



ANALYSIS OF CHINA-CEEC INNOVATION AND ENTREPRENEURSHIP COLLABORATION - CASE STUDY ON SLOVENIA

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Abstract

This paper presents a comprehensive exploration of the multifaceted collaboration between China and Eastern European Countries (China-CEEC), focusing on the China-CEEC Innovation Cooperation Research Center and the First Youth Innovation and Entrepreneurship Competition. Employing a case study approach with Slovenia as the focal point, the analysis integrates comparative metrics, including the Global Innovation Index, Expert Ratings of Entrepreneurial Framework Conditions, Intellectual Property Rankings, and the Global Talent Competitiveness Index. Furthermore, the comparative analyses presented in the paper underscore China's global leadership in various dimensions, particularly in intellectual property. This study contributes to a detailed understanding of the dynamic collaboration between China and Eastern European countries, showcasing a commitment to innovation and sustainable development by emphasizing the China-CEEC Innovation Cooperation initiative, the First China-CEEC Youth Innovation and Entrepreneurship Competition, and its role in fostering collaboration among young innovators and entrepreneurs. It examines participation criteria,

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project categories, and the comprehensive support provided to winners, including matchmaking services, policy assistance, and post-competition benefits. This collaborative initiative stands as a testament to the enduring friendship and commitment within China-CEEC Cooperation, fostering innovation and entrepreneurship.

Keywords: Innovation, Entrepreneurship, China-CEEC Collaboration, Slovenia, China

1 INTRODUCTION

The paper examines the cooperation between China and Eastern European Countries (China-CEEC) Cooperation initiated in 2012, focusing on its multifaceted collaborations, including the China-CEEC Innovation Cooperation Research Center and the Youth Innovation and Entrepreneurship Competition, while emphasizing comparative analyses between China and Slovenia. These analyses encompass expert ratings of entrepreneurial framework conditions, intellectual property rankings, and standings in the Global Innovation Index. The paper concludes by positioning the China-CEEC Cooperation as a platform for cross-regional collaboration, emphasizing innovation, engagement, and a commitment to sustainable development for win-win cooperation.

China-CEEC Cooperation, initiated on April 26, 2012, serves as a cross-regional collaboration platform. Based on long-standing friendships, this initiative is founded upon the collective dedication of all participants to achieve mutually beneficial collaboration and progress. As Chinese President Xi Jinping highlighted at the China-CEEC Summit: "...with a commitment to win-win cooperation and common development and a resolve to create a better future together..." (China-CEEC, 2022). Since its establishment, China-CEEC Cooperation has experienced notable growth, focused primarily on practical collaboration. President Xi further emphasized the significant progress, stating that "...trade between China and CEE countries is nearly 85 percent bigger than nine years ago, and growth in China's import from CEE countries is 22 percentage points higher than that of export." (China-CEEC, 2022).

Guided by the Leaders' Summit, this initiative has expanded its reach into various sectors, including economy and trade, culture, education, youth exchange, agriculture, tourism, science and technology, health, think-tank exchange, and sub-national cooperation. The outcomes of this

cooperation have proven fruitful across these diverse areas, playing a constructive role in strengthening bilateral ties between China and Central and Eastern European countries and contributing to the broader enrichment of China-Europe relations (China-CEEC, 2023a).

The China-CEEC cooperation operates through dual mechanisms: the central government and local administrations. The enthusiastic participation of numerous local governments has sparked unprecedented fervor, marking a dynamic phase in this collaborative endeavor. The central focus is to facilitate the global expansion of local enterprises, promoting heightened internationalization, and fortifying their global image and openness (Zuokui, 2021).

Building upon this commitment to innovation, the China-CEEC Cooperation initiated a significant follow-up through the hosting of the First China-CEEC Youth Innovation and Entrepreneurship Competition, conducted in May 2023, serving as a dedicated platform for the exchange of ideas, learning, and collaboration among young innovators and entrepreneurs from both China and Central and Eastern European countries. Organized by the Department of International Cooperation and the Department of Foreign Expert Services of the Ministry of Science and Technology of China, in collaboration with the Zhejiang Provincial Science and Technology Department, Ningbo Municipal People's Government, and co-organized by the Talent Office of the CPC Ningbo Municipal Committee, Ningbo Science and Technology Bureau, and China-CEEC Innovation Cooperation Research Center. Joint through the collaborative efforts of organizers and key academic and research entities partners: Ministry of Education and Science of North Macedonia, Technology Transfer and Innovation Center of Faculty of Electrical Engineering and Information Technologies, Ss Cyril and Methodius University in Skopje, STARTIT, Polish Academy of Sciences, Warsaw Society, Greek Research and Innovation

Secretariat, Hungarian R&D and Innovation Agency, Zagreb Innovation Center, Zilina University, "Todor Kableshkov" Higher School of Transport in Bulgaria, Novi Sad Science Park of Serbia, Steinbeis Technology Transfer Management Company in Romania and with Slovenian Innovation Hub (China-CEEC Innovation Cooperation Research Center, 2023a).

The competition was open to universities, research institutes, enterprises, and other social teams in China and Central and Eastern European countries. The eligibility criteria were stringent, requiring participating youth innovation teams to demonstrate innovative ability and high growth potential. The teams were primarily engaged in the research and development, manufacturing, and service of high-tech products, holding intellectual property rights and free of property disputes. Projects eligible for entry had to be in the pre-market stage, excluding large-scale consumer purchases and public sales in the local market. The competition accepted projects in the stage of limited product testing, discontinuous production, certification, or those ready to put products on the market. The projects submitted addressed major social, economic, development, or environmental challenges, providing innovative solutions aimed at improving social living conditions in both China and Central and Eastern European countries. The CEE countries encompassed Poland, the Czech Republic, Slovakia, Hungary, Slovenia, Croatia, Bosnia and Herzegovina, Serbia, Montenegro, Romania, Bulgaria, Albania, Northern Macedonia, and Greece. Participants showcased innovative projects in crucial areas including Digital Innovation, Biomedicine and Healthcare, and Advanced Materials. The competition unfolded in two key stages: the Preliminary Round, where expert evaluations determined finalists based on submitted documents, and the Final Round, held offline in Ningbo, China, on May 17 and 18, 2023, presented as a roadshow. Prizes were awarded to winners in each category, and during the final round, the committee provided comprehensive support, including accommodation, meals, and transportation. Moreover, winners benefited from post-competition support, encompassing matchmaking services and policy assistance, further exemplifying the holistic approach of the China-CEEC Innovation Cooperation initiative.

(China-CEEC Innovation Cooperation Research Center, 2023b).

The China-CEEC Youth Innovation and Entrepreneurship Competition stood as a testament to the collaborative efforts between China and Central and Eastern European countries in nurturing innovation, fostering cross-cultural exchanges, and addressing shared challenges for the betterment of societies. The event marked a milestone in the promotion of youth-led innovation and entrepreneurship in the region.

In addition to the China-CEEC Innovation Cooperation, another significant implementation is the pilot project Accelerator Program for start-ups in the field of agriculture between China and the countries of Central and Eastern Europe. The Accelerator Program aims to foster innovation in areas crucial for sustainable agriculture, including reducing the carbon footprint in the HoReCa industry, GIS in agriculture, food waste solutions, carbon neutrality, food technologies, irrigation systems, and the circular economy of food and beverage supply. The program signifies the commitment of the CEEC to collaborative and innovative solutions for sustainable agricultural development in partnership with China (APACCEEC, 2023).

2 COMPARATIVE ANALYSIS OF INNOVATION IN CHINA AND SLOVENIA

In the Global Innovation Index 2023, China and Slovenia showcase distinct standings across various metrics. China secures the 12th rank among the 132 economies considered, standing 1st among the 33 upper-middle-income group economies, and securing the 3rd position among the 16 economies in the Southeast Asia, East Asia, and Oceania region. On the other hand, Slovenia is positioned 33rd globally, achieving the 32nd rank within the high-income group of 50 economies and standing at 21st among the 39 European economies evaluated. This comparative analysis underscores China's notable lead in the overall index, particularly within its income group and the broader regional context, while Slovenia maintains a respectable global position but lags China in these key dimensions, signaling

divergent levels of innovation competitiveness (Soumitra et al., 2023).

Figure 1 represents the Expert Ratings of the Entrepreneurial Framework Conditions for China and Slovenia in 2022, assessed on a scale from 0 to 10 (0 = very inadequate insufficient status, 10 = very adequate sufficient status). The scores indicate a thorough evaluation of factors essential to entrepreneurial success, revealing that China outperforms Slovenia across various dimensions in entrepreneurial framework conditions. Specifically, China excels in crucial areas such as Entrepreneurial Finance, Ease of Access to Entrepreneurial Finance, Government Policy (Support and Relevance), Government Policy (Taxes and Bureaucracy), and Physical Infrastructure. Notably, China exhibits a higher rating in Market Dynamics, indicating a more dynamic market entry environment. Meanwhile, Slovenia demonstrates strengths in Commercial and Professional Infrastructure, and maintaining competitive scores in Entrepreneurial Education at School and Ease of Entry: Burdens and Regulation.

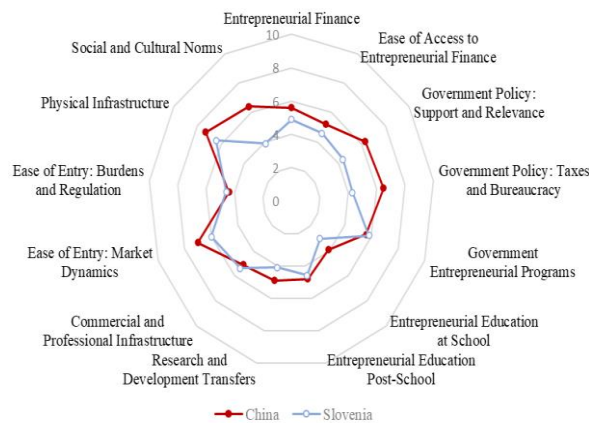


Fig. 1 Expert Ratings of the Entrepreneurial Framework Conditions for China and Slovenia in 2022
Source: (Hill et al., 2023)

Figure 2 represents the rankings for intellectual property in three categories: patent applications, trademark filings, and designs in applications, for both China and Slovenia. Rankings are depicted on a scale of 0 to 100, where first place is designated as 100, last place as 0, and 50 indicates the midpoint. As illustrated in Figure 2, China leads globally in all three categories of intellectual property: 1,586,339 patent applications, 8,561,984 trademark filings, and 1,408,921 designs in applications. In comparison,

Slovenia's rankings are as follows: 52nd in patent applications (811), 47th in trademark filings (53,579), and 33rd in designs in applications (7,638). China's substantial numbers underscore its dominance, while Slovenia maintains competitive rankings in the global landscape of intellectual property.

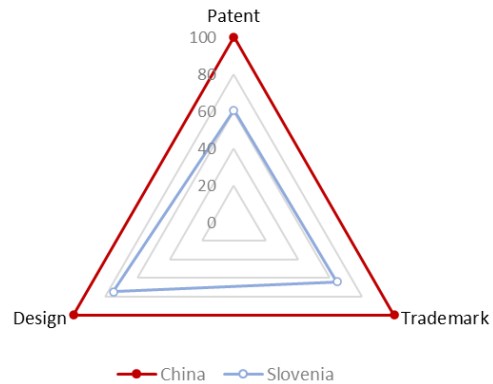


Fig. 2 Intellectual property ranking for China and Slovenia in 2022
Source: (WIPO, 2023)

Figure 3 presents The Global Talent Competitiveness Index for 2023, portraying scores across five pivotal pillars for China and Slovenia. China is ranked 40th out of 134, demonstrating notable strengths in the Enable and Grow pillars. In contrast, Slovenia secures the 28th rank, excelling in Attract, Retain, and Vocational and Technical Skills.

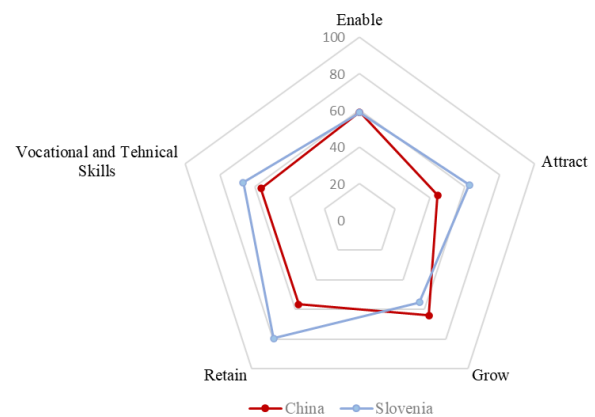


Fig. 3 The Global Talent Competitiveness Index by Pillar for China and Slovenia in 2023
Source: (Lanvin & Monteiro, 2023)

3 THE FIRST CHINA-CEEC YOUTH INNOVATION AND ENTREPRENEURSHIP COMPETITION – CASE STUDY

The China-CEEC Youth Innovation and Entrepreneurship Competition, alongside other

China-CEEC collaborations, promotes the exchange of ideas, learning, and collaboration among young innovators and entrepreneurs. By facilitating a collaborative spirit, China-CEEC accelerates innovation in both China and the CEEC, fostering win-win scenarios for the present and future.

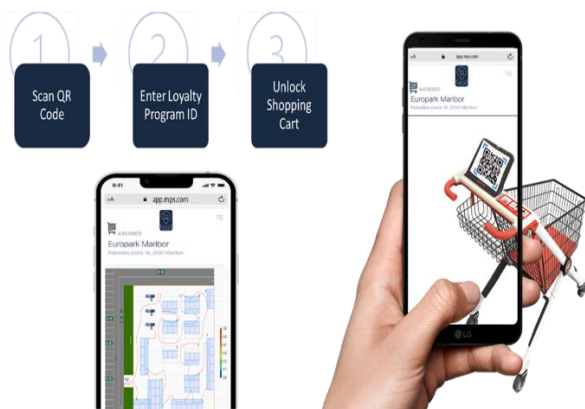


Fig. 4 Mall Positioning System

Source: Authors

As a participant in the finals of the China-CEEC Youth Innovation and Entrepreneurship Competition alongside Anej Grasic and Tine Dobnik, we had the opportunity to present and showcase an innovative idea, Mall Positioning System (MPS, Fig. 4), a smart shopping cart lock system which utilizes WiFi and NFC technologies to track the path of customers within the store, while simultaneously enhancing their shopping experience with a user-friendly web-based application that allows them to unlock their shopping carts in three simple steps. MPS can assist retailers in understanding customer preferences and purchasing behavior by monitoring customer store paths, collecting, and analyzing real-time data to develop informatics to identify their most profitable customer segments, and developing personalized promotions that

drive repeat purchases. MPS's unique value proposition is that it distinguishes itself by collecting identifying shopper data as it links the customer loyalty program ID to the shopping cart ID, locating customers in real-time, and offering a web-based application for non-loyalty app users, all while seamlessly integrating to the shopping carts.

Participating in the competition provided valuable mentorship, support, idea-sharing, and networking opportunities with young talents from China and CEEC. Additionally, we were offered follow-up support and policy assistance, enriching our overall experience.

4 CONCLUSIONS

China-CEEC Cooperation stands as a robust testament to the enduring friendship and commitment shared among its participants since its initiation in 2012. The multifaceted collaboration, spanning diverse sectors and operating through central and local mechanisms, has yielded notable successes in fostering practical cooperation. Initiatives like the China-CEEC Innovation Cooperation Research Center and the Youth Innovation and Entrepreneurship Competition reflect a commitment to innovation, youth empowerment, and sustainable development. The comparative analyses presented in the paper underscore China's global leadership in various dimensions, particularly in intellectual property. In essence, the China-CEEC Cooperation serves as a model for cross-regional collaboration, contributing not only to strengthening bilateral ties but also to the broader enrichment of global relations through innovation, engagement, and a commitment to sustainable development for win-win cooperation.

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