



## A Framework Based on "One Belt, All Road" Strategy to Evaluate Regional Industry's Cluster Innovation Capacity

Sajad Ali Zearah<sup>1,\*</sup>, Maryam Ghassan Majeed<sup>2</sup>, Mohammed Brayyich<sup>3</sup>, Nabaa R. Wasmi Zaydan<sup>4</sup>, Aqeel Ali<sup>5</sup>, Marwan Qaid Mohammed<sup>6</sup>, Venkatesan Rajinikanth<sup>7</sup>

<sup>1</sup>Scientific Research Center, Al-ayen University, Thi-Qar, Iraq

<sup>2</sup>Technical Computer Engineering Department, Al-Kunooze University College, Basrah, Iraq

<sup>3</sup>College of National Technical Engineering, Department of Medical Devices Engineering Technologies, University of Science and Technology, Dhi Qar, Nasiriyah, Iraq

<sup>4</sup>Computer Technologies Engineering, Al-Turath University College, Baghdad, Iraq

<sup>5</sup>Medical instruments engineering techniques, Al-farahidi University, Baghdad, Iraq

<sup>6</sup>Fraunhofer IVI, 85051, Ingolstadt, Germany

<sup>7</sup>Department of Computer Science and Engineering, Saveetha School of Engineering, Saveetha Institute of Medical and Technical Sciences, Chennai 602105, India

Emails: [sajad@alayen.edu.iq](mailto:sajad@alayen.edu.iq); [Maryam.Ghassan@Kunoozu.Edu.Iq](mailto:Maryam.Ghassan@Kunoozu.Edu.Iq); [m.r.brayyich@nust.edu.iq](mailto:m.r.brayyich@nust.edu.iq); [nabaasumaedaa@gmail.com](mailto:nabaasumaedaa@gmail.com); [Aqeel.Ali@uofarahidi.edu.iq](mailto:Aqeel.Ali@uofarahidi.edu.iq); [marwan.qaid.mohammed@ivi.fraunhofer.de](mailto:marwan.qaid.mohammed@ivi.fraunhofer.de); [v.rajinikanth@ieee.org](mailto:v.rajinikanth@ieee.org)

### Abstract

Expanding the industrial component through investment in R&D is a crucial objective of the region's current industrial strategy. Significant research and investment opportunities must complement the effectiveness of the region's industrial policy. Few studies have attempted to understand the interactions between inter-organizational clusters and the capacity to sustain those clusters; most studies on innovation capacity focus on the business level. This article suggests using the One Belt All Road (OBAR) strategic framework to assess regional industry's cluster innovation capacity (CIC) and international trade and investment. The cluster innovation capability was developed using a theoretical framework through qualitative textual assessment. As a result, information management, diffusion, and acquisition capacity are the three primary abilities that make up the cluster innovation capacity. The degree of investment effort in the region's industrial sectors and the factors influencing corporate innovation have been found to be correlated. The research highlighted obstacles and potential remedies for encouraging creative thinking and financial backing among regional manufacturers. Compared to the current system, the suggested system (OBAR) achieves superior results in accuracy (87.6%), system dependability (94.8%), the F-1 measure (87.1%), and error rate (8.1%).

**Keywords:** Cluster Innovation; Overseas Investment; Regional Industry; One Belt All Road; and Industrial Policy.

### 1. Introduction

Innovation is a crucial component of a company's competitiveness [1]. Its evident importance involves developing strategies for companies to survive and gain an edge in the present environment of dynamism and hyper-competition [2,3]. Inter-organizational information exchanges emerge as an option for filling the company's knowledge gaps and assisting in the company's innovation and entry into new markets in this environment [4, 5].

Companies must acquire specific competencies to differentiate themselves from competitors in the competitive environment in which they are embedded [6]. Such skills and their combination can enable the promotion of innovation in the brand [7], processes [8], marketing [9], and management [10]. Innovation capability is a company's ability to continuously turn fresh expertise and suggestions into innovative products, techniques, and systems that enhance the company and its stakeholders [11, 12].

The process of innovation and how it pertains to regional economic growth is essential in improving regional economic dynamism and competitiveness [13]. Clusters arise as innovation engines, not just for the companies inside these megacities but also for the region in which the companies are located [14, 15]. The positive relationship between companies inside clusters and their significant innovation potential has captivated numerous researchers [16]. However, no clarity has been established about why these companies are more inventive than independent [17]. Recent research indicates that innovation happens in a non-homogeneous manner within these relationships attributed to differences in the capacities of companies and clusters [18], their sets of assets [19], and their direction [20].

Absorptive capability is the ability to identify the value of new, external sources, integrate them, utilize them, and assess and apply explicit resources linked with previously acquired knowledge [21, 22]. As a result, additional cluster relationships exist to seek different knowledge, disseminate it inside the cluster [23], and make businesses absorb and apply it [24].

One Belt All Road (OBAR) strategic framework is a critical path flow to consider how the authorities express and characterize its aims and the country's policy pronouncements [25, 26]. Countries may or may not execute or accomplish all of their objectives, but it is critical to record them as an initial step [27, 28]. It then offers statistics on different project elements and examines sectors that may provide issues in the future to aid in the execution of the OBAR [29].

Most research on innovation capacity looks at the company level, and minimal effort has been made to comprehend the interactions in inter-organizational clusters and the capability to sustain those clusters [30, 31]. This article proposes the One Belt All Road (OBAR) strategic framework to evaluate overseas investment trade and regional industry cluster innovation capacity (CIC). The following is a list of the significant contributions to this work's research.

1. The cluster innovation capacity framework's build and characteristics are described in depth.
2. The firm's foreign investment commerce expansion and its ability to innovate in regional industries' clusters are described.
3. A novel One Belt All Road (OBAR) strategic framework is developed to evaluate overseas investment trade and regional industry in cluster innovation capacity.

There are seven chapters in this research project, the second of which (Chapter 2) contains thorough literature reviews. Chapter 3 outlines the key components of the cluster innovation capacity framework. Chapter 4 discusses the company's expansion into international investment commerce and regional industry. In Chapter 5, we go into the design of the OBAR strategic framework. The outcomes of the experiments are described in Chapter 6, and the investigation is wrapped up in Chapter 7 with the best possible conclusions.

## 2. Literature Report

Cluster Open Innovation was developed by Kowalski AM et al. [32] to analyze similarities and differences in the cluster policies of Asian countries. Clusters are geographical groupings of related industrial businesses collaborating to create competitive opportunities. This study considers China and Thailand, both emerging countries, and finds that FDI plays a crucial influence, occupying a pivotal position in the cluster structure. A top-down strategy, in which clusters emerge and evolve primarily due to governmental decisions and public programs, is, nevertheless, shared by all the countries studied. The research shows that the cluster development models employed by the nations under consideration vary considerably. Both the Republic of Korea and Singapore, two of the world's most inventive countries, have made cluster strategy a central tenet of their innovation strategies, placing particular focus on encouraging communication and cooperation between universities and businesses as well as the dissemination of relevant data and the development of ground-breaking new technologies. As competition rises in the face of a weakening economy, governmental measures must be strengthened to aid businesses in gaining a comparative advantage.

The "The Belt and Road" plan was proposed by Guo R et al. [33], who believed it would stimulate regional economic development and technological progress. In this piece, "The Belt and Road" effort is seen as a "natural experiment." A difference-in-differences model (DID) is used on county panel data from 1999 to 2017 to examine the impact of "The Belt and Road" on regional economic growth and economic innovation. We learned from the research that economic development and new ideas in the area could be significantly boosted by "The Belt and Road" plan. It passes the placebo and robustness tests, indicating that the policy is distinct and compelling. The initiative's diversity is further dissected in the article. According to the research, the central area has benefited the most from economic growth and creative effort. Lastly, the "Belt and Road" can help us establish new R&D activities by sharing R&D resources, strategic technology collaborations, and pooling R&D personnel.

A comparative study of Ukraine and China's trade and industrial policies under the Obor Initiative was suggested by Ostashko T et al. [34]. The study was grounded in a comparison of the trade and industrial policies of the two countries. Due to the economic and trading size disparity, Ukraine and China have asymmetrical trade terms. And although higher tariffs and non-tariff barriers safeguard the Chinese market, Ukraine's trade regime is relatively liberal. To add insult to injury, the current state of bilateral commerce is asymmetric. Raw resources make up the bulk of Ukraine's exports to China, while investment and consumer goods are the most common Chinese exports to Ukraine. The primary focus of the studies was on why the clusters exist.

Along with China's Belt and Road initiative, water security was presented as a research project by Zhang Z. et al. [35]. In addition, from 2017 through 2022, the Grey Prediction Model will be utilized to model the provinces' and municipalities' water security levels. According to the findings, the Responses, State, Pressures, and Carrying Capacity Subsystems all significantly determine the region's water stability. The study found that between 2011 and 2016, water security in the region had increased. Compared to the Silk Road Economic Belt (One Belt) and the Strategy Support and Pivotal Gateway (SSPG) of B&R regions, the 21st Maritime Silk Road (One Road) region was found to have the highest water security. Working solely on the Responses subsystem won't fix the government's water security issues. The government should develop new systems for managing water resources and create enforcement measures to ensure water is used effectively.

Since the Belt and Road Initiative, Ye C. et al. [36] have recommended comparing and analyzing Chinese industrial parks' cases at home and abroad. This research uses a spatial-temporal evolution approach to nationally examine and contrast Chinese and overseas B&R industrial parks. There have been four periods of state-led development in China's industrial parks. Industrial parks in the United States and other countries along the B&R have unique development patterns and trajectories. National industrial parks abroad are found to be primarily market-driven and focused on traditionally favourable industries. In contrast, domestic industrial parks are found to be primarily government-led high-tech businesses. It is crucial to facilitate the localization of industrial parks abroad and their distant linkage with domestic industrial parks.

Employing propensity score matching (PSM) with a difference-in-differences (DID) technique, Wu Z et al. [37] projected that countries located along the pathways would benefit from the Belt and Road Initiative's developed chances to join global value chains. The results demonstrate that BRI has a significant beneficial impact on persuading the nations along the routes to engage in GVCs, although delayed and irregular. In particular, the BRI's promotional effects will be seen most strongly in the second year of its implementation. Research on the variety of Belt and Road (BR) nations found that the initiative positively affects BR countries' growth. However, the converse is true for people who are already somewhat advanced.

Cultural tourist routes as incubators for innovation and economic diversification: A prospective study in the context of Azerbaijan's New Silk Road plan was created by Schubert et al. [38]. The integration capability framework (ICF) has the company's ability to continuously turn fresh information and knowledge into innovative products, new systems, and technologies that benefit the company and its stakeholders. They identified that the sources of integration originate from four main competencies that comprise the innovation capability: intellectual capability, managerial abilities, production capabilities, and transactional competence. Compared to other methods, ICF achieves the highest levels of accuracy (63.8%), system dependability (58.1%), F-1 measure (60.8%), and error rate (14.2%). The research issue is how Azerbaijan, as a regional destination system, may connect to the NSR's transnational route system, and the technique uses a quantitative and qualitative approach to diagnose the system's present cluster maturity.

The Effect of "One Belt, One Road" and "Made in China 2025" on Taiwan's Machine Tool Industry Development was a proposal by Chen JL [39]. The intra-industry trade initiative (IITI) to enhance overseas investment trade. They revealed that the intra-industry commerce of aquatic goods between various countries is mainly generated from resource allocation differences, static or dynamic viewpoints, and horizontal or vertical intra-industry trade. This disparity in resource endowment can be attributed to differences in water management and production techniques. Better than average results may be obtained with IITI in terms of accuracy (71.1%), system dependability (70.6%), F-1 measure (79.9%), and error rate (15.5%). Taiwanese business owners are encouraged to use the current window of opportunity to catch up with China's rapid economic development, integrate with the Chinese market, and jointly promote technical innovation and industrial restructuring and upgrading. And coordinate efforts to launch the "Belt and Road Initiative" to expand their reach abroad.

Pechlaner H et al. [40] evolved with global investment and trade strategies (GITS) to entice international investors to offer financial and technical help in the form of tax exemption programs and to use their

outstanding natural circumstances fully. The results show that opinions about the BRI initiative are mixed. GITS yields the best performance in terms of accuracy (67.2%), system dependability (62.1%), the F-1 measure (61.1%), and error rate (10.0%). However, a national policy and a transnational governance structure are required to enforce Chinese foreign investment in transit countries and countries that host Chinese foreign investment. National government action requires more bottom-up community engagement, including more chances for knowledge exchange and enterprise.

Chen J et al. [41] developed trade innovation networking (TIN) to stress the need for dynamic capabilities for knowledge and experience sharing among the connected countries. As it contributes to the reinvention and improvement of the company's attributes to enjoy and manipulate all of the advantages of its network, the networking capability is regarded as an essential element for advancing manufacturing, investments, and, subsequently, innovation abilities of a company or cluster. Compared to other methods, TIN achieves the highest levels of accuracy (69.4%), system dependability (57.4%), F-1 measure (59.3%), and error rate (15.9%). Even after numerous types of research, there is no agreement on why clusters are more inventive environments. According to existing studies, the location of a cluster determines innovation [42]. As a result, understanding how knowledge transfer moves in these networks is critical to understanding how innovation occurs. Therefore, it isn't easy to establish why specific clusters and their companies are more inventive than others.

This study builds on previous research by proposing the One Belt All Road (OBAR) strategic framework for assessing the efficacy of international commerce and investment and the innovative potential of local industrial clusters. Through qualitative textual assessment, the cluster innovation capacity was designed based on a theoretical framework. The following chapters have established the correlation between the variables influencing company innovation and the degree of investment effort in the region's industrial sectors.

### 3. Cluster Innovation Capacity Framework

The cluster innovation capacity (CIC) is divided into technological innovation and diffusion capacity. The following factors are included in the technological innovation capacity: the development of emerging innovations by support organizations; the procedure that prioritizes operational effectiveness; the significance of social capital and social networks; the adoption levels among the companies engaged; and the number of companies using the innovation in the cluster. The critical components of technological diffusion capacity are the connection between companies and support organizations, the process that stresses technical competence, and the necessity of infrastructure to advance.

In nature, technology innovation is random and emergent, defined by variety, study, experimentation, and finding. Integration is a problem-solving strategy that takes into account both planning and implementation. In contrast, acceptance is a planned process based on a periodic progression defined by selection, refinements, decision, and execution. Clusters have four aspects of innovation capability: entrepreneurship capacity, network capacity, internal knowledge capacity, and managerial competence. Entrepreneurship capacity comprises the ability to detect possibilities, motivation, and risk bias, the ability to articulate objectives, and the capacity to manage them with resources. Network capacity relates to relationship orientation, openness to learning throughout the network, skills, intents to internalize capabilities, and partners' ability to create and sustain trust. Internal knowledge capacity improves the ability to alter and adapt extrinsic knowledge while translating it into combinations with crisp knowledge. Finally, managerial competence includes managerial and leadership capabilities and project and process improvement abilities. The framework of cluster innovation capacity (CIC) is structured with three basic blocks: cluster capacity, data management, and innovation capability, and illustrated in Figure 1. the cluster resources and their connections under cluster capacity. Knowledge generation, acquisition, dissemination, and storage are the four components of data management, and innovation capacity includes market effectiveness and performance metrics.

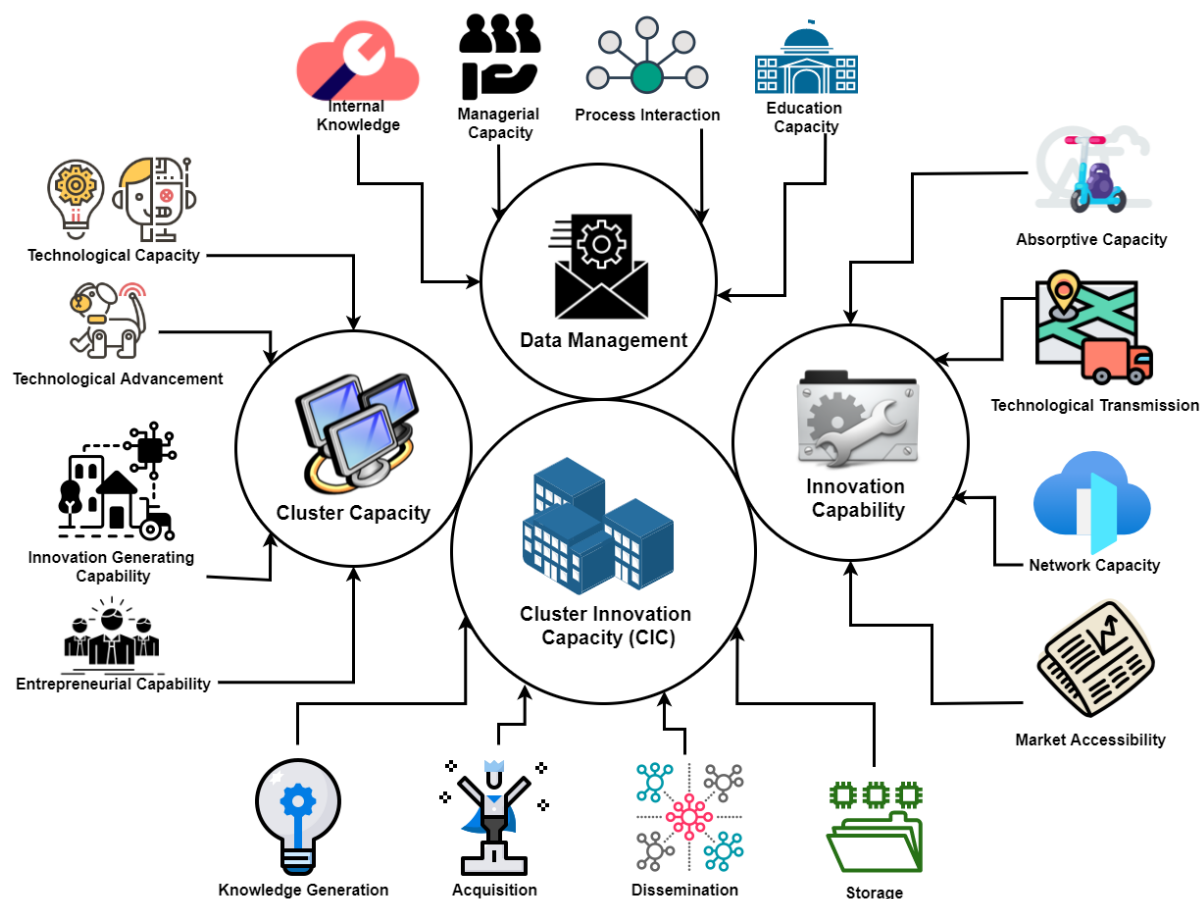


Figure 1: Cluster Innovation Capacity Framework

The cluster capacity involves technological, technological advancement, innovation generating, and entrepreneurial capability. Data management involves synergy, creativity, acceptance, integration, enhancement of internal knowledge, managerial capacity, learning through technological interaction, cooperation, education capacity, and the ability to investigate acquired knowledge. The innovation capacity involves absorptive capacity, technological transmission, internal dissemination, network capacity, talent accessibility, market accessibility, and transactional capacity.

The frameworks addressed the in-depth acquisition and development of information and technologies and have been portrayed as critical for innovation capacities. Thus, acquisition capacity would cover these qualities and may be connected to technical development, invention-creation, and entrepreneurial capacity. With a propensity to innovate and seek out external information, it is feasible to provide the required inputs to produce changes in the clusters and, as a result, make them more effective. Furthermore, it is insufficient for a business to gain knowledge and innovation without transferring and involving the other enterprises in the cluster; hence, diffusion capacity is required. The ability to diffuse is highly connected to industrial growth, internal diffusion, and network capabilities. This transmission is only feasible through company collaboration, which gives access to alternative markets and external technology, accelerates product launch, and allows for the interchange of complementary talents.

Finally, in addition to the acquisition and dissemination capabilities, the relevance of knowledge and its maintenance in clusters are highlighted because a change can only be deemed innovative when it outcomes in value production. Thus, knowledge management competence would include innovative adoption, assimilation, enhancement, synergy, intimate knowledge and administration, and cognitive governance.

### 3.1 Overseas Investment Trade and Regional Industry in Cluster Innovation Capacity

In the recent economic environment, the problem of expanding the region's economy's advancement and investment growth and implementing specific science-based approaches and methods to expand the innovative opportunity and investment interaction of industrial enterprises has become an important issue. This research

addresses theoretical and practical elements of regional technology innovation and investment growth and concerns of enhancing the effectiveness of regional industrial strategy through the cluster structure of regional economic development. The formation of directions of overseas investment trade and regional industry based on cluster innovation capacity is developed and illustrated in Figure 2.

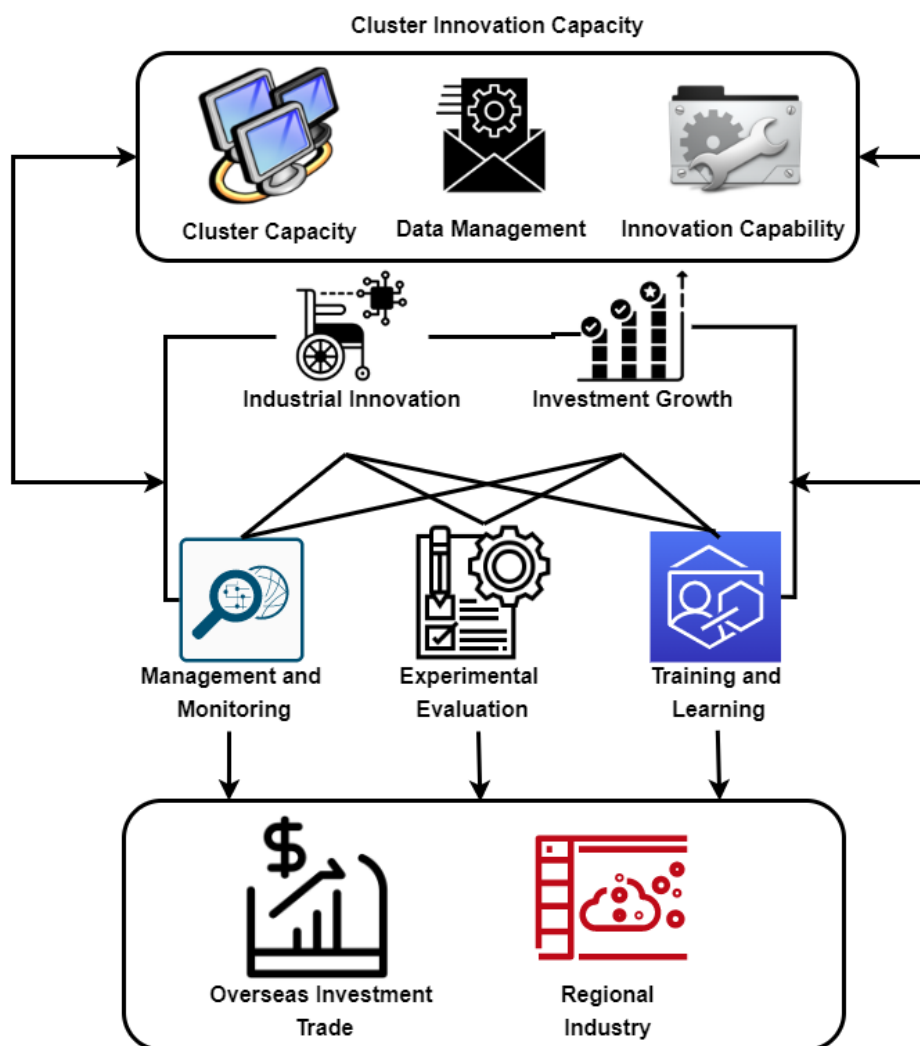


Figure 2: Formation of directions of overseas investment trade and regional industry based on cluster innovation capacity

An integrated strategy is required to create and execute regional industrial innovation and investment growth strategies. Management and monitoring, experimental evaluation, and training and learning are the three attributes of evaluation. It can develop a new product in the manufacturing industry and persuade investors to finance technology options. Such collaboration and integration of direct activities guarantee innovation and investment improvement are most fully and efficiently achieved through large manufacturing forms of production chain organization at the regional scale. Such growth is based on the generative interplay of the region's economy's corporate activities and manufacturing industries. Creating manufacturing sectors in the region is the most efficient way of responding to the listed parameters. Traditional techniques for regional economic management are accumulated in industrial clusters. They are focused on financial entities' industry accessories and reflect current cross-industry innovation and investment growth.

In this scenario, the type and depth of the developed cross-industry communications allow high-quality creative growth in the area by drawing investments into the region's market and establishing new marketplaces. The essential objective of the innovation process in the industrial economy domain is to assure inventive demand by companies in the region's manufacturing industry.

Promoting and encouraging creativity becomes ineffective when there is a lack of demand for innovative assets in the economy. The development of information projects and the development of innovative products lose their significance. In this situation, expenditures targeted at boosting creative demand have either been useless or have become long-term, which might result in a loss of product or technological innovation and an inefficient financial decision. Generally, the time required for its creation is significantly longer than the time needed to modernize manufacturing facilities. As a result, the need for industrial innovation will always be higher in a typically functioning financial system than the demand.

Formulating a plan for the creative growth of the region's industrial sector should be based on examining the many attributes for execution. It must adhere to specific guidelines for its formation and subsequent execution in the context of skilled industrial clusters. First and foremost, a comprehensive examination of the region's industrial economy's state and development is required. Furthermore, it is essential to identify and organize the produced trends and issues, conduct component analysis, and expose the main priority dynamic industries that drive economic growth in the sector and can create new points of growth.

Analyzing the economy's innovation investment opportunities in the investigated region should become essential in carrying out such an examination. An analytical investigation will determine the development objectives of the region's industry around which innovative industrial clusters should be established to execute a successful industrial strategy. The selection of essential sectors capable of becoming the engine of regional economic growth and subsequent support for such companies at the regional and federal levels should not conflict with industrial strategy. The development of normative and legal regulations, infrastructure development, collaboration development, and community environment offer favourable conditions to assist medium and small businesses. Furthermore, these steps will enable the successful development of major regional industries and provide effective dynamics for the sustainable development of associated industries and products.

When discussing the characteristics of industrial business growth in the context of restricted investment resources, it is possible to highlight the lack of accessible inventive and investment assets for the region's economy's invention and investment growth. In this regard, the business sector and state and municipal officials face the most significant challenges in launching innovative companies and developing unique products. In this process, the scientific community is actively involved in establishing essential laboratories and experimental facilities, where development and experimental scientific advancements in producing novel technologies and products would be carried out continuously.

### 3.2 One Belt All Road (OBAR) Strategic Framework

One Belt All Road (OBAR) strategic framework is a critical path flow to consider how the authorities express and characterize its aims and the country's policy pronouncements. Countries may or may not execute and accomplish all of their objectives, but it is critical to record the stated objectives as an initial step. The OBAR index, seen in Figure 3 and stated in Equation 1, is often used to gauge shifts in the volume of international investment trade.

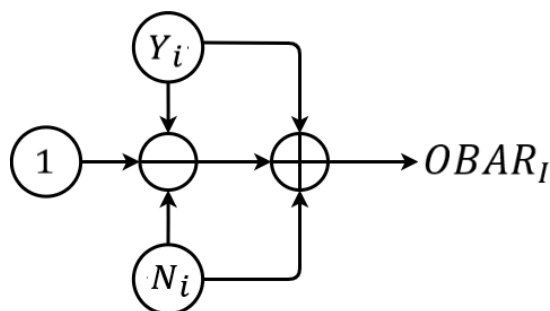


Figure 3: Flow structure of OBAR index

$$OBAR_i = \frac{1-|Y_i-N_i|}{(Y_i+N_i)} \tag{1}$$

Whereas *i* represents the product category, *Y<sub>i</sub>* represents the overseas investment trade level and *N<sub>i</sub>* represents the overseas investment trade prediction. The weighted average of the OBAR index reflected the overall overseas investment trade level and was expressed in Equation 2.

$$OBAR_T = \left[ \frac{\sum_{I=1}^X OBAR_I \times (Y_i + N_i)}{\sum_I^X (Y_i + N_i)} \right] \quad (2)$$

Whereas  $OBAR_T$  Represents the overall overseas investment trade level, and  $X$  represents the trading year. The OBAR index analyses the static change in overseas investment trade. For dynamic analysis of overseas investment trade and regional industry under one Belt, all strategic road framework is measured with the help of bilateral trade of the OBAR index as expressed in Equation 3.

$$OBAR_{BL} = \frac{1 - |\delta Y_i - \delta N_i|}{(|\delta Y_i| + |\delta N_i|)} \quad (3)$$

Whereas  $OBAR_{BL}$  represents the bilateral trade of the OBAR index,  $\delta Y_i$  and  $\delta N_i$  represent the export and import changes in trade products. In this aspect, the positive and negative index in the bilateral trade of the OBAR index shows the actual scenario of dynamic changes. A weighted average system is followed to minimize the error in the prediction rate. The weighted average of the bilateral trade of the OBAR index is expressed in Equation 4.

$$OBAR_{TBL} = \left[ \frac{\sum_{I=1}^X OBAR_I \times (\delta Y_i + \delta N_i)}{\sum_I^X (\delta Y_i + \delta N_i)} \right] \quad (4)$$

Whereas  $OBAR_{TBL}$  represents the weighted average of the bilateral trade of the OBAR index. The outcomes of the OBAR index and bilateral trade of the OBAR index are closely observed to measure the cluster innovation capacity of overseas investment trade and regional industry under one Belt all Strategic Road framework. The weighted average of the bilateral trade of the OBAR index cannot differentiate the horizontal and vertical innovation capacity of overseas investment trade. It may miscalculate the importance of overseas investment trade. The horizontal overseas investment trade index is expressed in Equation 5.

$$OIT_H = \sum_{i=1}^X OBAR_i \times \beta_i \quad (5)$$

$$\beta_i = \frac{|\delta Y_i - \delta N_i|}{(|\delta Y_i| + |\delta N_i|)} \quad (6)$$

Whereas  $\beta_i$  represents the coefficient of horizontal overseas investment trade and is expressed in Equation 6. The vertical overseas investment trade index is expressed in Equation 7.

$$OIT_V = B_i - OIT_H \quad (7)$$

$$B_i = \frac{1 - |\delta Y_i - \delta N_i|}{(|\delta Y_i| + |\delta N_i|)} \quad (8)$$

Whereas  $\beta_i$  Represents the horizontal overseas investment trade attribute and is expressed in Equation 8. Based on the aspects of the horizontal overseas investment trade index and vertical overseas investment trade index, the cluster innovation capacity of the overseas investment trade index and regional industry under one Belt all strategic road framework is expressed in Equation 9.

$$\delta Y_i = \sum \delta Y_i, \delta N_i = \sum \delta N_i \quad (9)$$

The outcomes of the horizontal overseas investment trade index and vertical overseas investment trade index are closely measured to identify the optimal outcome in overseas investment trade and regional industry in cluster innovation capacity (CIC). In this article, the One Belt All Road (OBAR) strategic framework is developed to evaluate overseas investment trade and regional industry in cluster innovation capacity (CIC). Through qualitative textual assessment, the cluster innovation capacity was designed based on a theoretical framework. Thus, the primary competencies comprising the cluster innovation capacity are acquiring, diffusing, and information management. The correlation between the variables influencing company innovation and the degree of investment effort in the region's industrial sectors has been established.

According to the findings, cluster innovation capacity significantly affected overseas investment trade and regional industry under the One Belt All Strategic Road framework. Only a few researchers presented models of cluster innovation capacity. That is why, based on the models discovered and the literature studied, this work aimed to provide a theoretical framework to improve overseas investment trade and regional industry. Several capacities offered by the various methods are comparable. Furthermore, various abilities mentioned by specific scholars have many abilities condensed into one or serve comparable functions. As a result, a framework was created based on three significant capabilities: cluster capacity, data management, and innovation capability.

Knowledge generation, acquisition, dissemination, and storage are the four components of data management, and innovation capacity includes market effectiveness and performance metrics.

#### 4. Results and Discussion

This chapter provides the critical ability of the developed One Belt All Road (OBAR) strategic framework to evaluate overseas investment trade and regional industry in cluster innovation capacity over similar technologies like integration capability framework (ICF), intra-industry trade initiative (IITI), global investment and trade strategies (GITS), trade innovation networking (TIN). Here Global Commodity Trade Statistics dataset is used for the survey. The import and export volumes for 5,000 commodities for most nations on Earth during the last 30 years are included in this dataset [43]. Forty investors' opinions were gathered using ten different survey techniques for this study. Figure 2 depicts how the suggested model (OBAR) explores the cluster innovation capacity of international commerce, investment, and local industry. The suggested methodology further collects information from the related literature to determine the trade expansion for 24 monitoring intervals. The integral server has a storage capacity of 1.5TB and an analytical speed of 2.4GHz; it is utilized for data collection, analysis, and monitoring. Thus, the primary competencies comprising the cluster innovation capacity are acquiring, diffusing, and information management. The correlation between the variables influencing company innovation and the degree of investment effort in the region's industrial sectors has been established. Precision, dependability, the F-1 measure, and error rate are used to evaluate the CIC of international investment markets and regional industry sectors. A comparative study was performed using related technologies like ICF, IITI, GITS, and TIN to comprehend better the overall performance of the suggested model (OBAR).

#### Precision Investigation

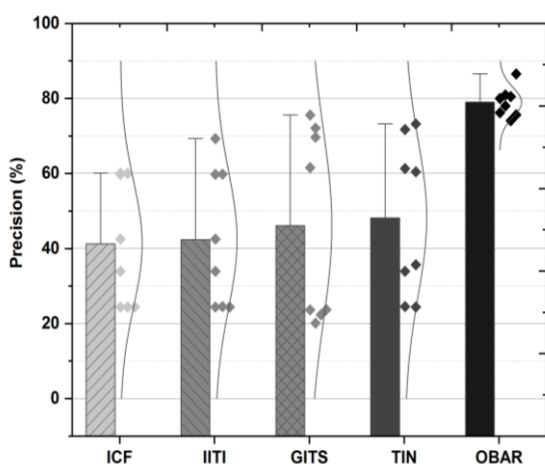


Figure 4: Precision (Investor Feedback)

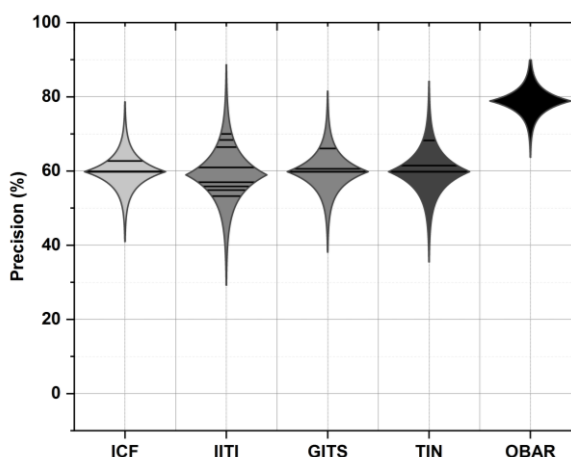


Figure 5: Precision (Monitoring Intervals)

Based on the verdicts and investment prospects that companies receive, the research outcomes of the international investment trade and regional industry in cluster innovation capacity using the One Belt All Road (OBAR) strategic framework provide a brief but accurate description of current utilization scenarios from the relevant literature. By equating  $\frac{\sum_{I=1}^X OBAR_I \times (Y_i + N_i)}{\sum_I (Y_i + N_i)}$ , this research delivers essential enhancements to the OBAR strategic framework's precision result. As shown in Figures 4 and 5, the created system's accuracy rate is optimistic when compared to other technologies such as ICF, IITI, GITS, and TIN regarding investor feedback and monitoring intervals. Through qualitative textual assessment, the cluster innovation capacity was designed based on a theoretical framework.

Reliability Aspects

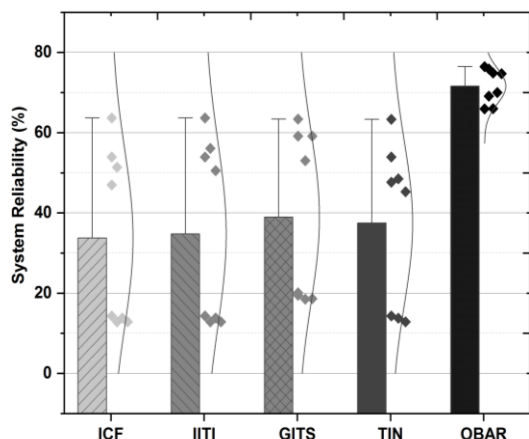


Figure 6: Trustworthiness (Investor Feedback)

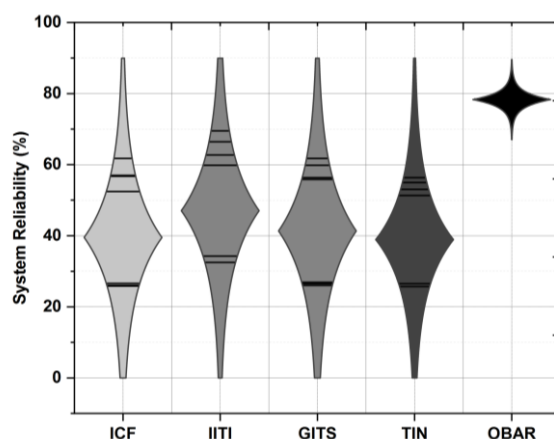


Figure 7: Trustworthiness (Periods of Observation)

One Belt All Road (OBAR) investor feedback and monitoring intervals are shown in Figures 6 and 7 to illustrate the framework's attained dependability. The recommended method yields ideal results in fostering company growth and success. Overseas investment trade and regional industry in cluster innovation capacity and is expressed as  $\frac{\sum_{l=1}^X OBAR_l \times (\delta Y_l + \delta N_l)}{\sum_l^X (\delta Y_l + \delta N_l)}$ . Using the OBAR strategic framework, the proposed model is investigated to increase overseas investment trade significantly. Equation (5) displays the synthesis of these findings with the development of mathematical models. Thus, the primary competencies comprising the cluster innovation capacity are acquiring, diffusing, and information management.

F-1 Measure Analysis

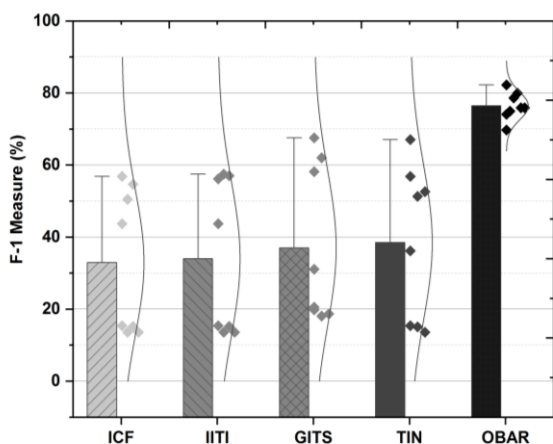


Figure 8: F-1 metric shown (Investor Feedback)

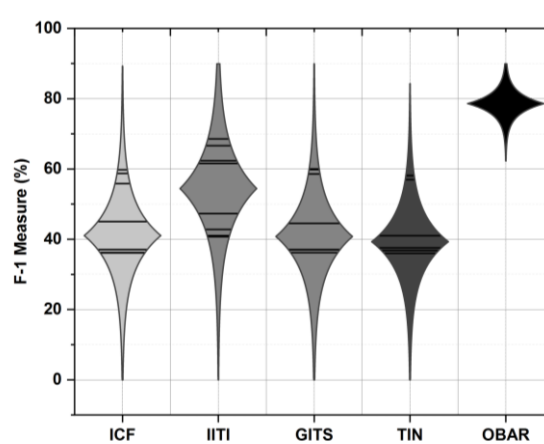


Figure 9: F-1 metric shown (Periods of Observation)

Using the equation  $\sum_{i=1}^X OBAR_l \times \beta_i$  Figures 8 and 9 depict the proposed One Belt All Road (OBAR) strategy framework for F-1 measure features to assess international commerce and regional industrial cluster innovation capability. Compared to other technologies like the ICF, IITI, GITS, and TIN, the suggested system's F-1 measure value is higher. The relative analysis determines the F-1 measure value for cluster innovation capability in cross-border investment commerce, regional industry, and investment maximization. The correlation between the variables influencing company innovation and the degree of investment effort in the region's industrial sectors has been established.

**Error Rate Synthesis**

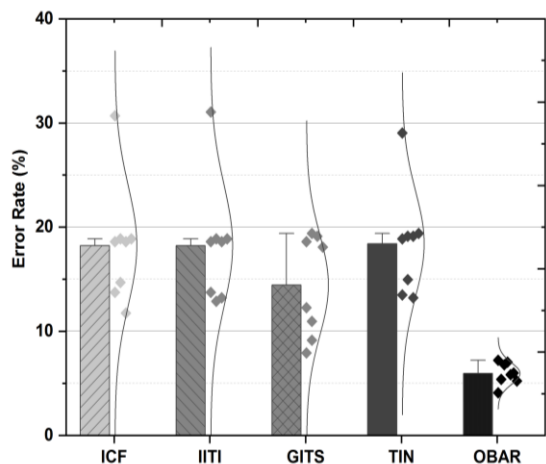


Figure 10: Error Rate (Investor Feedback)

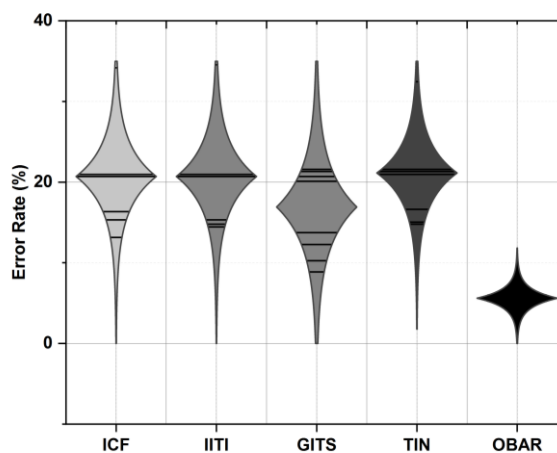


Figure 11: Rate of Error (%), (Periods of Observation)

The planned One Belt All Road (OBAR) strategy framework for investor feedback and monitoring intervals is examined concerning its error rate in Figures 10 and 11. Compared to other methods, the suggested system has a low error rate. With a continually decreasing error rate, the system's dependability and efficiency may be vastly improved in a short amount of time. Error rate decay, according to the suggested OBAR strategic framework, is  $\frac{1-|\delta Y_i - \delta N_i|}{(|\delta Y_i| + |\delta N_i|)}$ . The research highlighted difficulties in creating innovation and investment possibilities in the region's industrial companies and solutions to these problems. Indicates the proposed system (OBAR) comparatively produces optimal results than similar technologies like ICF, IITI, GITS, and TIN. Tables 1 and 2 display the data collected during the experiments regarding investor responses and the frequency of monitoring.

Feedback from Investors Experiment Results in Table 1

Key Factors	ICF	IITI	GITS	TIN	OBAR
Precision (%)	61.0	71.2	76.7	74.3	87.6
System Reliability (%)	64.8	64.8	64.5	64.4	77.5
F-1 Measure (%)	58.0	58.1	68.7	68.1	83.4
Error Rate (%)	12.8	14.0	9.0	14.3	5.2

The experimental outcomes of the suggested system (OBAR) and comparable investor-feedback approaches are explored in Table (1). The proposed system (OBAR) provides optimal results in all investigation key factors compared to similar techniques like ICF, IITI, GITS, and TIN. Especially compared to a reference model suggested using the same methods, our proposed framework improves accuracy by 30.36 per cent, system dependability by 16.40 per cent, and F-1 by 30.45 per cent. The percentage of errors is cut by 63.63 per cent.

Table 2: Experiment outcomes for different periods of monitoring

Key Factors	ICF	IITI	GITS	TIN	OBAR
Precision (%)	63.8	71.1	67.2	69.4	87.6

System Reliability (%)	58.1	70.6	62.8	57.4	94.8
F-1 Measure (%)	60.8	79.9	61.1	59.3	87.9
Error Rate (%)	14.2	15.5	10.0	15.9	8.1

The experimental outcomes of the suggested system (OBAR) and comparable investor monitoring interval strategies are explored in Table (2). Precision, system dependability, the F-1 measure, and the error rate are all improved by 87.6%, 94.8%, 87.9%, and 8.1%, respectively, using the suggested system (OBAR). Concurrently, the current ICF method for checking in at intervals yields subpar experimental findings in the primary areas of inquiry that have been evaluated. The suggested framework optimizes accuracy, system dependability, and F-1 measures by 27.16%, 38.71%, and 30.83%, respectively, compared to a proposed model based on a comparative analysis using comparable methodologies. It reduces the number of mistakes made by 49.05%.

## 5. Conclusion

In this article, the One Belt All Road (OBAR) strategic framework is developed to evaluate overseas investment trade and regional industry in cluster innovation capacity (CIC). Innovation is a crucial component of a company's competitiveness. Its evident importance involves developing strategies for companies to survive and gain an edge in dynamism and hyper-competition. The process of innovation and how it pertains to regional economic growth is essential in improving regional economic dynamism and competitiveness. Clusters arise as innovation engines, not just for the companies inside these megacities but also for the region in which the companies are located. One Belt All Road (OBAR) strategic framework is a critical path flow to consider how the authorities express and characterize its aims and the country's policy pronouncements. The research highlighted difficulties in creating innovation and investment possibilities in the region's industrial companies and solutions to these problems. Overconcentration of enterprises in domestic relationships and environmental conflict beyond the cluster can contribute to technological obsolescence and a decline in competitiveness in both domestic and international markets; The reserved character of the cluster could diminish the elasticity of participating enterprises. Developing creative companies that can successfully introduce game-changing technology into domestic and international markets should be a top focus for any innovation cluster.

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