

## A Study on The Internationalised Development Models of Higher Vocational Education Industry-Education Integration Under the Background of China's Belt and Road Strategy

***Shi Linlin, Srikrishna Banerjee***

<sup>12</sup>*Lincoln University College, Petaling Jaya, Malaysia*

### **ABSTRACT**

The purpose of this project, which is a component of a key component of China's Belt and Road Initiative is the study of global strategies for the HVE industry's educational integration. The Belt and Road Initiative (BRI) has had both beneficial and bad effects on Beijing's vocational education system. Which is a global initiative for the development of economic and infrastructural. With the aim of achieving a better match between educational achievements and economic needs on a global scale, this study conducts an impartial evaluation of a few different development models. An evaluation of China's higher vocational institutions is carried out via the use of a survey approach. When it comes to international participation, curricular integration, and industrial links, it investigates how the BRI framework influences these aspects. Student employability, industry satisfaction, and international linkages are some of the key performance measures that assess the effectiveness of the models. 75 percent of the educational institutions that took part in the survey reported greater employment rates for their graduates. The findings indicate that there is a positive association between enhancing employment placements via integrating industry and education. An 80% rating is enough to satisfy most business associates. According to the findings of the study, in order for vocational education systems to continue expanding throughout the Phase of the BRI, they will need to modify their course offerings in order to fulfil the requirements of companies, collaborate more closely with one another across international boundaries, and remain current with prevalent trends. It is possible that the results of this study will be beneficial to educators and policymakers who are interested in maximising the efficiency of vocational education within the framework of internationalised development.

**Keywords:** Internationalisation of higher education, Chinese higher vocational education, Transnational Educational Collaboration, Belt and Road Initiative, International Skills Development.

### **INTRODUCTION**

A growing number of higher vocational education systems throughout the globe are incorporating education and industry into their curriculum. Countries from Asia, Europe, and Africa have come together to develop a comprehensive global strategy in response to China's The Belt and Road Initiative was established in 2013 to promote international collaboration and development (Blau et al., 2021). Trade, infrastructural, and cultural development in the area are all encouraged by this approach. It is necessary for higher vocational education to adopt an internationalised strategy that establishes connections between educational institutions and industry sectors in order to be competitive in today's global economy. The analysis that was conducted in 2024 by Luo and colleagues indicates that this transcontinental attempt will have an impact on the region. Within the context of China's Belt and Road Strategy, this literature review investigates internationalised approaches to vocational training at the university level and to bridging the gap between the two sectors. This study aims to examine the pros and cons of reorganising vocational education in host countries, as well as possible solutions to these problems. Through the use of empirical data on the achievements and shortcomings of higher vocational schools, this study investigates the integration of industry and education as well as internationalisation. When it comes to vocational training, academics and businesspeople have different opinions. Throughout history, the term "vocational education" has been used to refer to certification in certain vocations. Abilities in the workplace are emphasised. However, this concept grew to include educational institutions that not only conserve information but also assist in the development

of the workforce to meet the requirements of commercial companies. Specifically, this transition is being driven by the global economy as well as the need for more efficient workforce. Companies in today's globalised and technologically driven economy are looking for individuals who are capable of critical thinking, the ability to tackle challenging challenges, and the ability to thrive in a variety of cultures and contexts. Internships, apprenticeships, and other forms of experiential learning are fostered by recent collaborations between business and educational institutions. This may be accomplished by better connecting academic courses with the activities of the corporation. In recent years, China's academic institutions and business institutions have merged in a distinct way. This information is being used by the Chinese government in order to upgrade vocational education and to promote economic development (Brockhaus et al., 2023).

## BACKGROUND OF THE STUDY

In 2013, China initiated the BRI to promote economic collaboration, infrastructural development, and cultural exchange across Europe, Africa, and Asia. The need for technical personnel to support international organisations and projects has significantly increased due to the extensive efforts to build trade channels. Given that the BRI relies on manufacturing, construction, logistics, and information technology, higher vocational education (HVE) is essential. Unlike academic education, HVE emphasises practical skills and addresses the needs of the industry (Butler et al., 2019). Consequently, graduates are equipped for the labour market, which is advantageous to the economy. Due to globalisation and international cooperation, higher vocational education is becoming internationalised. To achieve this objective, educational structures must be adjusted to meet global standards, the curriculum should be unified, and both students and instructors must participate in exchanges. Moreover, global enterprises must collaborate. Through the implementation of the Belt and Road Initiative, China is promoting international growth, encouraging mutual progress, and enabling the sharing of experiences. This transition is propelled by the nascent paradigm of industry-education integration now established (Cai & Etzkowitz, 2020).

## PURPOSE OF THE RESEARCH

This project will concentrate on higher vocational education (HVE) and examine internationalised methodologies for linking industry and education. The examination will be performed under a more comprehensive framework due to China's BRI. Technically adept individuals are essential to meet the demands of the many firms participating in the Belt and Road Initiative's unparalleled economic and infrastructural collaboration across several countries. A multitude of nations will participate in this global coalition. This study aims to enhance understanding of the interactions between companies and vocational schools across international borders in the design and execution of educational programs that are both globally pertinent and effective in practical applications. This initiative aims to identify creative approaches to align vocational training with the expectations of industry workers by examining existing models of industry-education integration. The crew will create novel solution methodologies. This research will examine some substantial barriers to the implementation of a globalised paradigm. Cultural standards, governmental restrictions, and resource allocation exemplify these impediments. This research was designed to provide vocational education teachers, business partners, and government authorities with policy recommendations and valuable outcomes.

## LITERATURE REVIEW

The BRI has resulted in major improvements in the social and economic situations of the countries that are participating in the initiative. Despite the fact that the majority of study has been on infrastructure, trade, and economics, recent studies have shown that education, and High Value Education in particular, is essential to the success of the project (Cai & Lattu, 2022). In order to accomplish the objectives of the BRI, which include increasing capacity and improving connectivity, as well as meeting the complex technical and industrial requirements of industries including construction, logistics, and manufacturing, it is vital to develop a trained labour force. As a result, educational collaboration within the framework of

the BRI is seen as significantly boosting both sustainable development and the global interchange of talents. An increasing number of nations are internationalising their higher vocational education programs in an attempt to maintain their competitiveness in the global employment market. The term "internationalisation" refers to the process by which educational goals, methods, or delivery are improved by the addition of global, intercultural, or international components. Due to the expanded diversity of training methods, courses provided, and certification standards, graduates from vocational schools may have an edge in the job market when countries cooperate. This is due to the increasing number of options available to them. The sharing of information and the development of innovative instructional strategies are two additional benefits that come with international cooperation within the realm of academics (Carayannis et al., 2022).

## RESEARCH QUESTION

- What is the impact of Internationalised Higher Vocational Education Industry on Education Industry?

## RESEARCH METHODOLOGY

### Research design:

Quantitative data analysis were conducted using SPSS version 25. The researchers used the odds ratio and the 95% confidence interval to evaluate the strength and direction of the statistical association. The researchers established a statistically significant threshold at  $p < 0.05$ . An analytical description elucidated the main attributes of the data. Data collected via surveys, polls, and questionnaires, together with data processed using computing tools for statistical assessment, are often evaluated using quantitative methods.

### Sampling:

A total of 1,600 questionnaires were disseminated, 1,563 were retrieved, and 63 were discarded due to incompleteness. The sample size of 1,347 was calculated via Rao-soft program. A survey was conducted with 1500 Chinese adults. A total of 1,500 surveys were completed by 645 males and 855 females.

### Data and Measurement:

The research mostly used data obtained from a questionnaire survey. The participant's fundamental demographic information was first solicited. Participants were thereafter provided with a 5-point Likert scale to assess the online and offline channels. The researchers meticulously examined several resources, particularly online databases, for this secondary data collection.

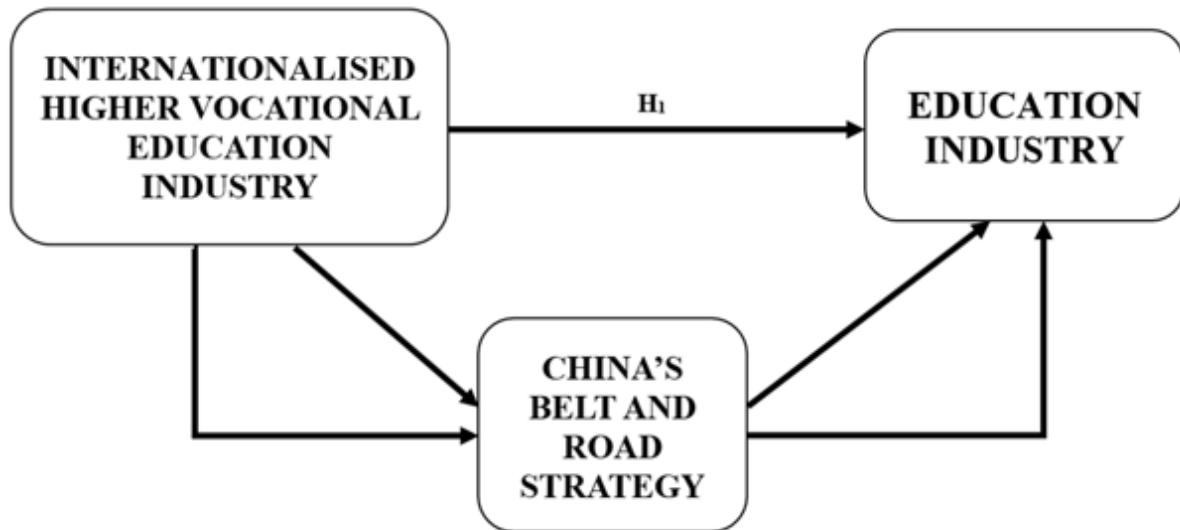
### Statistical Software:

Excel and SPSS 25 were used to conduct the statistical analysis.

### Statistical Tools:

Descriptive analysis was used to comprehend the essential nature of the data. The researcher must analyse the data with ANOVA.

## CONCEPTUAL FRAMEWORK



## RESULTS

- Factor Analysis

One typical use of Factor Analysis (FA) is to verify the existence of latent components in observable data. When there are not easily observable visual or diagnostic markers, it is common practice to utilise regression coefficients to produce ratings. In FA, models are essential for success. Finding mistakes, intrusions, and obvious connections are the aims of modelling. One way to assess datasets produced by multiple regression studies is with the use of the Kaiser-Meyer-Olkin (KMO) Test. They verify that the model and sample variables are representative. According to the numbers, there is data duplication. When the proportions are less, the data is easier to understand. For KMO, the output is a number between zero and one. If the KMO value is between 0.8 and 1, then the sample size should be enough. These are the permissible boundaries, according to Kaiser: The following are the acceptance criteria set by Kaiser:

A pitiful 0.050 to 0.059, below average 0.60 to 0.69

Middle grades often fall within the range of 0.70-0.79.

With a quality point score ranging from 0.80 to 0.89.

They marvel at the range of 0.90 to 1.00.

Table1: KMO and Bartlett's Test

Testing for KMO and Bartlett's

Sampling Adequacy Measured by Kaiser-Meyer-Olkin .974

The results of Bartlett's test of sphericity are as follows: approx. chi-square

df=190

sig.=.000

This establishes the validity of assertions made only for the purpose of sampling. To ensure the relevance of the correlation matrices, researchers used Bartlett's Test of Sphericity. Kaiser-Meyer-Olkin states that a result of 0.974 indicates that the sample is adequate. The p-value is 0.00, as per Bartlett's sphericity test. A favourable result from Bartlett's sphericity test indicates that the correlation matrix is not an identity matrix.

**Table: KMO and Bartlett's Test**

<b>KMO and Bartlett's Test<sup>a</sup></b>		
<b>Kaiser-Meyer-Olkin Measure of Sampling Adequacy.</b>		.974
<b>Bartlett's Test of Sphericity</b>	<b>Approx. Chi-Square</b>	6850.175
	<b>df</b>	190
	<b>Sig.</b>	.000
<b>a. Based on correlations</b>		

Bartlett's Test of Sphericity further validated the overall significance of the correlation matrices. The Kaiser-Meyer-Olkin metric of sample adequacy is 0.974. The researchers calculated a p-value of 0.00 using Bartlett's sphericity test. The correlation matrix was considered erroneous owing to a significant result from Bartlett's sphericity test.

❖ **INDEPENDENT VARIABLE**

• **Internationalised Higher Vocational Education Industry :**

The term "Internationalised higher vocational education" (HVET) refers to the component of China's educational system that allows for the integration of globalisation, cooperation, and international standards into vocational training. It is the purpose of this part to get students ready for the job market both in their native country and in other countries. Training in the areas of technology, professional development, and practical application are today regarded to have a worldwide dimension (Chen, 2020). The development of international alliances, the implementation of a curriculum that is representative of the world as a whole, and the absorption of various languages and cultures are all popular ways to achieve this objective. There are a number of factors that have contributed to China's expanding reputation, including the government's attempts to prepare its workforce to compete on a worldwide basis and the growing economic globalisation of the country. Education in technical sectors such as engineering, healthcare, information technology, hospitality, manufacturing, and tourism has been a focus of China's vocational schools for a long time. The objective of these institutions is to equip students with abilities that will be helpful in the actual world rather than to teach them theoretical knowledge. Internationalising these abilities also provides the advantage of gaining an awareness of the trends that are occurring in the global industrial sector. A combination of local vocational training in China and foreign knowledge is used in order to accomplish this goal (Chen et al., 2022).

❖ **MEDIATING VARIABLE**

• **China's Belt and Road Strategy:**

The BRI is a global plan for economic and development cooperation that was initiated by the Chinese government in the year 2013. In order to encourage economic cooperation between Europe, Africa, and Asia, a network of infrastructure projects, trade agreements, and investments is going to be established. Among the objectives are the enhancement of economic cooperation and the establishment of improved connectivity within the area. The goals of the present BRI are to build upon historical ties via sustainable economic growth, the development of infrastructure, and cultural interaction (Deng & Pei, 2023). This initiative is reminiscent of the ancient Silk Road, which extended from China to numerous countries by land and water. The Silk Road is an economic corridor that is currently in the planning stages, with the goal of connecting Europe and China via Central Asia. It was possible to do this via the utilisation of land routes that cut across countries such as Russia, Kazakhstan, and other countries in the region. The establishment of a land-based commercial and

infrastructure corridor that is capable of facilitating the free flow of money, commodities, and services is the objective of this project (Ergün & Şeşen, 2021).

#### ❖ DEPENDENT VARIABLE

##### • Education Industry:

The enormous and varied education industry in China offers a broad variety of educational services, starting with educational programs for pre-kindergarten students and going all the way through education at the university level. This comprises a broad variety of occupational training and professional development programs in addition to the more traditional classroom education that is often provided. The rapid economic development and modernisation of China may be attributed, in large part, to the efforts that have been made by both the Chinese government and private companies to adjust to a market that is becoming more globalised and competitive. This project would not have been possible without the significant contribution that it made. The comprehensive educational system in China is comprised of a number of different hierarchical tiers. The preschool, elementary, middle, and high school levels of education, as well as college and adult education, are included in these levels of education level. The fact that this company has a substantial amount of influence on educational institutions located all throughout the nation is the primary reason for the importance surrounding this enterprise (Feng & Lidan, 2022).

#### ➤ Relationship Between Internationalised Higher Vocational Education Industry and Education Industry

As the globe continues its rapid pace of globalisation, the link between IHVE and the education sector as a whole has become more important. The need for higher education institutions to provide students with globally applicable, specialised knowledge and skills is growing in response to the rapid transformations taking place in many industries and economies. In order to bridge the gap between schooling and employment, higher vocational education has been an important component (Butler et al., 2019). This kind of training is mostly hands-on and industry-specific. This section delves into the education industry's involvement with internationalised higher vocational education. In addition to exploring the challenges and opportunities presented by contemporary globalisation, this article delves into the interdependencies between these two areas. The educational systems of every country have been greatly impacted by globalisation, particularly those at the higher vocational levels but also in other areas of education. Companies are on the lookout for individuals with global experience and skills that align with global standards due to the rising interconnection of many industries. This shift has led to a proliferation of internationalisation in the field of higher vocational education. Along with technical skills, these programs include a focus on global work practices, cross-cultural competences, and international views. The goal of internationalising higher vocational education programs is to provide students with marketable skills that may be used anywhere in the world. For instance, via internships, exchange programs, and collaboration with institutions in other countries, many vocational schools now provide students with the chance to get expertise in international sectors. Simultaneously, educational institutions throughout the globe have begun to accept certifications and programs in vocational training due to the increasing significance of technology and digitalisation in the job market. The education sector as a whole, which encompasses primary, secondary, and tertiary institutions, includes higher vocational education (Carayannis et al., 2022).

Subsequent to the aforementioned debate, the researcher proposed the following hypothesis to evaluate the link between Internationalised Higher Vocational Education Industry and Education Industry.

***“H<sub>01</sub>: There is no significant relationship between Internationalised Higher Vocational Education Industry and Education Industry.”***

***“H<sub>1</sub>: There is a significant relationship between Internationalised Higher Vocational Education Industry and Education Industry.”***

**Table 2: H<sub>1</sub> ANOVA Test**

ANOVA					
Sum	Sum of Squares	df	Mean Square	F	Sig.
<b>Between Groups</b>	65692.704	496	5474.392	2829.974	.000
<b>Within Groups</b>	168.296	1003	1.934		
<b>Total</b>	65861.000	1499			

The result is significant in this study. Statistical significance is attained with a p-value of 0.000 (below the 0.05 alpha level), and the F value is 2829.974. This indicates that researchers may endorse the alternate theory, "**H<sub>1</sub>: There is a significant relationship between Internationalised Higher Vocational Education Industry and Education Industry**" is accepted and reject the null hypothesis.

## DISCUSSION

As a result of worldwide educational changes in response to interconnected and rapidly changing global needs, internationalisation of higher vocational education has emerged as a significant component. As a result of its Belt and Road Initiative, China is becoming increasingly involved in internationalising its system, with the goal of expanding its influence in areas throughout Europe and Africa. BRI is an acronym for the Belt and Road Initiative, a long-term strategy for international development that includes a network of trade routes and other initiatives to improve infrastructure, foster economic cooperation, and increase cultural interchange. Consequently, the BRI nations' need for skilled labour, regional development, and economic progress can only be met via vocational education and training. Discussion models of internationalised development within the context of implementing China's Belt and Road strategy, as well as analyses of the interplay between vocational education, economic development, and educational reform, will be of particular interest to the higher vocational education industry. As a result of technological advancements, changes in the labour market, and the overall acceleration of globalisation, the need for internationalisation has become more apparent. Graduates from higher vocational schools are expected to possess professional, practical, and industry-specific skills in order to get immediate employment. Given the current state of the BRI, it is hard to deny the importance of vocational education in ensuring long-term economic growth. This is especially important for the Belt and Road nations since they are struggling to modernise their economies, build massive infrastructure projects, and attract and retain a qualified workforce to power these endeavours. The BRI's integrated approach to education and industry is something that China, a major player in the initiative, understands. Because vocational education can connect theory to practice, equipping the workforce to participate in and profit from BRI, HVE plays an essential role in the project.

## CONCLUSION

As a result of globalisation, the dynamics of relationships between schools and businesses have been transformed. The proliferation of globalised forms of higher vocational education is one factor that may be considered for this phenomenon. This study, which is located within the context of China's Belt and Road Initiative, focusses primarily on academic and business relationships as its core themes. The relevance of integration in higher vocational education has significantly increased as a result of China's BRI, which is a global initiative that is driving China's worldwide influence. It is of the utmost importance, not just in China but all around the globe, to construct a labour force that is capable of meeting the requirements of contemporary industries. Infrastructure and human resource development (HRD) have been receiving a lot of attention as of late as a result of the BRI encouragement of international cooperation in both sectors. As a result of the convergence of teaching strategies, employment possibilities, and industrialisation, economies that are located along the Belt and

Road Initiative's vocational education models stand to earn a great deal more. There has been a clear correlation between the pressure that China has been putting on the nations that are participating in the Belt and Road Initiative to strengthen their relations with them and the increased need for vocational training on a global and an international scale. The Belt and Road Initiative is built on the foundation of green energy, digital technology, and manufacturing; the educational programs that are being offered should be used to bridge the skill shortages that have been identified.

## REFERENCES

1. Blau, G., Hill, T. L., Snell, C., Atwater, C., Halbert, T., Zuckerman, M. M. (2021). Testing the relationship of career coaching to hospitality student professional development and job search outcomes. *Journal of Hospitality Tourism Education*, 33(2), 148-161.
2. Brockhaus, S., van Hoek, R., DeNunzio, S. (2023). Future-proofing supply chain education. *Transportation Journal*, 62(4), 355-368.
3. Butler B.A., Butler C.M., Peabody T.D. (2019). Cognitive apprenticeship in orthopaedic surgery: Updating a classic educational model. *Journal of Surgical Education*, 76, 931–935.
4. Cai Y., Etzkowitz H. (2020). Theorizing the Triple Helix model: Past, present, and future. *Triple Helix*, 6(1), 1–38.
5. Cai Y., Lattu A. (2022). Triple helix or quadruple helix: Which model of innovation to choose for empirical studies? *Minerva*, 60(2), 257–280.
6. Carayannis E. G., Campbell D. F. J., Grigoroudis E. (2022). Helix trilogy: The triple, quadruple, and quintuple innovation helices from a theory, policy, and practice set of perspectives. *Journal of the Knowledge Economy*, 13(3), 2272–2301.
7. Chen, Z. (2020). The Belt and Road Initiative and its impact on vocational education in Asia. *Journal of International Education Research*, 14(3), 45-60.
8. Chen, Z., Li, Y., Wang, H. (2022). Challenges in logistics talent development in China's higher vocational institutions. *Journal of Logistics Research*, 25(3), 98-112.
9. Deng, L., & Pei, X. (2023). Research on the Teaching Reform of Cross-Border E-Commerce Courses in Higher Vocational Universities under the Background of the Digital Era [J]. *International Journal of Learning and Teaching*, 9(4), 10.
10. Ergün, M., Şeşen, H. (2021). A Comprehensive Study on University Students' Perceived Employability: Comparative Effects of Personal and Contextual Factors. *SAGE Open*.
11. Feng H., Lidan F. (2022). Research on innovative development strategies of vocational training system in rail transit higher vocational colleges taking Liuzhou Railway Vocational and Technical College as an example. *Guangxi Education* (27), 109–112.