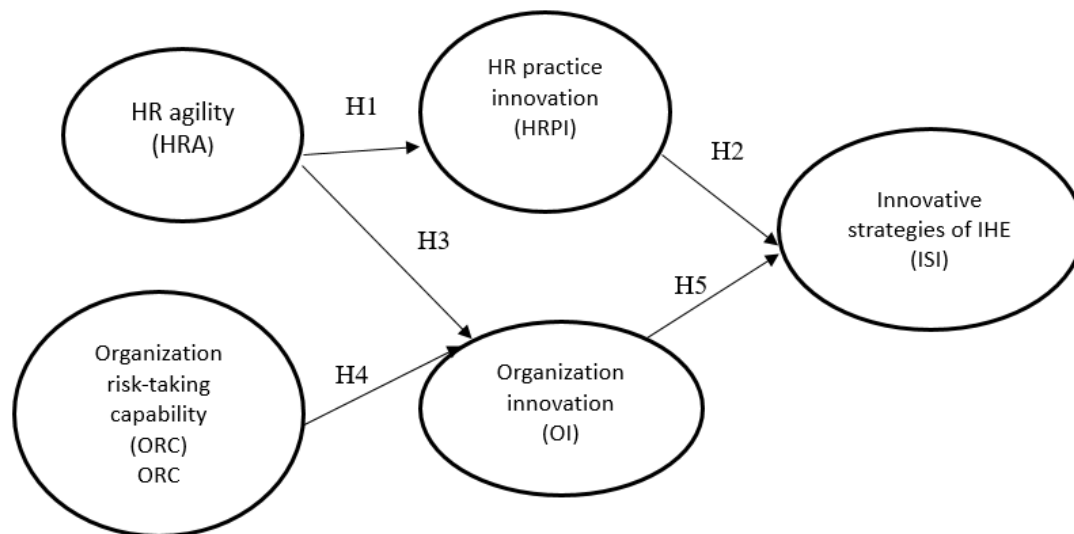
Faculty and student mobility within Hainan's IHE institutions is notably low. Financial constraints, management mechanisms, and educational concepts limit the opportunities for students to engage in overseas exchange programs. The small scale and unbalanced structure of international student enrollment lead to resource wastage and hinder the sustainable development of international universities. Additionally, the introduction and mobility of teachers are insufficient, with limited opportunities for faculty to visit overseas universities.

1.2.4 Inefficient Organizational System for IHE

The current organizational model of university internationalization in Hainan exhibits several shortcomings. While most universities have established school-level leading groups and full-time foreign affairs management departments, this hierarchical management system restricts the spontaneity and initiative of secondary units in international activities. Furthermore, the lack of a system for foreign affairs directors and specialists in secondary units reduces their participation in the internationalization process. Internal communication, quality supervision, and performance incentives within relevant functional departments are also unclear, leading to a lack of empirical data necessary for scientific research.

2. OBJECTIVE

The research objectives in this study include: 1) To find out the driving factors behind the international higher education of Hainan Free Trade Port; 2) To develop a theoretical model and scale that can systematically explain the relationship between innovative strategies of international higher education and its impacting factors under the construction of Hainan Free Trade Port.



3. METHODOLOGY

3.1 Research approach

In this study, mixed approach is employed, which combines the advantages of quantitative and qualitative research methods to gain a comprehensive understanding about the research questions. The use of well-established scales and validated questionnaires as well as in-depth interviews provide reliable and valid data for the analysis. The authors employed statistical data analysis programs like SPSS and Smart PIs during the data gathering process to evaluate the acquired data to test the assumptions drawn from the suggested conceptual framework. To ensure the success of the experimental operation, this study additionally developed a qualitative interview as a parallel operation. Also taken from other scholars' study were the interview questions.

3.2 Research setting

This study is conducted in Hainan Province, China, where there are 21 colleges and universities, including 9 undergraduate colleges, 12 vocational colleges, among which five colleges and universities participate international cooperation and they are Hainan University, Hainan Normal University, Haikou University of Economics, Hainan College of Economics and Trade and Hainan Tropical Oceanology College.

3.3 Sampling Methodology

For this study, the research group consists of faculty members and students from five colleges and universities participating in international cooperation in Hainan Province, namely Hainan University, Hainan Normal University, Haikou University of Economics, Hainan College of Economics and Trade, and Hainan Tropical Oceanology College. The sample size is determined to be at least 400 samples, as the use of Structural Equation Model (SEM) modeling with a multivariate technique requires the sample size to be 20 times the number of observable

variables. With 20 observable variables, this study considers a sample size of 450, based on empirical data and the resources available to the author within the universities in Hainan Province. Additionally, 15 interviewees are selected using purposive and convenience sampling principles.

4. FINDINGS

Quantitative analysis reveals that all the outer loadings of the variables and dimensions in this study exceed 0.708, indicating the reliability of the research indications. Furthermore, the Cronbach's alpha, comprehensive reliability ρ_a , and comprehensive reliability ρ_c of the dimensions and variables all exceed 0.7 and are less than 0.95, meeting acceptable standards. The Average Variance Extracted (AVE) values for every dimension are above 0.5, signifying clear definitions and significant variance accounted for by the dimensions. Consequently, the results support the theoretical framework of human resource management, organization management, and innovation management, with human resource agility and organization risk-taking capability as independent variables, HR practice innovation and organization innovation as mediating variables, and innovative strategies as the dependent variable. The structural equation model exhibits 5 pathways, all of which perform well. The t value, p value, and statistical test volume of the hypothesis all pass the test. When combined with qualitative analysis, these findings lead to the following conclusions.

- H1: Human resource agility positively influences HR practice innovation with a direct effect of 0.766; Authors such as Boxall and Purcell (2003) have highlighted that agile HR practices, including flexible talent management, adaptive leadership development, and responsive organizational structures, can foster a culture of innovation within higher education institutions. Moreover, studies by researchers such as Lepak and Snell (1999) have emphasized that HR agility within academic institutions can lead to the implementation of innovative recruitment and retention strategies, the development of diverse and inclusive workplace practices, and the cultivation of a dynamic, forward-thinking academic workforce, ultimately driving HR practice innovation in the international higher education landscape.
- H2: HR practice innovation positively influences innovative strategies of IHE with a direct effect of 0.423; in previous studies, HR practice innovation has been identified as a critical factor in driving innovative strategies within international higher education institutions. The adoption of new HR strategies can help universities and colleges to attract and retain top academic and administrative talent, which is essential for fostering a culture of innovation. Innovative HR practices can include the implementation of flexible work arrangements, professional development opportunities, performance-based rewards, and the creation of diverse and inclusive work environments. (Delery, Doty, 1996; Youndt et al. 1996; Walton, 1985; Walton, (1985)).

- H3: Human resource agility positively influences organization innovation with a direct effect of 0.205; Authors such as Sherehiy, Karwowski, and Lauer (2007) have highlighted that agility in human resources involves the application of flexible work practices, continual learning and development opportunities, and fluid team structures. These practices ensure that the workforce remains adept at adopting new technologies, processes, and strategies, all of which are crucial for innovation. More recently, researchers have examined how HR agility aligns with strategic organizational behavior to drive innovation. Jorfi, Jorfi, and Yaccob (2018) posited that HR agility can lead to a competitive advantage, as it encourages a continuous flow of innovative ideas and solutions to meet customer needs and respond to the dynamic market landscape. These studies collectively underscore that human resource agility is not merely a trend but a strategic approach that significantly contributes to creating a culture of innovation. Implementing such agility within HR practices enables organizations to maintain a sustainable competitive edge by fostering an environment where novel ideas are embraced and executed effectively.
- H4: Organization risk-taking capability positively influences organization innovation with a direct effect of 0.280; Authors such as Tushman and O'Reilly (1996) have highlighted that organizations willing to take calculated risks are more likely to explore new educational methodologies, invest in cutting-edge research, and engage in collaborative international partnerships, all of which are crucial for fostering innovation within higher education institutions. Furthermore, studies by researchers such as De Jong and Den Hartog (2010) have emphasized that a culture of risk-taking within academic institutions can lead to the development of unique programs, interdisciplinary research initiatives, and novel teaching approaches, ultimately driving innovation in the international higher education landscape. More recent research by authors such as Li and Atuahene-Gima (2001) has suggested that a willingness to take risks in the context of international higher education can lead to the implementation of innovative strategies to attract diverse student populations, establish global academic collaborations, and adapt to the changing demands of the international student body.
- H5: Organization innovation positively influences innovative strategies of IHE with a direct effect of 0.584; Authors such as Armenakis and Bedeian (1999) have highlighted that organizational change initiatives, when effectively managed, can lead to the adoption of new teaching methodologies, the integration of advanced technologies, and the establishment of international partnerships, all of which are crucial for fostering innovation in higher education institutions. Furthermore, studies by researchers such as Pettigrew and Whipp (1991) have emphasized that successful organizational change within academic institutions can lead to the development of a culture that values experimentation, interdisciplinary collaboration, and adaptability, ultimately driving innovation in the international higher education landscape.

5. RESULT

1. To find out the driving factors behind the international higher education of Hainan Free Trade Port.

Free trade ports such as Hainan Free Trade Port often aim to attract foreign investment, promote economic development, and foster international cooperation. In this context, the driving factors behind the development of international higher education in Hainan Free Trade Port may include: (1) Economic Development: The establishment of international higher education institutions can contribute to the development of a knowledge-based economy, attracting global talent and fostering innovation and entrepreneurship. (2) Global Engagement: International higher education institutions in free trade zones can serve as hubs for international collaboration, research partnerships, and academic exchange programs, enhancing the region's global engagement and reputation. (3) Talent Development: By offering high-quality education and research opportunities, international higher education institutions can contribute to the development of a skilled workforce, which is essential for attracting and retaining businesses in the free trade port. (4) Policy Support: Government policies and incentives that encourage the establishment of international higher education institutions can be a significant driving factor behind their development in free trade ports.

2. To develop a theoretical model and scale that can systematically explain the relationship between innovative strategies of international higher education and its impacting factors under the construction of Hainan Free Trade Port.

Human resource agility and organization risk-taking capability are the independent variables in the study's theoretical framework of human resource management, organization management, strategy management, and innovation management. The dependent variable is innovative strategies, and the mediating variables are HR practice innovation and organization.

In this model, the interactions between strategy-based, human capital-based, and organization-based factors create a comprehensive framework for driving innovative strategies in international higher education within the context of Hainan Free Trade Port. The model illustrates the interconnectedness of these factors and emphasizes the need for a holistic approach to innovation, aligning strategic, human capital, and organizational elements to support the development of international higher education in the free trade port. The first one is Strategy-Based Factors, including Internationalization Strategy and innovation Strategy, focusing on internationalization drives the need for innovative strategies in higher education to attract global talent, foster international collaboration, and enhance the region's global reputation. The second one is Human Capital-Based Factors, where talent acquisition and student mobility and diversity are highly valued. The availability of a skilled and diverse workforce is crucial for the innovative strategies of international higher education. Hainan Free Trade Port must attract, develop, and retain talented faculty and staff with international expertise and experience. Encouraging student mobility and fostering a diverse student body enhances the innovative capacity of higher education institutions, contributing to a globalized learning environment. The third one is Organization-Based Factors, which means a culture of

innovation and adaptive leadership within higher education institutions is essential for driving innovative strategies. The organizational climate should support risk-taking, creativity, and a forward-thinking approach to international education.

6. RECOMMENDATION

In light of the study's findings, the following recommendations are proposed to advance the internationalization of higher education in Hainan:

1. **Establishment of Hainan University International Development Alliance:** It is recommended to establish the Hainan University International Development Alliance, hereinafter referred to as the "University Alliance." This alliance would comprise universities within Hainan province with notable international education experience, including Hainan University, Hainan Normal University, Hainan Tropical Ocean University, Haikou University of Economics, and Hainan Foreign Language Vocational College. Under the guidance of the provincial education department, the University Alliance would facilitate inter-school exchanges and cooperation, such as the formation of international teacher teams, collaborative development of international education projects, and the organization of international student fraternities. These efforts would gradually consolidate the collective strengths of participating institutions, showcasing the comprehensive international education level of the province to external audiences, enhancing its brand impact, and attracting high-quality partners. Moreover, the international development of the University Alliance can be aligned with the economic and cultural progress of Hainan, integrating with regional economic development.
2. **Establishment of an expert working group by the education department:** It is recommended that the education department establish an expert working group to conduct regular assessments of the internationalization efforts of universities on an annual basis. This group would provide assistance to universities in developing a professional curriculum system aligned with international standards, connecting with international talent training specifications, and defining quality assessment standards. Additionally, the working group can select exemplary academic fields and distinctive majors from colleges to serve as models for implementing global planning, design, and public relations projects, as well as offering high-quality instruction and managerial support. Furthermore, colleges are encouraged to internationalize their curriculum structures, offer courses to students abroad, and utilize international evaluation systems to objectively assess the current state of internationalization within the province.
3. **Implementation of "local internationalization" project:** It is suggested to implement a "local internationalization" project in universities within the province that possess a strong internationalization foundation. This initiative involves leveraging resources to deliver high-quality education from around the world, including foreign students, foreign courses, and international cooperation in managing school projects. Additionally, it encompasses various cultural festivals, participation in international meetings and events, establishment of international student cultural exchanges and academic cooperation platforms, and the

provision of cross-cultural exchange experiences and localized aspects of an international campus for all instructors and students. Initiatives within "local internationalization" may include fostering cross-cultural dialogue on campus, developing an international campus culture, and promoting the use of other languages.

4. Focus on Hainan's foreign student education: It is recommended that Hainan's foreign student education align with the nation's strategic development goals and the free trade port, leveraging China's cultural soft power to achieve specific objectives. This includes prioritizing mutual understanding and people-to-people exchanges among cooperative countries, establishing national or regional research centers for non-common language majors in ASEAN countries, integrating Chinese cultural curriculum, and cultivating talents. Additionally, efforts should be made to enhance Chinese language instruction, and targeted overseas professional and technical training should be conducted to educate technical staff in tropical agriculture, marine studies, food science, economics, and tourism for ASEAN and countries along the Belt and Road.

7. CONCLUSION

Based on rationale theory of Internationalization of higher education, organizational change theory, innovation theory, and human resource management theory, this study aims to address the following issues: exploring the driving factors behind the international higher education of Hainan Free Trade Port and develop a theoretical model and scale that can systematically explain the relationship between innovative strategies of international higher education and its impacting factors under the construction of Hainan Free Trade Port.; and countermeasures and suggestions are given to promote the internationalization of higher education in Hainan. Since the research sample does not cover all universities in Hainan, the research still has shortcomings and room for further improvement.

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