

## Umbrella of China Pakistan Economic Corridor Influence on Local Business Industries and Trade Balance: A mediation Analysis in Special Economic Zone of Hattar

Faisal Mehmood <sup>1</sup>, Naqeeb Hussain<sup>2</sup>, Henna<sup>3\*</sup>, Akhtar Munir<sup>4</sup>, Nazir Ullah<sup>5</sup>, Mazhar Islam<sup>6</sup>, Shakeel Ahmad<sup>7</sup>

<sup>1</sup> College of Public Administration, Huazhong University of Science & Technology, Wuhan, China

<sup>2,4, 6,7</sup> Department of Social Work & Sociology, Kohat University of Science & Technology, Kohat

<sup>3\*</sup> Institute of Business Studies, Kohat University of Science & Technology, Kohat, Pakistan

<sup>4</sup> Nazir Ullah, PhD Scholar, Universiti Sultan Zainal Abidin, Malaysia

Emails:<sup>1</sup> [fmehmood\\_kmu@yahoo.com](mailto:fmehmood_kmu@yahoo.com); <sup>2</sup> [naqeebhussain@kust.edu.pk](mailto:naqeebhussain@kust.edu.pk), <sup>3\*</sup> [hennagulawat@gmail.com](mailto:hennagulawat@gmail.com) (*Corresponding author*), <sup>4</sup> [akhtar\\_psw@yahoo.com](mailto:akhtar_psw@yahoo.com), <sup>5</sup> [nazirkhan730@gmail.com](mailto:nazirkhan730@gmail.com), <sup>6</sup> [mazharislam@kust.edu.pk](mailto:mazharislam@kust.edu.pk), <sup>7</sup> [dr.shakeel@kust.edu.pk](mailto:dr.shakeel@kust.edu.pk)

Received: 06th October 2021

Revised: 19th November 2021

Accepted: 06th December 2021

---

**Abstract:** Special Economic Zones (SEZs) are rapidly expanding in both developed (China) and developing (Pakistan) countries. SEZs help several nations economically and planned to improve business, trade, technology, employment, and energy. The China Pakistan Economic Corridor (CPEC) routes had promoted commerce, attract FDI, and raise productivity in Pakistan. This paper examines the CPEC development effects on CPEC-sponsored Hattar SEZ. It studies how employment rates, FDI, technology innovation information quality, supply chain integration, logistic, local business industry and trade balance changed after Hattar SEZ opened. The primary quantitative data was collected through purposive sampling technique from (N=463) respondents. Then, using the Structural Equation Modelling (SEM) through Analysis of Multivariate Structural Model (AMOS) and statistically predict the influence of CPEC development on job opportunity, FDI, technology innovation information quality, supply chain integration, logistic, local business industry and trade balance with estimated, assuming Hattar SEZs by 2030. Finally, the active model with modification suggested the estimation that CPEC development can improve indirectly foreign direct investment, technology innovation and local business industry, trade balance. The CPEC development will bring benefits and prosperity for Hattar SEZ and neighbouring communities.

**Keywords:** CPEC Development; Supply Chain Integration; Trade Balance; Business Industry; Special Economic Zone, FDI

---

## Introduction

The focus of the study is on CPEC development and its influence on the supply chain integration (SCI), innovation, job opportunity (JO), information technology quality (ITQ), foreign direct investment (FDI), local business industry (LBI) and trade balance (TB). Recently, Rehman and Ali (2021) suggested that Pakistan is a developing nation, and the development of factories is increasing enormously, which further proliferate the logistics and supply chain management industry. They might be producing raw materials or may be used to increment the value of refining for development. Pakistan is not utilizing its home enterprise's total capacity because of energy crises, lack of direct overseas funding, defense concerns, unskilled labor, awful facilities, inadequate transportation structure, and outdated expertise. On the other side, Pakistan is geographically put in a desirable place for global trade. It cuts the distance travelled by merchants from the Middle East to China. Pakistan's geographic importance offers it a range of significant economic opportunities for other developed and underdeveloped nation (Ashfaq et al., 2019).

In contrast, Pakistan's financial and accounting framework, supply chain and logistics, are lower than China's. According to the innovation index 2018, Pakistan is 105th among 129 countries while China ranks 14<sup>th</sup> (Queiroz et al., 2019). Similarly, the Bay Venues Ltd (BVL) Report in 2013, the Chinese Government is making enormous revolutionary advances in improving its logistics management, and Logistics appears to be one of the leading sectors in China (Handfield et al., 2013). There is an increasing awareness of the importance of the process of transporting merchandise. Logistics and supply chain were prioritized for the country's growth; E-trade has become much more common in China than before. The state of the art of pedagogy makes it simple for youths to attend college. As the new Chinese manufacturing unit environment creates an extra labor-saving function, people are getting specified for advanced study, understudy, and guide advancement (Handfield et al., 2013). To facilitate trade relationships with developing nations as well as external markets in South Asia, China and Pakistan have concluded a memorandum of understanding on financial skills (Ashfaq et al., 2019). Overland roads to China are dangerous and lengthy because of the Strait of Malacca, one of the traffic congestion sources. It holds the connection between the Pacific and Indian Oceans, the Middle East, and the Sahara Desert (Calamur, 2017).

To solve this situation, China has constructed a strategic settlement in the Pakistani city of Gwadar, known worldwide. This project is referred to as China Pakistan Economic Corridor (CPEC) and it encompasses so many helps in management, along with building a deep-sea port, a vast community of traveling solutions, railway connections, and power plants in Pakistan. China and Pakistan are establishing strategies in place to integrate their foreign exchange about three thousand kilometers from Kashgar to Gwadar (Pakistan). By joining both South and East Asia through the CPEC, the CPEC can even link Afghanistan, Iran, and India through roads as well. The new channel links the Arabian Sea with the Caspian Sea. China will in the future invest 62 billion USD in the province of CPEC. China continues to invest 5.9 billion USD with interest from 2% after 2021 (Gul, 2018; Saad et al., 2019; Ullah, 2021).

With their authorities' collaborative efforts, Chinese companies are functioning relatively high with inside supply chain management. Firstly, with this CPEC agreement, it is vital to examine how the Chinese Administration's preferred logistics and supply chain management methods and it will improve Pakistan's domestic industry. It seems that the aforementioned areas, namely, local enterprise, logistics and supply chain management, employment and labor, innovation and technology, global employment,

overseas direct investment, and sustainability, will have the most strong focus of CPEC(Khan et al., 2021).

The survey has investigated the CPEC development's influence on Pakistan's local business industry and trade balance with five mediating assumptions: SCI, ITQ, JO, innovation, and foreign direct investment. The problem is that the CPEC project might not be encouraged in special economic zones, especially Hattar and residential areas, and these different economic activities are running, which may be practical or ineffective. As a result of these scenarios, five hypothetical assumptions are developed to reach a better conclusion and fill the gap in the previous literature. The paper aims to discover how CPEC development influences logistics and supply chain control, local business industry, innovative information technology, employment, foreign direct investment, and trade balance.

### Hypothetical Model

CPEC can also be reviewed for many performance indicators, including sustainable development, foreign direct investment, international trade innovation and technology, Employment and labor, logistics and supply chain management, and local development. These factors ensure that CPEC will have a direct and substantial role on shaping the Pakistani home market. Local business industry by (A) supply chain integration and logistics (B), job opportunity and labour (C), trade balance (E), foreign direct investment (FDI) (F). The resultant CPEC development will affect the local business industry, innovation and technology (D), an excellent effect on trade balance sustainability (G) in Pakistan. These viable five courting paths are proven withinside the conceptual version of the paper illustrated. Therefore, these variables were studied quantitatively, applying a statistical approach to theoretical variables and did a predictive analysis with structural equation modelling (SEM). Few hypotheses developed to reach to the conclusion of the paper which primarilydescribed in simple terms with the help of gap and previous literature. It is evident in post-CPEC or otherwise after CPEC setup in figure .1 and .2.



**Hypotheses**

**Hypothesis 1:** Job opportunity, supply chain integration, foreign direct investment, information technology quality, innovation have influence on local business industry and trade balance.

**Hypothesis 2:** There is a good association between local business industry, innovation, and technology.

**Hypothesis 3:** There would be a significant influence on trade balance because of CPEC development, foreign direct investment, logistics, and supply chain integration.

**Hypothesis 4:** CPEC development, innovation and technology have a beneficial impact on the number of job opportunities, trade balance, local business industry.

**Hypothesis 5:** Innovation and information technology quality have impacts on the trade and business sustainability.

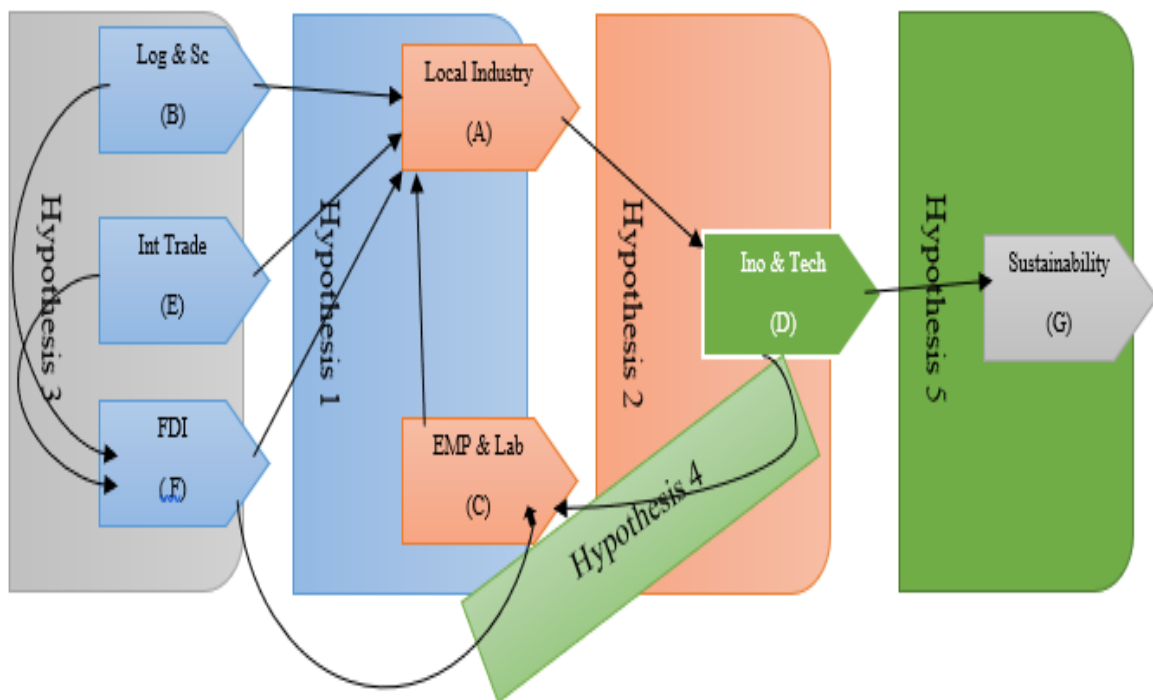


Figure. 2: Hypothetical Model

**Research Design**

The research was a positivistic paradigm, and quantitative research methods were applied to investigate CPEC development's influence on supply chain integration, innovation information technology quality, foreign direct investment, job opportunity, local business industry, and trade balance in Hattar and the surrounding area. Respondents were selected from district Hattar, and data was collected through questionnaires. The questionnaire included two separate portions as the first portion contained demographic variables, and the second portion was dependent upon the variable constructs, which were adapted from CPEC development by Saad et al. (Saad et al., 2019; Ullah, 2021), trade balance (Awan & Mukhtar, 2019; Fetahi-Vehapi et al., 2015), employment opportunity by Sun et al. (Sun et al., 2019), information technology quality (Li et al., 2006), innovation (Martín-de Castro et al., 2013) and the local business industry construct was from (Morcol et al., 2017; Ullah, 2021). Every

construct was validated by these researchers mentioned above, and that was adapted. There was one independent variable (CPEC Development), five mediators (supply chain integration, innovation, information technology quality, foreign direct investment, job opportunity), and two dependent variables (local business industry and trade balance). Based on SEM literature, we selected (N=463) sample size with (G\*power) software for specifying sample size with eight (8) predictors and purposive sampling technique. According to Faul et al. (2007), (G\*power) is an empirical software for selecting an adequate sample size in the research. There is a different test for selecting sample size, and this paper used the F test with linear multiple regression fixed model,  $R^2$  deviation from zero. The details are given in figure .4, .5.

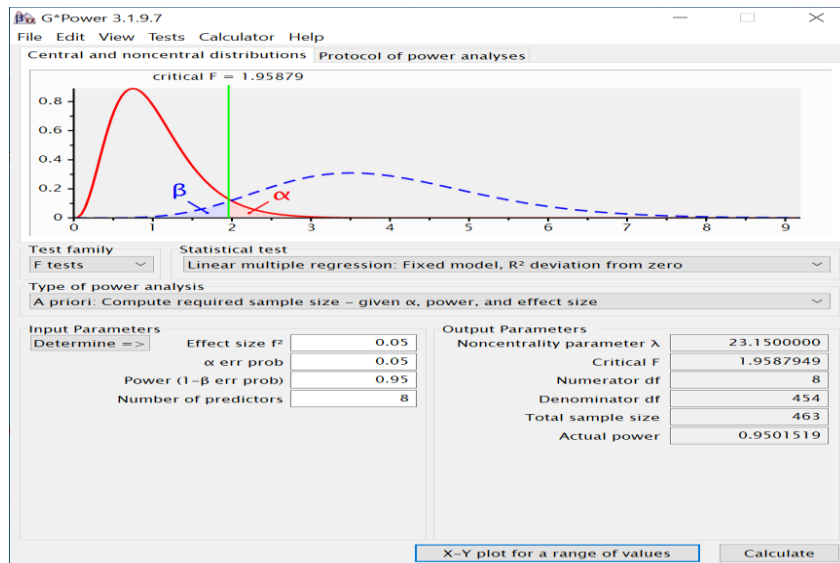


Figure .3

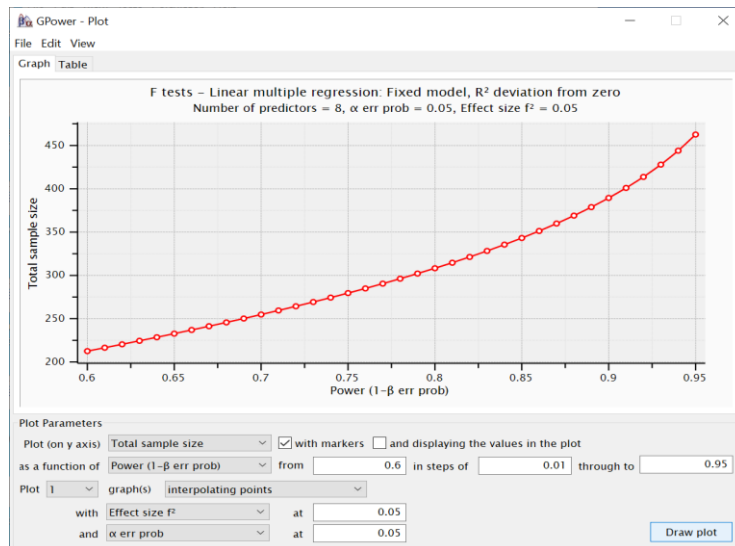


Figure .4

The nature of the respondents were commoners, academia, elders, teachers, national community leaders at the local level, supply chain and logistic employee and businessmen of the industries. It was attempted to obtain data from these individuals with the primary source. The data was measured on the basis of the 5-Likert scale, and all the responses were measured statistically. Following

collected data was statistically analysed through Statistical Package for Social Sciences (SPSS, Version 21) and Structural Equation Modelling (SEM) with Analysis of a Moment Structures (AMOS Version-21). Confirmatory factor analysis and path modelling tests were applied to this predictive and projective research.

### Data Analysis

The data was analysed in four key steps. Similarly, in the initial step, data normality, frequency distribution or demographic characteristics and descriptive statistics was analysed (see Table .1, .2). Similarly, in the second step, correlation was computed to know the relationship among all the study variables (see Table .2). Equivalently, in the third step, Confirmatory Factors Analysis (CFA) was conducted to know the scale correlation and items evaluation for the model fit. The all measures were computed and used the Cronbach’s alphas for internal consistency of the scales, as well as Everage Variance Exterated (AVE) with Composit Relibility (CR), were calculated to know the numbers of items in each scale. The CFA is a good tool for the validation of the construct in the different cultural environment (Anderson & Gerbing, 1984), thereafter, the present study utilizes the technique as the scales were used in the prior research. However, different researchers have identified different level of cut-off values for factor loading of items for instance, few of them have declared 0.30 as an acceptable value, whereas few have declared 0.50 as the standard value for factor loading (Hair *et al.*, 2006; Byrne, 2010). Following these researchers, the present study uses the cut-off value of factor loading not less than 0.50 (See Figure .5).Likewise, in the fourth step, SEM was enumerated to evaluate the cause and effect, association, and relationship among CPEC development, local business industry, trade balance, FDI, job opportunity, supply chain integration, information technology quality, and innovation. Therefore, in the last step, path analysis was applied with mediation to see the prediction of trade balance and local industry business among FDI, job opportunity, supply chain integration, information technology quality, and innovation and CPEC development in the special economic zone. The study found that there was a significant relationship among under studied variables which is shown in (Table .2).

Table 1.

*Participants’ Demographic Characteristics in the CPEC-SEZ(n=463)*

Characteristics	Categories	Mode	Frequency	Percent (%)
Gender	Male	1	156	33.7
	Female		307	66.3
Marital Status	Married	0	320	69.1
	Single		143	30.9
Age (in Years)	20 - 25	2	33	7.1
	26 - 30		68	14.7
	31 - 35		142	30.7
	36 - 40		81	17.5

	Above 46		139	30.0
Income	20000-40000	2	157	33.9
	41000-60000		264	57.0
	61000-100000		42	9.1
Occupation	Managerial Positions	5	71	15.3
	Academicians/ Researchers		77	16.6
	Elders of the area/ town		74	16.0
	School Teachers		69	14.9
	Local Citizens		77	16.6
	Students		95	20.5
Education Level	Bachelor	2	85	18.4
	Master		129	27.9
	M.Phil.		151	32.6
	PhD		98	21.2
PBS-Grade	Grade 1-4	2	99	21.4
	Grade 5-16		143	30.9
	Grade 17-Above		115	24.8
	Grade N/A		93	20.1
	Other		13	2.7

Table .2

*Intercorrelation between CPEC Development, Supply Chain Integration, Job Opportunity, Information Technology quality, Innovative, Trade Balance, Local Business Industry, Foreign Direct Investment (n=463)*

Variables	AVE	C.R.	1	2	3	4	5	6	7	8
1.CPEC Development	0.596	0.881	(0.77)							
2.Innovation	0.612	0.904	.684**	(0.782)						
3.Information Technology Quality	0.561	0.791	.128**	.127**	(0.74)					

4.Foreign Direct Investment	0.557	0.909	.571**	.804**	.228**	(0.74)				
5.Job Opportunity	0.639	0.934	.406**	.640**	.345**	.736**	(0.79)			
6.Supply Chain Integration	0.571	0.841	.000	.302**	-.094*	.129**	.240**	(0.75)		
7.Trade Balance	0.561	0.884	-.044	.225**	.211**	.237**	.343**	.212**	(0.74)	
8.Local Business Industry	0.640	0.922	.560**	.748**	.321**	.870**	.759**	.160**	.259**	(0.81)
Mean			3.277	3.725	3.060	3.518	3.467	3.593	3.199	3.58
Median			3.200	4.167	3.000	3.875	3.875	4.000	3.333	4.16
S.D.			1.027	1.013	1.065	0.921	1.057	0.993	0.993	1.07
Skewness			-0.14	-1.13	0.006	-0.94	-0.56	-0.76	-0.25	-0.87
Kurtosis			-1.14	-0.03	-1.19	-0.50	-1.13	-0.44	-1.27	-0.74

Note: \*p<.05, \*\*p<.01, \*\*\*p<.001 . Discriminant validity is shown in bracket parallel to correlation value

Figure .5

Empirical Results from a Complex Structural Model of Confirmatory Factor Analysis of the Constructs

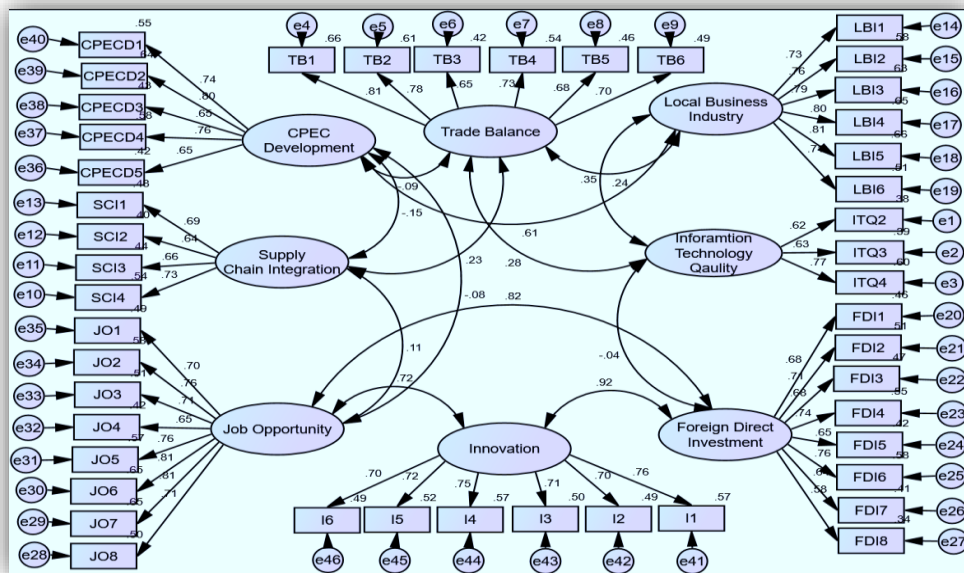
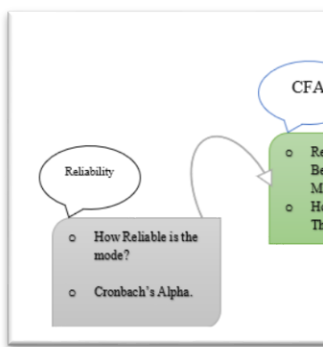


Figure .5

The basic purpose of path analysis is to know the possible causal relationship among set of variables. Fundamentally, regression analysis is one of the most sophisticated techniques that evaluate the possibility of the cause-and-effect relationship among a set of variables (Rawlings et al., 2001). If we depict with the model then path analysis would use in the study. The true logic of path analysis is to



develop a diagram and connected with arrows variable and show the real causal flow or the real direction of cause-and-effect. The beauty of path analysis that it shows us simply the direct and indirect causal effects can be estimated. So, path diagram shows a pictorial illustration of the theoretical explanation of cause-and-effect relationships among a set of variables. The attribute of our path analysis was built upon direct and indirect causal effects among the variables. The use of indirect effects is very beneficial in social sciences. An indirect effect refers to effect when a variable effect an endogenous variable over its effects on some other variable. It is called an indirect effect and also known as an intervening variable (Agresti & Finlay, 1997).Furthermore, SEM was employed to evaluate the mediating role of healthcare facilities, educational concerns, employment concerns between CPEC development and business improvement. The exhibition of model fit is figured out in(Table .3). The overall structural model is summarized in the (Figure. 6).



Source: Hair *et al*(Figure .6)

Table .3

*Fit Indices for CPEC Development, Supply Chain Integration, Job Opportunity, Information Technology quality, Innovative, Trade Balance, Local Business Industry, Foreign Direct Investment (n=463)*

Model	$\chi^2/df$	$\chi^2/df$	AGFI	CFI	NNFI	RMSEA	SRMR
Initial Model	778.64172	650.7064	77.38		.20		
Model fit	413.77118	808	.89	.82	.86	.07	.04
$\Delta\chi^2$	364.87						

Note: n=463, All change in chi square values is computed relative to model,  $\chi^2 > .05$ , GFI = Goodness of fit index, CFI = Comparative Fit Index, Tucker-Lewis Index NNFI, (TLI) = Non-normed fit index, RMSEA = root mean square error of approximation, SRMR = Standardized root mean square,  $\Delta\chi^2$  = Chi Square Change

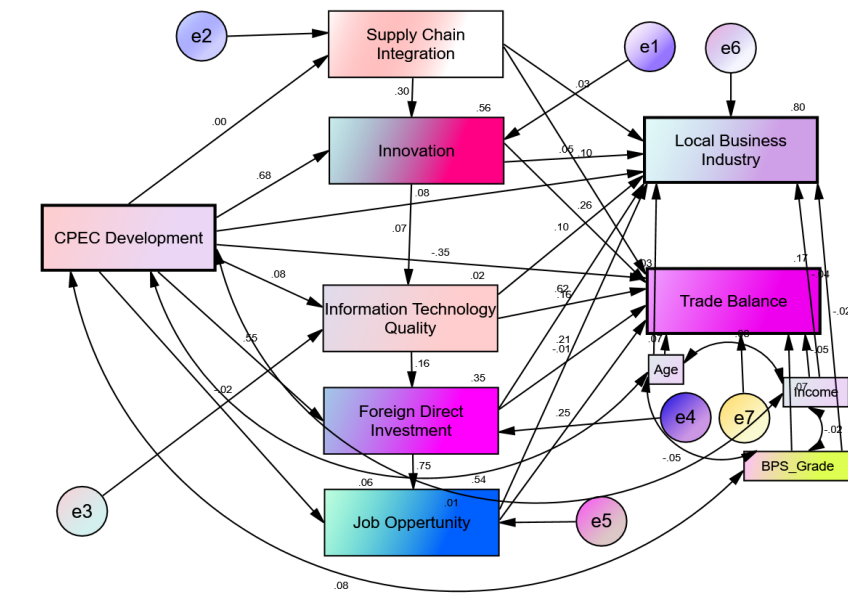
The results of fit indices indicated that CPEC development, local business industry, trade balance, SCI, ITQ, innovation, job opportunity and FDI in inhabitants are shown in (Table .1). Absolute fit for model fit was  $\chi^2(11,463) = 778.641 P < .001$ . The fit indices were considered to indicate the good fit of the data with the tested model. The model fit was analysed in two key steps. In step 1 and step 2, the indices of absolute and relative fit (“AGFI, CFI, NNFI, RMSEA, SRMR”) were

compared. Because the chi-square test of absolute model fit is sensitive to sample size and number of parameters, investigators often turn to various descriptive fit statistics to assess the overall fit to a model of the data. Hu and Bentler (1999) Endorses that  $\chi^2/df$  in between 1 and 3 “RMSEA and SRMR” values should be less .08 and “CFI, TLI or NNFI and GFI” values usually higher from .9 are considered a good value when it becomes  $.9 \leq .8$  then allowable in some cases. Similarly, the (“RMSEA, SRMR”) for the initial model were .38 and .20, whereas the “AGFI, CFI, NNFI” value were .70, .64 and .77, respectively while another side  $\chi^2/df$  value was 72.650 in the above (Table. 3). The model of the study was fit according to the descriptive measure of fit because the  $P$  values were less than ( $p < .05$ ) but another side the absolute and relative fit value were very not significant. Furthermore, the model modification process started as suggested by the modification indices. Modification indices followed up some of the covariances between errors in terms of scales of the SCI, innovation, ITQ, FDI, job opportunity and also add income, education and age of the respondents because some of the items were similar in content and context also brought fitness according to the significant model. For instance, (Tomás et al., 1999) dedicated that covariance between error terms in survey-based research can be legitimately drawn. Similarly, the criteria of modification indices for error covariance should be at least 4.0 (Byrne, 2016). Moreover, the covariance was drawn, and the chi-square Chang was more significant than 4 in the modification process. In addition, all the nonsignificant paths were removed in step one. After that, the indices of absolute and relative fit (“AGFI, CFI, NNFI, RMSEA, and SRMR”) were again compared and calculated in stage two. Likewise, the (RMSEA) and (SRMR) for the model fit after drawing covariance and removal of insignificant paths were discarded, the results of (RMSEA) and (SRMR) .07 and .04 were counted respectively since the GFI, CFI, and NNFI values were .89, .82, .86 respectively while  $\chi^2/df$  was 18.808. After all, it means that the difference between our model and the saturated model, which we are likely to call the perfect model, was a significant difference found between it. In conclusion, the model was fit, and the modification process does not allow us to modify the second model further because our model was a good fit (see Figure .7).

Figure .7 also suggested that the path coefficient was significant because  $P$  values were less than ( $p < .05$ ). Now which path coefficient was significant, and which one was not significant, the arrows of the path had explained in numbers. As a result, from CPEC development to SCI was not strong path coefficient. Similarly, CPEC development to innovation had a strong path coefficient, and a significant relationship was found. Correspondingly, there was not a strong coefficient between CPEC development and information technology quality. Alike, the CPEC development and FDI have a direct relationship, and the path coefficient was strong. The path of CPEC development and job opportunity has no significant relationship. In addition, the independent variable, for example, CPEC development, innovation, and FDI, has a strong path coefficient compared to a job opportunity, information technology quality, and supply chain integration for the dependent variable, such as local business industry and trade balance. The mediating relationship would also depict (Figure .7).

Figure .7

Empirical Results from a Complex Multivariate Model Representation Standardized Regression Coefficient for Inhabitants



Note: a complex multivariate model of six (6) endogenous variables and two (2) exogenous along with three control variables. Completely standardized maximum likelihood parameter estimate.

After done with the model fit the estimates to be analysed for direct and indirect effects on CPEC development, local business industry, trade balance, SCI, ITQ, innovation, job opportunity and FDI among inhabitants of the Hattar Special Economic Zone with 5000 bootstrapped sample (Valeri & VanderWeele, 2013). (See Table .4&5)

Table .4

Standardized Estimates of Direct Effects of the Paths for Special Economic Zone Inhabitants (n=463)

Variables	SPI		Innovation		ITQ		FDI		JO		LBI		TB	
	$\beta$	S.E	$\beta$	S.E	$\beta$	S.E	$\beta$	S.E	$\beta$	S.E	$\beta$	S.E	$\beta$	S.E
		CR		CR		CR		CR		CR		CR		CR
CPEC Development	.00	0.04	0.67	0.03	0.08	0.06	0.49	0.03	-0.02	-0.03	0.083	0.034	-0.03	0.06
				22.16		1.21		14.56		0.52		2.428		-5.20

\* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$  Note: CPEC Development= CPEC Development, SCI= Supply Chain Integration, ITQ= Information Technology Quality, JO= Job Opportunity, FDI= Foreign Direct Investment, LBI= Local Business Industry, TB= Trade Balance

Direct effects revealed that CPEC development was a highly significant and positive predictor for innovation, FID, LBI and a highly negative significant predictor for the dependent variable trade balance. In contrast, the CPEC development was not a significant predictor for SPI, job opportunity

and ITQ. At the same time, CPEC development was a significant positive predictor for the local business industry. The indirect effect was also calculated, which is shown in (Table. 5).

Table .5

*Standardized Estimates of Indirect Effects of the Paths for Special Economic Zone Inhabitants (n=463)*

Variables	Local Business Industry			Trade Balance		
	$\beta$	S.E	CR	$\beta$	S.E	CR
CPEC Development	-	-	-	-	-	-
Supply Chain Integration	0.029	0.024	1.204	0.096**	0.045	2.126
Innovation	0.057	0.033	1.731	0.252***	0.061	4.132
Information Technology Quality	0.098***	0.021	4.591	0.145***	0.039	3.662
Foreign Direct Investment	0.707***	0.041	17.802	-0.009	0.074	-0.121
Job Opportunity	0.213***	0.031	6.925	0.228***	0.057	3.985

\* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$

The above-mentioned results in (Table .5) supply chain integration showed indirect predictive for trade balance and no predictive influence on local business industry. Innovation has no indirect effect on the local business industry but found to be a highly positive significant mediator between CPEC development and trade balance. Similarly, information technology quality and CPEC development were found positive significant mediator for local business industry and trade business. However, foreign direct investment had found a predictive relationship between CPEC development between local business industry and a significant mediator. After all, foreign direct investment had not significant mediator between CPEC development and trade balance in the Hattar Special Economic Zone. Though, (Table .6) depicts hypothesis testing. Similarly, the study hypothesized that CPEC development is likely to ameliorate the business improvement in the special economic zone, which was proved significantly. On the other hand, it was hypothesized that CPEC development has an effect on employment concerns, educational concerns and health care facilities. The study hypothesized that SCI, innovation, ITQ, FDI, job opportunity mediates the relationship between CPEC development and local business industry, trade balance in the special economic zone Hattar.

Table .6

*Regression Weights and Hypotheses Testing(n=463)*

Hypotheses	Paths	Variables	Estimate	S.E.	C.R.	P	Remarks
SCI	<--	CPECD	0	0.045	-0.007	0.995	Not- Sig
Innovation	<--	CPECD	0.675	0.03	22.164	***	Sig
Innovation	<--	SCI	0.308	0.031	9.77	***	Sig
ITQ	<--	CPECD	0.08	0.066	1.219	0.223	Not- Sig
ITQ	<--	Innovation	0.078	0.066	1.177	0.239	Not- Sig
FDI	<--	CPECD	0.494	0.034	14.56	***	Sig
FDI	<--	ITQ	0.136	0.033	4.162	***	Sig
JO	<--	CPECD	-0.021	0.039	-0.527	0.598	Not- Sig
JO	<--	FDI	0.857	0.044	19.478	***	Sig
LBI	<--	CPECD	0.083	0.034	2.428	0.015	Sig
TB	<--	CPECD	-0.331	0.064	-5.205	***	Sig
LBI	<--	SCI	0.029	0.024	1.204	0.229	Not- Sig
LBI	<--	Innovation	0.057	0.033	1.731	0.083	Not- Sig
TB	<--	ITQ	0.145	0.039	3.662	***	Sig
TB	<--	FDI	-0.009	0.074	-0.12	0.905	Not- Sig
TB	<--	JO	0.228	0.057	3.985	***	Sig
LBI	<--	BPS-Grade	-0.02	0.02	-1.036	0.3	Not- Sig
TB	<--	BPS-Grade	0.06	0.037	1.654	0.098	Not- Sig
TB	<--	Age	0.054	0.033	1.643	0.1	Not- Sig
LBI	<--	Age	0.021	0.018	1.21	0.226	Not- Sig
TB	<--	Income	-0.08	0.067	-1.186	0.236	Not- Sig
LBI	<--	Income	-0.061	0.036	-1.684	0.092	Not- Sig
LBI	<--	ITQ	0.098	0.021	4.59	***	Sig
LBI	<--	FDI	0.707	0.04	17.802	***	Sig
LBI	<--	JO	0.213	0.031	6.925	***	Sig
TB	<--	Innovation	0.252	0.061	4.132	***	Sig
TB	<--	SCI	0.096	0.045	2.126	0.034	Sig

## Discussions

The SEM initial process finds that local business industry advancement has a formal and comprehensive relationship to logistics and supply chain integration, whereas job opportunities and workforce sector conditions are significant. The results show that it is difficult to have a competitive labor force for businesses. The result justifies that the Chinese and Pakistani labor force or employees will take over the economy, improving foreign direct investment. Foreign support from different international locations portrayed a destructive connection with local industry improvement. CPEC development will improve Pakistan in future, and foreign nations would invest in Pakistan. Working directly with China, Pakistan's economy would progress because of cross-border ventures like CPEC. Maybe because of a new association with revolutionary Chinese industries. Furthermore, the increase in international investment will boom while there is a boom in worldwide trade capacity; the relation is significant and remarkable.

Concerns about employment, education, healthcare, and company growth were examined in this study. Individually, the study looked at how CPEC development affected educational issues, employment possibilities, and company growth. However, these academics did not work on job issues, educational concerns, healthcare facilities, and business improvement in CPEC growth. For example, CPEC growth to social exchange theory and overall growth. The research showed that CPEC growth would benefit educational, employment, healthcare, and commercial issues (Hussain, 2019; Khan, 2019; Saad et al., 2019; Uddin Ahmed et al., 2019). According to Khwaja et al. (2018) that thousands of new employment, more excellent economic opportunities and enhanced communal life. Nazneen et al. (2019) argue that grassroots infrastructure development has changed. In an identical vein, this research showed that CPEC had benefited economic and commercial zones. According to Hadi et al. (2018), the CPEC project negatively impacts both nations' economic and commercial zones. According to recent research, CPEC growth will benefit Pakistan's special economic zones, companies, and economy. When the local business industry continues to grow, it can create a variety of job opportunities. By this time, numerous sectors connected to the CPEC project would also help build its overall financial operation. Residents will appreciate numerous career openings. We should consider technological advances without contemplating the potential feasibility. Consequently, it would have a significant effect on the sustainable economic growth of Pakistan.

The CPEC project is part of China's One Belt, One Road (OBOR) strategy, with China clearly benefiting. According to Fatima et al. (2019), the CPEC expansion would help Pakistan's power generation and relieve its acute energy shortage. The CPEC's expansion would address the energy problem. As a result, the CPEC's development initiatives may assist enhance Pakistan's healthcare facilities (Rafique & Rehman, 2017). Latief and Lefen (2018) found that the CPEC may improve industrial and commercial zones, creating jobs. Although the local business's improvement depends on improved logistics, supply chain, and foreign trade, information technology quality and innovation are associated with job opportunities, trade balance, and foreign direct investment. Foreign investment will be improved, which is not negligible indicator. Possibly, little unities will not improve, but the trade balance could improve jobs in both countries; however, the local enterprise substantially contributes to technical progress from which efficiency can be accomplished. International trading interferes with overseas funds availability; distribution and supply chain integration problems have been limited to the local business industry, receiving overseas financing. Changes improve employment conditions in the labor sector, labor quality and international financing.

## Conclusion

Special economic zones have become global magnets for accelerating technology and industrial growth. More recently, studies have shown that SEZs improve families' socioeconomic lives by increasing employment, education and health facilities, and energy availability and consumption. SEZs are increasingly seen as catalysts for improving family socioeconomic success and global international trade. According to the legal notification, SEZs have nine (9) under the CEPEC development planned for CPEC roads, innovative information technology, supply chain integration, job opportunity, and foreign direct investment. CPEC development is a significant and essential treaty for the local business industry, trade balance, supply chain integration, logistics, job opportunities, innovative information technology and foreign direct investment in China and Pakistan. The study's primary concern is how CPEC development influence local business industry, trade balance, supply chain integration, logistics, job opportunities, innovative information technology and foreign direct investment in both countries. The Pakistani government must take tangible measures to ensure the trade balance and business improvement. The local industry will improve and Pakistani technology innovation via effective company management and supply chain integration. Similarly, CPEC development had an influence on innovation, foreign direct investment and Pakistan's government future regulation and prosperity of CPEC development.

## Recommendations

- ✚ It is recommended that improving governance, reducing red tape, and improving the market capability is possible due to CPEC-affiliated projects.
- ✚ CPEC development could improve the local businesses industry, and it requires attracting foreign investment and creating jobs opportunity.
- ✚ The Government wants to reassure investors in CPEC by including the agreement's terms and conditions in the local business industry, trade balance.
- ✚ Future research can be taken in the area of the green supply chain, and environmental regulations are essential if governments want to attract foreign visitors. CPEC will enable authorities and business people to prepare their markets for the future correctly.

## References

- Agresti, A., & Finlay, B. (1997). *Statistical models for the social sciences*. Upper Saddle River, NJ: Prentice-Hall. *Revascularization Procedures after Coronary Angiography.* *Journal of the American Medical Association*, 269, 2642-2646.
- Anderson, J. C., & Gerbing, D. W. (1984). The effect of sampling error on convergence, improper solutions, and goodness-of-fit indices for maximum likelihood confirmatory factor analysis. *Psychometrika*, 49(2), 155-173. <https://doi.org/10.1007/BF02294170>
- Ashfaq, M., Hassan, S., Abbas, A., Razaq, A., Mehdi, M., Ariyawardana, A., & Anwar, M. (2019). Critical issues at the upstream level in sustainable supply chain management of agri-food industries: Evidence from Pakistan's citrus industry. *Sustainability*, 11(5), 1326. <https://doi.org/10.3390/su11051326>
- Awan, A. G., & Mukhtar, S. (2019). Causes of Trade deficit and its impact on Pakistan's Economic growth. *Global Journal of Management, Social Sciences and Humanities*, 5(3), 480-498. <https://doi.org/0000-0001-5767-6229>

- Byrne, B. M. (2016). *Structural equation modeling with AMOS: Basic concepts, applications, and programming*. Routledge.
- Calamur, K. (2017). High traffic, high risk in the strait of Malacca. *The Atlantic*, 21(8), 20-32.
- Fatima, N., Baig, A., & Shah, B. A. (2019). China-Pakistan Economic Corridor (CPEC): Fostering the Trade, Investment and Economic Globalization. *Global Social Sciences Review (GSSR)*, 4(2), 283-290.
- Faul, F., Erdfelder, E., Lang, A.-G., & Buchner, A. (2007). G\* Power 3: A flexible statistical power analysis program for the social, behavioral, and biomedical sciences. *Behavior research methods*, 39(2), 175-191.
- Fetahi-Vehapi, M., Sadiku, L., & Petkovski, M. (2015). Empirical analysis of the effects of trade openness on economic growth: An evidence for South East European countries. *Procedia Economics and Finance*, 19, 17-26. [https://doi.org/10.1016/S2212-5671\(15\)00004-0](https://doi.org/10.1016/S2212-5671(15)00004-0) [Record #874 is using a reference type undefined in this output style.]
- Hadi, N. U., Batool, S., & Mustafa, A. (2018). CPEC: An Opportunity for a Prosperous Pakistan or Merely a Mirage of Growth and Development. *Dialogue (Pakistan)*, 13(3), 296-311.
- Handfield, R. B., Straube, F., Pfohl, H.-C., & Wieland, A. (2013). *Trends and strategies in logistics and supply chain management: embracing global logistics complexity to drive market advantage*. DVV Media Group. <https://research.cbs.dk/en/publications/trends-and-strategies-in-logistics-and-supply-chain-management-em>
- Hu, L. t., & Bentler, P. M. (1999). Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. *Structural equation modeling: a multidisciplinary journal*, 6(1), 1-55.
- Hussain, E. (2019). CPEC: Governance and security challenges: Implications for the Belt and Road Initiative. *Chinese Political Science Review*, 4(1), 135-147.
- Khan, M. (2019). Does macroeconomic instability cause environmental pollution? The case of Pakistan economy. *Environmental Science and Pollution Research*, 26(14), 14649-14659.
- Khan, T. M., Gang, B., Fareed, Z., & Khan, A. (2021). How does CEO tenure affect corporate social and environmental disclosures in China? Moderating role of information intermediaries and independent board. *Environmental Science and Pollution Research*, 28(8), 9204-9220. <https://doi.org/10.1007/s11356-020-11315-9>
- Khwaja, M. A., Saeed, S., & Urooj, M. (2018). Preliminary environmental impact assessment (EIA) study of China-Pakistan economic corridor (CPEC) northern route road construction activities in Khyber Pakhtunkhwa (KPK), Pakistan. *Sustainable Development Policy Institute*, 4(2), 1-22. [www.sdpi.org](http://www.sdpi.org)
- Latief, R., & Lefen, L. (2018). The effect of exchange rate volatility on international trade and foreign direct investment (FDI) in developing countries along “one belt and one road”. *International Journal of Financial Studies*, 6(4), 1-22.
- Li, S., Ragu-Nathan, B., Ragu-Nathan, T., & Rao, S. S. (2006). The impact of supply chain management practices on competitive advantage and organizational performance. *Omega*, 34(2), 107-124. <https://doi.org/10.1016/j.omega.2004.08.002>
- Martín-de Castro, G., Delgado-Verde, M., Navas-López, J. E., & Cruz-González, J. (2013). The moderating role of innovation culture in the relationship between knowledge assets and product innovation. *Technological Forecasting and Social Change*, 80(2), 351-363. <https://doi.org/10.1016/j.techfore.2012.08.012>



- Morcol, G., Hoyt, L., Meek, J. W., & Zimmermann, U. (2017). *Business improvement districts: Research, theories, and controversies*. Routledge.
- Nazneen, S., Xu, H., & Din, N. U. (2019). Cross-border infrastructural development and residents' perceived tourism impacts: A case of China–Pakistan Economic Corridor. *International Journal of Tourism Research*, 21(3), 334-343.
- Queiroz, M. M., Telles, R., & Bonilla, S. H. (2019). Blockchain and supply chain management integration: a systematic review of the literature. *Supply chain management: an international journal*, 25(2), 241-254. <https://doi.org/10.1108/SCM-03-2018-0143>
- Rafique, M. M., & Rehman, S. (2017). National energy scenario of Pakistan–Current status, future alternatives, and institutional infrastructure: An overview. *Renewable and Sustainable Energy Reviews*, 69(3), 156-167.
- Rawlings, J. O., Pantula, S. G., & Dickey, D. A. (2001). *Applied regression analysis: a research tool* (Second Edition ed.). Springer Science & Business Media. <https://books.google.com.pk/books>
- Rehman, O. U., & Ali, Y. (2021). Optimality study of China's crude oil imports through China Pakistan economic corridor using fuzzy TOPSIS and Cost-Benefit analysis. *Transportation Research Part E: Logistics and Transportation Review*, 148, 102246. <https://doi.org/10.1016/j.tre.2021.102246>
- Saad, A., Xinping, G., & Ijaz, M. (2019). China-Pakistan Economic Corridor and its influence on perceived economic and social goals: Implications for social policy makers. *Sustainability*, 11(18), 4949.
- Sun, Z., Jai, K., & Zhao, L. (2019). Corporate social responsibility and sustainability of local community: A case study of the transnational project in China-Pakistan Economic Corridor. *Sustainability*, 11(22), 6456. <https://doi.org/10.3390/su11226456>
- Tomás, J. M., Meliá, J. L., & Oliver, A. (1999). A cross-validation of a structural equation model of accidents: organizational and psychological variables as predictors of work safety. *Work & Stress*, 13(1), 49-58.
- Uddin Ahmed, S., Ali, A., Kumar, D., Malik, M. Z., & Memon, A. H. (2019). China Pakistan Economic Corridor and Pakistan's energy security: A meta-analytic review. *Energy policy*, 127(7), 147-154.
- Ullah, N., Ullah, N., & Mehmood, F. (2021). CPEC Development and Business Improvement: Analyzing the Mediating role of Quality of Life and Employment Opportunities. *Journal of Peace, Development and Communication*, 2(2), 197-210. <https://doi.org/10.36968/JPDC-V05-I02-18>
- Valeri, L., & VanderWeele, T. J. (2013). Mediation analysis allowing for exposure–mediator interactions and causal interpretation: Theoretical assumptions and implementation with SAS and SPSS macros. *Psychological methods*, 18(2), 137.