buildings

MDPI

Article

Impact of Political, Social Safety, and Legal Risks and Host Country Attitude towards Foreigners on Project Performance of China Pakistan Economic Corridor (CPEC)

Amer Rajput [1], Ahsen Maqsoom [2], Syed Waqas Ali Shah [1], Fahim Ullah [3], Hafiz Suliman Munawar [4], Muhammad Sami Ur Rehman [5] and Mohammed Albattah [5,*]

[1] Department of Management Sciences, COMSATS University Islamabad, Wah Campus, Wah Cantt 47040, Pakistan; amerrajput@gmail.com (A.R.); syedwaqas0012@gmail.com (S.W.A.S.)
[2] Department of Civil Engineering, COMSATS University Islamabad, Wah Campus, Wah Cantt 47040, Pakistan; ahsen.maqsoom@ciitwah.edu.pk
[3] School of Surveying and Built Environment, University of Southern Queensland, Ipswich, QLD 4300, Australia; fahim.ullah@usq.edu.au
[4] School of the Built Environment, University of New South Wales, Sydney, NSW 2052, Australia; h.munawar@unsw.edu.au
[5] Department of Architectural Engineering, College of Engineering, United Arab Emirates University, Al Ain 15551, United Arab Emirates; 202090209@uaeu.ac.ae
* Correspondence: mohammed.battah@uaeu.ac.ae

Abstract: The China Pakistan Economic Corridor (CPEC) project was signed between China and Pakistan in the year 2013. This mega project connects the two countries to enhance their economic ties and give them access to international markets. The initial investment for the project was $46 billion with a tentative duration of fifteen years. Being an extensive project in terms of cost and duration, many factors and risks affect its performance. This study aims to investigate the effects of political (PR), social safety (SR), and legal risks (LR) on the project performance (PP) of the CPEC. It further investigates the significance of the host country's attitude towards foreigners (HCA). A research framework consisting of PR, SR, and LR as independent variables, PP as the dependent variable, and HCA as moderator is formulated and tested in the current study. In this quantitative study, the Likert scale is used to measure the impact of the assessed risks. A questionnaire survey is used as a data collection tool to collect data and test the research framework and associated hypotheses. The partial least square structural equation modeling (PLS-SEM) is used to perform the empirical test for validation of the study, with a dataset of 99 responses. The empirical investigation finds a negative relationship between PR, SR, LR, and PP. It is concluded that PR, SR, and LR negatively influence the PP of CPEC. Furthermore, HCA negatively moderates the PR, LR, and PP of CPEC. In contrast, the value of SR and PP is positive in the presence of the positive HCA.

Keywords: China Pakistan Economic Corridor; host country attitude towards foreigners; legal risk; political risk; project performance; social safety risk

Citation: Rajput, A.; Maqsoom, A.; Shah, S.W.A.; Ullah, F.; Munawar, H.S.; Rehman, M.S.U.; Albattah, M. Impact of Political, Social Safety, Legal Risks and Host Country Attitude towards Foreigners on Project Performance of China Pakistan Economic Corridor (CPEC). *Buildings* **2022**, *12*, 760. https://doi.org/10.3390/buildings12060760

Academic Editor: Pierfrancesco De Paola

Received: 13 April 2022
Accepted: 1 June 2022
Published: 3 June 2022

Publisher's Note: MDPI stays neutral with regard to jurisdictional claims in published maps and institutional affiliations.

Copyright: © 2022 by the authors. Licensee MDPI, Basel, Switzerland. This article is an open access article distributed under the terms and conditions of the Creative Commons Attribution (CC BY) license (https://creativecommons.org/licenses/by/4.0/).

1. Introduction and Background

Global trades are the backbone of the modern globalized economy. Accordingly, governments of different countries are pursuing expansion of their business for better economic results [1]. Connectivity is essential for expanding business or economic activities for which economic corridors are utilized. These corridors provide relations and connections between different economic sectors within the concerned geographies. The fundamental aim of developing corridors is to boost economic activities in the different regions worldwide. Various initiatives and technologies are used in this context [2,3]. For example, China proposed the One belt One Road (OBOR) initiative to achieve the goal of

connectivity between all the countries and the people of China [4]. According to the Chinese regime, OBOR depends on six economic corridors of collaboration within the country and the outside world. These corridors include the New Eurasian Continental Bridge Economic Corridor, China-Mongolia-Russia Economic Corridor, China-Central Asia-West Asia Economic Corridor, China-India-Burma Economic Corridor, China-Indo China Peninsula Economic Corridor, and China-Pakistan Economic Corridor (CPEC).

These corridors enable communication, connections, trades, and interaction between different nations. The CPEC is an important part of the overall OBOR project [5]. The commencement of the CPEC project is beneficial for both nations (China and Pakistan). It is considered more valuable for China compared to Pakistan because China can achieve a shorter route via Gwadar Pakistan for its trade worldwide through CPEC. In comparison, a route more than 12,000 km long via sea is used through China's Shanghai area to access the Arabian Sea. Table 1 shows the cost savings for China when using CPEC compared to using its Shanghai area.

Table 1. Trade distance difference (Shanghai vs. Gwadar).

S#	From (Location in China)	To (Location outside China)	Through Shanghai	Through Pakistan	Savings	Savings
			Kilometers			%
1	Central	Gwadar Pakistan	17,060	4958	12,102	71
2		Middle East	18,034	5835	12,199	68
3		Europe	28,647	17,587	11,060	39
4	Western	Gwadar Pakistan	19,303	2816	16,487	85
5		Middle East	20,176	3693	16,483	82
6		Europe	30,790	15,445	15,345	50

Source: Pakistan's Potential as a Transit Trade corridor and transportation challenges [6].

The major purpose of China's OBOR project was to connect and link different countries to access Central Asia and Africa for trade purposes [7]. The objective of the MoU signed between China and Pakistan was to enhance regional connectivity and provide a trade corridor between Western China and the Gwadar Port of Pakistan to expedite economic activities [8]. The CPEC project joins the Gwadar port of Pakistan with China's western region of Xing Shang with the help of highways, railways, and pipeline networks. CPEC construction is planned to be completed in the next 15 years, with an initial investment of $46 billion. CPEC is the extension of an existing project, the Silk Road, and will come into operation within three years. It will boost the economies of China and Pakistan and strengthen China's trade with Central Asia, the Middle East, and Africa.

This mega-project comprises multiple sub-projects. These include power generation projects, roads and highways, telecommunication, pipelines, railway networks, construction of Gwadar port, and other supporting infrastructure projects. CPEC projects would produce 17,000 megawatts of power with a cost estimate of $34 billion, using hydro, coal, wind, and solar power plants. The remaining $12 billion is allocated to develop the transportation infrastructure, spanning 2700 km. Other activities include establishing communication networks, widening the Karakoram Highway, and modernization of Gwadar airport [7].

Previous studies concluded that political (PR), social safety (SR), and legal risks (LR) are often more serious and sensitive in mega construction projects [9–13]. Unfortunately, previous researchers have paid little consideration to exploring the effects of PRs in the international construction industry or international joint ventures (IJVs) [10]. Consistent with previous studies, sociopolitical stability, legal and regulatory aspects, social safety, attitude towards foreigners, perceptions, and other risks are associated with the external threats in the overseas construction market [9,11,14–17]. These risks need to be investigated and mitigated in order to have a smooth foreign direct investment in mega construction projects [18]. As per the recommendations of previous studies, this study

investigates the PR, SR, and LR in an international mega construction project, i.e., CPEC. Further, it investigates the role of the host country's attitude towards foreigners (HCA) in this project.

The significance of the CPEC project is very high for Pakistan, China, and the rest of the world. However, due to its lengthy duration, it faces several challenges and risks. These include uncertain situations, such as a lack of proper planning, security, PR, environmental protection risks, supply chain risks, LR, SR, and others [19–21]. Many studies have been conducted on the challenges and risks of similar international projects. However, a holistic study investigating the impacts of PR, SR, LR, and the HCA on project performance (PP) of the international construction project (CPEC in this study) has not been reported to date. The results of the study contribute to the literature by investigating the relationship between the mentioned risks and the HCA in the performance of international construction projects.

Risk management is critical in planning and managing various types of national or international projects [22]. The construction industry is comparatively more vulnerable to risks than other industries due to its inherent complexities [23]. From its inception to completion and functioning, the course of a construction project is a multifaceted process [24]. Pakistan and other developing countries suffer from multiple issues and misinterpretations of risk management, including socio-political, legal, and other risk identification and analysis [10,25,26]. Accordingly, research studies focused on addressing such risks must be conducted in developing countries. The current study targets this gap and assesses the PR, SR, LR, and HCA on the PP of CPEC. It can be helpful for future international construction projects to mitigate these identified risks in IJVs before executions.

Political regimes in Pakistan remain fragile and unstable, as history tells us. In such changing political scenarios, agreements furnished by the previous regime are jeopardized [10]. Because of this uncertainty, there is a lack of a friendly business environment in Pakistan. The risks are amplified when foreign workers and investments are involved [27]. Moreover, the strength of the local legal system is also tested in IJVs. The unsound legal system of the host country promotes the risk related to improper construction procedures, illegal bid activities, illegal interferences, breached contracts, and frequent changes of laws. This study can help the international construction firms and countries involved in projects to evaluate the influences of negative risks on international construction projects. This can be applied to the execution of projects such as dams, highways projects, high-rise buildings, and other major global projects performed under IJVs in developing countries like Pakistan.

Accordingly, this study investigates the moderating effects of the HCA on the relationship of PR, SR, and LR with the PP of CPEC. A questionnaire survey approach is adopted to collect data from 99 respondents from the construction industry in Pakistan. SMART PLS3 software is used for testing the hypotheses based on the survey data. The current study explores the following research questions (RQs):

RQ1: What type of relationship exists between PR and the PP of CPEC?
RQ2: What type of relationship exists between SR and the PP of CPEC?
RQ3: What type of relationship exists between LR and the PP of CPEC?
RQ4: Does the HCA moderate the relationship of PR, SR, and LR with the PP of CPEC?

The research questions are addressed in this paper through a hypothesis development guided by the literature. These hypotheses have been cross-referenced and tested through data collected for this study. The following sections provide insights into the study hypothesis and research framework, followed by methodology, study results and discussion, and conclusions.

2. Theoretical Foundation and Research Hypotheses

2.1. Risk

The terms uncertainty, hazard, and threats are commonly used for risk [28]. Risk is also defined as the situation that alters or deviates the predetermined goals and values from the actual outcomes for a particular event or activity [29]. Overall, the risk is a combination of threats, hazards, and vulnerabilities that can occur when two conditions overlap [22]. Risk has been assigned different definitions by various studies. This is because the risk concept changes for different individuals according to their perspectives, experience, and attitudes. For example, a designer, engineer, and contractor look at risk from a construction and innovation perspective [30,31]. Developers and bankers view risk from an economic and financial perspective [32,33]. Similarly, environmentalists, chemical engineers, and doctors look at risk according to an environmental and health perspective.

Although many classifications of risks exist, the most general classification of risk, especially construction-related risk, involves financial, economic, commercial, natural, logistic, construction, and technical. The variables of risk are grouped into three basic groups: (1) internal, (2) external, and (3) project-specific [34]. The five main and common risks faced by international contractors include PR, government risk, LR, SR, and natural risk. Risks are divided into the four types that can occur in an international project: PR, cultural, financial, and natural risk [35].

Risk Management has received attention in the last two decades in construction projects worldwide. Different risks have different effects on the project objectives, construction firms, and client/owners. IJVs face various risks due to the uncertain business environments in developing countries demanding systematic risk management [10]. CPEC, an IJV, faces multiple risks, including the PR, LR, and others. Accordingly, it has been targeted in the current study.

2.2. Political Risk

PR arises from fluctuations and cutoffs in the commercial environment due to political instability. The consequences of PRs are macro and micro, affecting all types of businesses, including construction. Types of macro-PR are revolutions, civil wars, nationwide strikes, protests, riots, and mass expropriations. The micro risks include elective expropriations and discrimination. Although identifying PRs is not unheeded in IJVs because these risks are unconventional compared to the local atmosphere, the impacts of these risks can be predominantly large for such projects. Overall, PRs are related to changes and fluctuations in the country's political system [19].

PR is the risk that a host government will suddenly change the "rules of the game" under which businesses operate [36]. This seriously influences projects, resulting in more uncertain investment outcomes. PR is defined as the execution of political power in such a way that it threatens the company's values [37].

PR deals with unsolicited changes and unpredicted consequences for international business and projects resulting in political action. Such actions significantly affect overseas projects and contractors. Central Asian countries have a high level of risk associated with politics because of cultural, safety, and religious issues. The working situation of the IJV is closely linked with the host country's politics. Therefore, comprehensive knowledge of PR is essential for construction projects and businesses in the global market [38].

PRs must not be ignored in international construction projects. In the last three decades, the world has been affected by political events, such as monetary crises, wars, SARS flu scares, terrorism, and regional depressions, which caused uncertainty in the IJVs involving construction projects [35]. Global construction projects face a high degree of public concern and political issues. Accordingly, such international construction projects are influenced by the social, legal, cultural, religious, and other factors of the host country [10].

Identification of the causes of PRs is very important in IJVs. Unfortunately, prior researchers pay little consideration to PRs in the international construction industry [10]. Due to the complex nature of the PR concept, it is challenging to quantify it for both academics and corporate decision-makers. In addition, very few studies are undertaken related to PR, especially in the context of IJVs. The most prominent factor affecting the CPEC performance and completion of the project is the bad political situation in Pakistan. Most international firms have limited understanding and analysis of political circumstances in another country. If the political instability of the country is high, investors may postpone or cancel their deals [39]. As a result, IJV-based construction projects are typically risker in foreign countries than domestic ventures [36]. The current study targets this aspect. Overall, this study assesses the influence of PR on CPEC project performance and presents the following hypothesis.

Hypothesis 1 (H1). *Political risk negatively affects CPEC project performance.*

2.3. Social Safety Risk

Construction projects face time and cost overruns that often lead to project termination [40]. The construction projects have four main stages during their lifecycle: inception, planning, execution, and closure of the project. SR refers to the negative effect of businesses or projects on communities or groups. SRs affect the project objectives in all four phases. Many social events are triggered if risks are poorly managed [41]. SRs impact the cost and quality of projects and are of high significance in IJVs. Moreover, SRs include security issues that can result in loss of resources and destruction of equipment pertinent to public response [10].

Construction industries and projects encounter many social risks. For example, highways and railway projects are spread over a wider geographical area and face social issues [42]. These risks negatively affect the project objectives. In the past, Chinese international construction enterprises have been plagued with dogmatic risks associated with social safety worldwide, such as terrorism, kidnapping, and arm conflicts in countries like Iraq, Yemen, Mali, India, Pakistan, Sudan, Libya, Syria, and Afghanistan.

In the case of the CPEC project, there are five main SRs. These are crime, terrorism, violent demonstrations, armed conflicts, kidnapping, or extortion. The CPEC project is executed by different international and national firms. Security is an important factor for international firms to deliver a successful project. An unsecured situation for CPEC brings incredible threats to the personnel and properties of international organizations [40].

A relevant study of social impact assessment in CPEC 2018 highlighted that most of the sub-projects of CPEC will be carried out in remote and tribal areas [43]. Usually, clusters of the population living on the periphery remain in conflict with the federation. If not addressed formally, this factor will result in time and cost overrun of the projects. Pakistan's tribal areas, known as Federally Administered Tribal Area (FATAs), of the northwestern zone of Pakistan have an area of 27,000 sq km situated along the Afghanistan border. The inhabitants of these tribal areas have great concern and sensitivity to self-rule and independence. If a factional conflict arises in these areas with the government or between themselves, the consequences can be very serious for foreign organizations undertaking projects in the area. Thus, the host country should pay utmost attention to cater to this potential risk for encouraging investments in the IJVs such as CPEC. In the absence of such considerations, the associated SRs may cause project failures and huge losses [44]. Therefore, CPEC could only be fruitful if the security challenges are actively addressed.

Both China and Pakistan are facing security threats within their countries. China has a security threat in its province Xinjiang, whereas Pakistan has a serious security challenge in its tribal areas. In Pakistan, the security challenge is a major factor affecting the PP. China is making five different economic zones in Kashgar that have the potential to create some tensions in Xinjiang, fueling further security concerns. Similar predictions are made about nationalist and militant movements in Baluchistan, Pakistan. As a significant part

of CPEC is in Pakistan's territory, security and SR challenges to CPEC in Pakistan are the main concerns about its PP. There are two types of SRs relevant to CPEC in Pakistan: internal and external. The first and most severe internal challenge is the presence of anti-state elements in FATA and the western part of Pakistan. In addition, Pakistan faces security threats from other organized religious and ethnic groups. Further, the bordering tensions with its neighboring countries also add to the SRs as external factors. Therefore, these SRs present serious threats to the CPEC project. Hence, the following hypothesis is formulated in this study:

Hypothesis 2 (H2). *Social safety risk negatively affects CPEC project performance.*

2.4. Legal Risk

Construction projects include PR, SR, environmental, technical, economic, cultural, and LRs. These risks are faced by AEC firms when undertaking international construction projects such as IJVs. The word "legal" refers to all legal expectations such as employment, taxation, resources, import–export, and other factors related to projects. The associated LR arises on both sides, i.e., host country and international project firms [45]. These LRs comprise a breach of contract and the lack of enforcement of the legal judgment in construction IJVs. Therefore, the strength of the legislation system in host countries is important for successfully conducting IJVs. An appropriate legal system of the country can help better understand and manage the project in IJVs. Sophisticated methods can help manage claims, disputes, conflicts, variance, and other contractual issues through a sound legislation system [14].

LRs constitute losses incurred by a business due to a lack of awareness or misunderstanding, ambiguity, and carelessness in the compliance with laws related to the business. A study of critical external risks in IJVs in Pakistan highlighted that insufficient legal infrastructure, nationalism, and protectionism are the main LRs [10]. Usually, governments in developing countries formulate laws and by-laws aimed at protecting the interests of local businessmen and companies. This aims to facilitate and increase the position of local companies and vendors. Such kinds of legislation discourage international enterprises from doing business in these countries. Authorities and regulation systems (state laws and regulatory requirements for billing, claims, security/privacy of the international companies), altered contract forms, lack of a legal system, corruption, and nepotism are some other LRs to the construction IJVs in Pakistan [5,6,20,27]. A further lack of an independent judiciary and weak and irregular regime-changing systems in such countries add to the LRs [10]. Based on these discussions, the relevant hypothesis is proposed as follows.

Hypothesis 3(H3). *Legal risk negatively affects CPEC project performance*

2.5. Host Country Attitude towards Foreigners

The influences of risks such as LRs, SRs, PRs, and others on the CPEC PP are measured through the HCA. HCA comprises three major factors, i.e., hostility to foreigners, confiscation or expropriation, and discrimination against foreign companies [40].

The globalization of construction businesses generates opportunities for collaborations of international construction firms and contractors. However, the execution of construction projects has a high level of uncertainty in overseas projects compared to domestic construction [46]. The unfavorable HCA is the most significant variable in IJVs. A positive HCA is beneficial, creates a friendly environment for international construction firms and contractors, and reduces the impact of related risks. In this context, HCA is the most important variable for encouraging Foreign Direct Investment (FDI) [47].

Due to the internationalization of all business sectors, including the construction industry, a high level of competitiveness, uncertainty, and risks when undertaking overseas projects has emerged [10]. Multinational companies and firms participate in IJVs for construction projects with different political, social safety, and legal backgrounds. Other uncertainties due to the host country's environments, such as economic, cultural, policy,

environmental, market, and production risks, can also influence the PP [48]. Thus, the HCA is an important variable for measuring PP. It is strongly related to the foreign policies of the host country's government. The adverse approach and policies made by the host country can produce various types of negative risks, such as confiscation, overseas investment limitations, unfair compensation, land ownership limitations, foreign exchange restriction, and capital limitations, for IJVs in projects like CPEC [40]. Due to such negative HCA, international contractors and firms may bear significant losses. Therefore, it is important to determine host country–related threats and opportunities in an international venture like CPEC [10]. Accordingly, the following hypotheses are formulated:

Hypothesis 4 (H4). *Host country's attitude towards foreigners moderates the relationship of political risk with CPEC project performance.*

Hypothesis 5 (H5). *Host country's attitude towards foreigners moderates the relationship of social safety risk with CPEC project performance.*

Hypothesis 6 (H6). *Host country's attitude towards foreigners moderates the relationship of legal risk with CPEC project performance.*

2.6. CPEC Project Performance

The construction industry is one of the most important global industries. About 10% of the Gross Domestic Product (GDP) of Pakistan rests on it. Therefore, the construction sector needs to evaluate the impact of PP, which can affect national economies positively or negatively [49].

PP is defined as the evaluation of performance related to demarcated objectives and goals that provides the status of the project and where it is heading. PP is an important factor for the construction industry as it provides information on the status and direction to the project team members. Measuring the PP widely depends on project objectives such as time, cost, quality, and client satisfaction [50]. Therefore, many studies are conducted to explore the impacts of PP in developing countries [49,50].

Poor PP results in time delays and cost overruns [51]. Other problems include poor project quality, client satisfaction, poor contractual management, wastage and shortage of material, poor financial systems, and changes in site conditions [12,27,51].

Completing the project within the budget is a key objective of construction projects. Xu et al. [52] stated that the difference between budgeted cost and actual cost (variance) is one of the simple techniques used to evaluate the PP. Completing the project within the budget is an important factor in measuring its performance. Similarly, completion of the project within the specified timeframe is essential for the construction industry, as the stakeholder and general public measure the project's success through timely completion. Li et al. [53] mentioned that comparisons of the planned schedules and the actual project completion time are the best techniques to evaluate the PP.

Nevertheless, the PP is affected by various risks. Accordingly, it is important to consider the impacts of risks such as LR, SR, PR, and the associated HCA for evaluating PP. CPEC, being a project of global interest, needs to include consideration of these risks and their impacts on PP. Accordingly, this study uses LR, SR, PR, and HCA to assess the PP of CPEC.

2.7. Research Framework

The conceptual framework presented in Figure 1 illustrates three main risks faced by CPEC: PR, SR, and LR that directly or indirectly affect the PP. The HCA is involved as a moderating element that negatively influences the project PP. The PR is assessed by four factors, i.e., communication barriers, delivery of improper benefits (such as corruption and bribery), protests organized by Non-Government Organizations (NGOs), and cross-border projects triggering international conflicts (Kashmir Region). These major elements create political instability in Pakistan. There is often conflict between the political parties

and different NGOs and other organizations in Pakistan, creating factional conflicts that cause political instability and directly affect projects like CPEC.

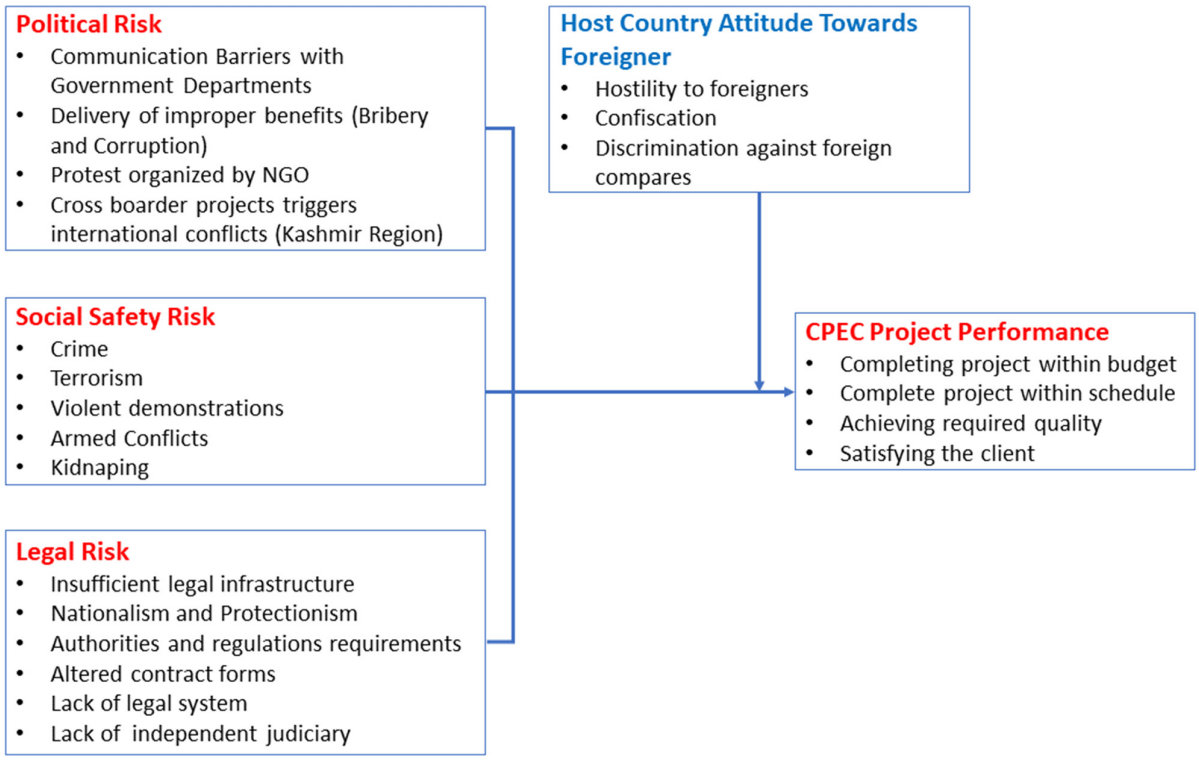

Figure 1. Research framework for studying risk factors associated with CPEC.

As the CPEC project is a joint venture of two countries, social safety is a key benchmark that needs to be achieved to complete the CPEC project. The associated SRs have certain contributing factors: crime, terrorism, violent demonstration, armed conflicts, kidnapping, or extortion. All these factors directly or indirectly affect the activities involved in CPEC project completion and may hinder its performance.

Another important risk involved in CPEC performance is the LR, as both countries have different sets of legislation systems, applicable laws, and resolutions. Therefore, it will also directly or indirectly affect the CPEC PP. Both the parties need to understand their legal responsibilities and complications to avoid affecting the PP of CPEC. Therefore, LR must be identified and mitigated to run the CPEC project activities smoothly.

The moderator used in this framework is the HCA. This point focuses on the rules or policies implemented by the host countries for foreigners. If the policies are foreigner-friendly, they are likely to invest in that country. Otherwise, they will rethink their commitment. Therefore, there should ideally be no discrimination between local and foreign investors. Rules and regulations should apply to all. Foreign investment should be welcomed as it will increase foreign exchange and lead to the economic development of Pakistan.

The success of projects depends on four major factors: time, cost, quality, and client satisfaction. The project should be completed within the stipulated time, and the cost should not exceed the budgeted cost. Similarly, the quality of the project should be maintained. CPEC is no exception to these measures.

CPEC is a mega-project facing various risks. To successfully complete this project, the risks and associated factors must be identified and mitigated in a timely manner to

avoid losses to Pakistan, China, and Central Asia. These factors and the link between them are explained in Figure 1, which shows that the HCA is at the center of all other risks associated with a mega-scale international project such as CPEC.

3. Research Methodology

The current study is based on a deductive approach. The survey method is used for data collection in this study. SMART PLS3 is used to test the developed hypotheses and perform statistical analysis. Other methodological details are explained subsequently.

3.1. Measurements of Variables

The variables taken for this study are PR, SR, LR, HCA, and PP. These are based on a detailed literature review. A close-ended questionnaire was used to measure these variables on a five-point Likert scale from "strongly disagree" to "strongly agree." The questionnaire is mainly divided into two parts. The first part consists of the demographical information of individuals who took part in filling in the questionnaire. The second section contains different questions about the variables and their scoring on the Likert scale.

3.2. Data Sources and Collection

The data sources can be classified into primary sources and secondary sources. Primary data sources provide direct evidence of the event, person, or object. Primary data is collected from focus groups, panels, and individuals. Secondary sources use data collected by other researchers and organizations. Secondary data sources include consensus, company records, the information provided by government departments, industry analysis, and research accessible through the internet. This study collects primary data from the relevant people, such as contractors, engineers, managers, and suppliers involved in different projects and subprojects under the CPEC.

The population for the current study comprises respondents with engineering backgrounds, including civil, mechanical, and electrical engineers working on different projects conducted under the CPEC. Questionnaires were sent through email and different social media apps (Facebook, LinkedIn, Twitter) for convenience. Though various engineering professionals were contacted, only civil, electrical, and mechanical engineers' responses were received. Overall data were collected from 112 respondents working on the CPEC. Thirteen responses were removed from the data sample due to incompleteness or outlying responses. The remaining 99 responses were used for analysis.

The data characteristics of the study include the demographic information of the respondents. The demographic information is based on the classification by gender, age, qualification, field experience, employment status, and respondents' specialization status. Most of the respondents are male, as there are fewer female members in the Pakistani construction industry due to social and cultural barriers. The most frequent responses were received from individuals aged 26–30 years (62%).

Similarly, in terms of education and experience, most respondents had a Bachelor's degree (60%). The experience of the majority of the respondents was over five years (58%). In addition, 69% of respondents were working with national or local companies, and 31% of respondents were working with multinational companies and firms. Furthermore, 63% of participants were civil engineers, 9% were electrical engineers, and 28% were mechanical engineers. The demographic information of the respondents is provided in Table 2.

Table 2. Demographic information of respondents.

Criteria	Options	*n*	(%)
Gender	Male	91	91.9
	Female	8	8.09
Age	26–30 Years	61	61.6
	30–35 Years	17	17.2
	35–40 Years	10	10.1
	Above 40 Years	11	11.1
Qualification	Intermediate	-	-
	Bachelor's	59	59.6
	Master's	18	18.2
	PhD	22	22.2
Experience	Less than 5 Years	42	42.4
	5–15 Years	40	40.4
	16–25 Years	07	07.1
	Above 25 Years	10	10.1
Employment	National Companies	68	68.6
	International Companies	31	31.4
Specialization	Civil Engineering	62	62.7
	Electrical Engineering	09	9.10
	Mechanical Engineering	28	28.2
	Others	-	-

3.3. Sampling Technique

Convenience sampling was used in this study based on non-random or non-probability sampling approaches. Participants for the research were selected based on the defined basic criteria. Convenience sampling includes geographical proximity, accessibility at a specific point of time, easy accessibility, or willingness to respond to the survey. Data were collected from respondents working in engineering sectors, especially people involved in the construction projects under CPEC. The contributions of this engineering sector are significant in different parts of the CPEC project. Though this sector contains a large population, it is impossible to cover all the engineers due to constraints like project confidentiality, cost and time, resource scarcity, and accessibility due to COVID-19. Using the criteria defined in Ullah et al. [54], a sample of more than 96 respondents considering a 50/50 split and 10% sampling error is sufficient for representing such populations. Accordingly, a total of 99 responses are considered in this study.

3.4. Research Instrument

Closed-ended questions were generated for variables, and the responses were sought from the respondents using a questionnaire survey in this study. The key constructs, codes, measures, and relevant references are provided in Table 3. PR is an independent variable having four assessment items, as previously discussed. These are coded as PR01, 02, 03, and 04. SR is another independent variable having five assessment items, i.e., crime, terrorism, violent demonstrations, armed conflicts, kidnapping, and extortion. These are coded with the acronym SR. LR is an independent variable with the six assessment items previously discussed. HCA is a moderating variable, reflecting three items: hostility to foreigners, confiscation or expropriation, and discrimination against foreign companies. Finally, PP is a dependent variable that reflects four items: completion within budget, time, achieving required quality, and client satisfaction, coded as PP01, 02, 03, and 04 in Table 3.

Table 3. Research instruments.

Construct	Code	Measure	Selected Reference
Political Risk	PR01	Communication barriers with government departments	[5]
	PR02	Delivery of improper benefits such as corruption and bribery	
	PR03	Protests organized by NGOs	
	PR04	Cross-border projects trigger international conflicts: Kashmir region	
Social Safety Risk	SR01	Crime	[10]
	SR02	Terrorism	
	SR03	Violent demonstrations	
	SR04	Armed conflicts	
	SR05	Kidnapping or extortion	
Legal Risk	LR01	Insufficient legal infrastructure	[10]
	LR02	Nationalism and protectionism	
	LR03	Authorities and regulations requirements	
	LR04	Altered contract forms	
	LR05	Lack of legal system	
	LR06	Lack of independent judiciary	
Host Country Attitude	HCA01	Hostility to foreigners	[37]
	HCA02	Confiscation or expropriation	
	HCA03	Discrimination against foreign companies	
Project Performance	PP01	Completing the project within budget	[14]
	PP02	Complete the project within schedule	
	PP03	Achieving required quality	
	PP04	Satisfying the client	

3.5. Data Analysis

The partial least square structural equation modeling (PLS-SEM) technique is applied for data analysis in this study. The SMART PLS3 tool is used for this purpose. PLS-SEM delivers the most vigorous approximations of the structural model. Many previous studies of construction and project management have applied this technique for pertinent analyses [55].

4. Results and Analyses

This section presents the results and analyses of the current study. The pertinent results and analyses are presented subsequently.

4.1. Reliability Analysis

The reliability test ensures that there are no biases in item measurement. In addition, it ensures the stability and consistency of the variables. Cronbach's alpha is used to analyze the reliability of the variables. Table 4 shows the reliability of the variables used in the current study. The reliable value of Cronbach's alpha is 0.7 to 1.

Table 4. Reliability analysis of variables.

Variables	No. of Items	Cronbach's Alpha
PR	4	0.845
SR	5	0.828
LR	6	0.893
HCA	3	0.833
PP	4	0.807

In the current study, the value of Cronbach's alpha is 0.845 for PR, 0.828 for SR, 0.893 for LR, 0.833 for HCA, and 0.807 for PP; thus, all the variables have an alpha value greater than the threshold value of 0.7. This shows the reliability of the variables used in the current study. Therefore, we can conveniently apply the statistical framework for a generalized result based on this data.

4.2. PLS Factor Analysis

PLS factor analysis was performed to measure the factor loadings, average variance extracted, and cross-loadings. The threshold value to construct loadings is greater than 0.7. As shown in Table 5, all the values are greater than the threshold, suggesting that the error difference is less than the difference shared by every item and its principal variable [56]. Thus, the data are suitable for construct loading to measure the variables.

Table 5. Construct loadings for the variables used.

	PR	SR	LR	HCA	PP
PR01	0.862				
PR02	0.899				
PR03	0.815				
PR04	0.727				
SR01		0.814			
SR02		0.778			
SR03		0.704			
SR04		0.759			
SR05		0.790			
LR01			0.852		
LR02			0.850		
LR03			0.772		
LR04			0.735		
LR05			0.793		
LR06			0.824		
HCA01				0.921	
HCA02				0.857	
HCA03				0.812	
PP01					0.789
PP02					0.788
PP03					0.835
PP04					0.769

4.3. Average Variance Extracted (AVE)

The average variance extracted (AVE) calculated in this study is shown in Table 6. The threshold value for AVE is 0.5. As shown in Table 6, AVE values for all the variables are more than 0.5, which shows the model is satisfactory [57]. Accordingly, the data are useful for pertinent analyses and discussions.

Table 6. Average variance extracted (AVE) of the variables.

Latent Variables	Average Variance Extracted (AVE)
PR	0.747
SR	0.649
LR	0.633
HCA	0.686
PP	0.593

4.4. Cross-Loadings

Cross-loadings are shown in Table 7. The cross-loading criteria imply that an indicator's self-loading should be more than all its cross-loadings against other indicators. This is evident from Table 7, where the self-loading for all indicators is greater than the loading against other indicators. This validates the data and associated framework. Table 7 further shows the values for all affiliated variables of each indicator. For example, the four variables assessed for PR are coded PR01, PR02, PR03, and PR04. The relevant value for each variable is highlighted in Table 7 in bold. The same logic is followed for all affiliated variables of the five indicators used in this study.

Table 7. Cross-loadings of the variables.

	PR	SR	LR	HCA	PP
PR01	**0.862**	0.090	0.290	0.081	0.289
PR02	**0.899**	0.107	0.250	0.140	0.313
PR03	**0.815**	0.184	0.250	0.305	0.343
PR04	**0.727**	0.139	0.236	0.200	0.316
SR01	0.183	**0.814**	0.185	0.237	0.332
SR02	0.115	**0.778**	0.117	0.034	0.306
SR03	0.103	**0.704**	0.080	0.103	0.238
SR04	0.160	**0.759**	0.137	0.000	0.281
SR05	0.054	**0.790**	0.126	0.111	0.312
LR01	0.252	0.250	**0.852**	0.270	0.370
LR02	0.328	0.089	**0.850**	0.320	0.403
LR03	0.113	0.191	**0.772**	0.310	0.269
LR04	0.262	0.128	**0.735**	0.359	0.368
LR05	0.177	−0.004	**0.793**	0.223	0.175
LR06	0.293	0.117	**0.824**	0.303	0.331
HCA01	0.230	0.093	0.389	**0.921**	0.368
HCA02	0.220	0.097	0.374	**0.857**	0.281
HCA03	0.120	0.167	0.180	**0.812**	0.243
PP01	0.369	0.247	0.366	0.342	**0.789**
PP02	0.386	0.324	0.262	0.210	**0.788**
PP03	0.243	0.385	0.356	0.334	**0.835**
PP04	0.219	0.262	0.345	0.253	**0.769**

4.5. Combined Effects

The purpose of combined effects is to know the effect of combined variables on the dependent variable without involving moderation. A positive association was found between all independent variables, including PR, SR, LR, and the HCA and PP. However, no negative association was found between all independent variables towards PP. Table 8 represents the model summary with all the necessary values. The values are significant at a 95% confidence interval. The value of R^2 shows the explained variance of the dependent variable caused by the independent variable. Here, the value of R^2 is 0.36, which means 35.9% of the variance in PP is due to the independent variable. Beta values represent path coefficients. The path coefficient ($\beta = 0.225$) and the t-value (2.601) of PR are significant. A path coefficient of 0.225 shows that keeping all the other variables the same, if altered by one unit, PR will result in 0.225 units' variation in the PP.

Table 8. Main effects analysis for variables.

Sr	Independent Variables	Dependent Variable	Path Coefficient (β)	*t*-Values	*p*-Values	R^2
1	PR	PP	0.225	2.601	0.010	0.36
2	SR	PP	0.285	3.006	0.003	
3	LR	PP	0.229	2.187	0.029	
4	HCA	PP	0.187	2.004	0.046	

When β = 0.285 and keeping all other variables constant, one unit change in SR will lead to a 0.285 unit change in PP. Values of t (3.006) and p (0.003) suggest that SR is individually significant in the model. In addition, β = 0.229 depicts that a unit change in LR will cause a 0.229 unit change in PP. Further, t (2.187) and p (0.029) represent that LR is significant in the model. The β value for HCA and PP is 0.187, which is the lowest in terms of the independent variable and depicts that a unit increase in HCA (positive) will result in a 0.187 unit increase in PP. The values of t (2.004) and p (0.046) show that the HCA is significant. No negative association was found between any independent variables and PP.

4.6. Moderation Analysis

Table 9 represents the results of the moderation analysis conducted in this study. Moderation was applied using SMART PLS 3. First, to obtain the path coefficients, the PLS Algorithm was run. Then, to obtain the significance level, bootstrapping was applied. R^2 (0.414) indicates that independent variables cause 41.1% of the variance in the dependent variable (i.e., PP). The path coefficient (β = −0.180) for PR and HCA is significant at a 95% confidence interval, as the *t*-value is 1.991 and the *p*-value is 0.047. This means that if a one-unit change occurs in the interaction of PR, it will result in a 0.180 unit decrease in the PP.

Table 9. Moderating effects analysis.

Sr	Independent Variables	Dependent Variable	Path Coefficient (β)	*t*-Values	*p*-Values	R^2
01	PR	PP	0.163	2.023	0.044	0.414
02	SR	PP	0.259	2.618	0.009	
03	LR	PP	0.324	2.878	0.004	
04	HCA	PP	0.203	2.164	0.031	
05	HCA-PR	PP	−0.180	1.991	0.047	
06	HCA-SR	PP	0.025	0.271	0.787	
07	HCA-LR	PP	0.183	2.114	0.035	

On the other hand, SRs and the HCA interaction are insignificant in the model. The t value is 0.271, which is less than the threshold value of 1.96. Further, the p-value is 0.787, which is more than the threshold of 0.05. The interaction of LR and HCA has a path coefficient of 0.183. It has t- and p-values of 2.114 and 0.035, respectively, indicating that the interaction is individually significant in the model. In addition, β = 0.183 shows that if a one-unit change is made in the interaction of LR and HCA, it will result in a 0.183 unit rise in the PP.

5. Discussion

China has heavily invested in the CPEC project and aims to make it a success. Accordingly, most of the stakeholders and analysts are only considering the significant opportunities and positive and profitable aspects of the project. The adverse aspects and risks of the project are ignored. However, in the era of circularity and sustainability, this must change. Accordingly, a holistic assessment is needed. Therefore, this study focused on the threats and risk assessments of CPEC projects to measure the PP. Accordingly, risks consisting of LR, SR, PR, and the moderating effect of HCA on CPEC PP were assessed in this study.

In this study, first, it was hypothesized that the three risks (LR, PR, and SR) negatively influence the PP of CPEC. Then, three hypotheses (H1, H2, and H3) were developed and tested. It was found that there is a positive and significant relationship between PR, SR, LR, and PP. Therefore, the hypotheses (H1, H2, and H3) were accepted, and we concluded that the above-mentioned risks negatively affect the PP.

For (H1), the results support the study conducted by Chang, Deng, Zuo and Yuan [37], which also showed a negative association between PR and PP. PR deals with unsolicited changes and unpredicted consequences for international business and projects resulting in political action and significantly affecting overseas projects and contractors. In addition, the working situation of IJVs is closely linked with the host country's politics [37]. Therefore, comprehensive knowledge of PR is essential for construction projects and businesses in the global market and joint ventures in CPEC.

The results of (H2) also support the previous study's findings of a negative association between SR and PP [58]. The construction industry bears positive and negative risks due to the involvement of many individuals and groups, such as contractors, sub-contractors, consultants, distributors, dealers, suppliers, fabricators, different government departments, and the local public of the area. Previous studies confirmed that infrastructure construction projects are spread over a wider geographical area and face social issues due to the large numbers of involved parties. These risks negatively influence project objectives [37]. Thus, the SR needs to be managed for the CPEC project.

The results of (H3) supported that LR is negatively linked to PP. Pan et al. [59] stated that construction projects contain many legal, political, social, environmental, technical, economic, and cultural risks. An appropriate legal system of the country can help better manage the project in IJVs [10]. Accordingly, the same applies to CPEC, and strong legal protection is required to ensure an unhindered PP.

After assessing the three risks, the moderating effect of the HCA was studied by developing three hypotheses (H4, H5, and H6). The results showed that PR (H4) has a negative relationship with PP and has significant results in the presence of a moderator (i.e., HCA). Therefore, PR negatively influences the PP of CPEC. This hypothesis deals with the HCA being negatively moderating amid PR and PP. The negative path coefficient interaction of PR and HCA shows that it will negatively moderate the PR and PP if the HCA is high.

SR (H5) shows a positive relationship with PP but has insignificant results in the presence of the moderator. So, (H5) is rejected, and it is concluded that SR does not negatively influence the PP of CPEC in the presence of HCA. Analysis of the data revealed a positive path coefficient for the interaction of HCA and SR that will positively affect the relationship between SR and PP of CPEC. However, the value is not significant at a 95% confidence interval. Therefore, (H5) is rejected, as no evidence was found that supports it.

Finally, LR (H6) shows a positive relationship with PP and significant results in the presence of HCA as moderator. The data analysis revealed that the path coefficient for the interaction of LR and HCA is positive and significant at a 95% confidence interval. It is appropriate to note that the research was conclusive in achieving its goals, where all the established hypotheses except (H5) remained aligned with similar studies.

6. Conclusions, Implications, Limitations, and Future Directions

The current study concluded that PR, SR, and LR negatively influence the PP of CPEC. The HCA plays an important role in moderating these risks. The current study found that the three risks negatively influence the PP of CPEC in the presence of unfavorable HCA. All hypotheses of this research study except SR (H5) were accepted, showing the negative influence of risks on PP. The role of the HCA towards foreign firms and investors is imperative and rests on the legal and political system provided by the host country's government. Therefore, it is recommended that Pakistani regimes should formulate long-term laws and policies or initiate safety measures to avoid adverse effects on the CPEC project and avoid economic misfortune.

The current study highlights the expected risk in megaprojects like CPEC. Three types of risks are involved in assessing the PP: PR, SR, and LR. The priorities of the mega projects should be set by government institutions rather than the reigning parties to tackle PR. The technical management should be consistent and continue the planned proceedings of the mega-projects regardless of who rules the country. For this purpose, policies need to be developed by all key stakeholders, including policy organizations, parliamentarians, and the government.

The SR associated with unpredicted arm conflicts between Pakistan and India at different border areas and China and India on different conflicting territories can also affect the CPEC project. The LR is another major concern for long-term and sustainable investment in CPEC. Due to the law-and-order situation in Baluchistan and threats to local movements of project personnel, the CPEC project may be affected in terms of deadlines and performance. Local hospitality and encouragement are also important for accomplishing CPEC goals. For this to materialize, local government and national-level policies should be developed considering the benefit ratio for the short- and long-term objectives. This will enable developing countries like Pakistan to gain benefits from international projects like CPEC.

Besides the practical implications suggested above, this research contributes to the literature in terms of investigating the role of the HCA toward the different types of risks and the PP of megaprojects. A very limited number of studies have investigated the influence of PRs on the PP of international construction projects. Thus, this study adds value to the published literature in terms of investigating the PR, SR, and LR influence on PP of CPEC (an international project) as well as exploring the moderating effect of the HCA. These provide research directions to future studies for further exploration of the key contributing factors of these risks on mega-projects such as the CPEC in developing countries.

In terms of the limitations of the study, the sample size of this study is comparatively small and predominantly from the local and accessible construction sites. Moreover, the scholars could not reach out to construction managers in remote areas due to time constraints and the outbreak of COVID-19. Therefore, a study inclusive of samples across the country is recommended to enhance the understanding of different risks and PP assessment criteria in relation to the CPEC and similar projects. In addition, the scholars may implement the same kind of study on other international projects in developing countries. This will highlight the differences and lead to the generalization of current results across developing economies. Further, the current study investigated the moderating role of the HCA towards foreigners on the PR, SR, LR, and PP. However, other variables may affect the association between these risks and PP, and therefore they need to be investigated in future studies.

Author Contributions: Conceptualization, A.R., A.M. and S.W.A.S.; methodology, A.R., A.M., S.W.A.S. and F.U.; software, A.R., A.M., S.W.A.S. and F.U.; validation, A.R., A.M., S.W.A.S., F.U., M.S.U.R. and M.A.; formal analysis, A.R., A.M. and S.W.A.S.; investigation, A.R., A.M. and S.W.A.S.; resources, A.M., S.W.A.S., F.U., M.S.U.R. and M.A.; data curation, A.M., S.W.A.S. and F.U.; writing—original draft preparation, A.R., A.M., S.W.A.S. and F.U.; writing—review and editing, F.U. and H.S.M.; visualization, A.R., A.M. and S.W.A.S.; supervision, A.R. and A.M.; project administration, F.U., M.S.U.R. and M.A. All authors have read and agreed to the published version of the manuscript.

Funding: This research received no external funding.

Institutional Review Board Statement: Not applicable.

Informed Consent Statement: Not applicable.

Data Availability Statement: Data are available from the first author and can be shared with anyone upon reasonable request.

Acknowledgments: The authors would like to acknowledge the support from the Office of the Associate Provost for Research, United Arab Emirates University.

Conflicts of Interest: The authors declare no conflict of interest.

References

1. Vidya, C.; Prabheesh, K. Implications of COVID-19 pandemic on the global trade networks. *Emerg. Mark. Financ. Trade* **2020**, *56*, 2408–2421.
2. Felli, F.; Liu, C.; Sepasgozar, S. Implementation of 360 videos and mobile laser measurement technologies for immersive visualisation of real estate & properties. In Proceedings of the 42nd AUBEA Conference, Singapore, 26–28 September 2018.
3. Ullah, F.; Sepasgozar, S.M.; Wang, C. A systematic review of smart real estate technology: Drivers of, and barriers to, the use of digital disruptive technologies and online platforms. *Sustainability* **2018**, *10*, 3142.
4. Sarker, M.N.I.; Hossin, M.A.; Yin, X.; Sarkar, M.K. One belt one road initiative of China: Implication for future of global development. *Mod. Econ.* **2018**, *9*, 623–638.
5. Zhang, R.; Andam, F.; Shi, G. Environmental and social risk evaluation of overseas investment under the China-Pakistan Economic Corridor. *Environ. Monit. Assess.* **2017**, *189*, 253.
6. Masood, M.T.; Farooq, M.; Hussain, S.B. Pakistan's potential as a transit trade corridor and transportation challenges. *Pak. Bus. Rev.* **2016**, *18*, 267–289.
7. Zhang, R.; Shi, G.; Wang, Y.; Zhao, S.; Ahmad, S.; Zhang, X.; Deng, Q. Social impact assessment of investment activities in the China–Pakistan economic corridor. *Impact Assess. Proj. Apprais.* **2018**, *36*, 331–347.
8. Zhang, R.; Shi, G. Social impacts assessment for China-Pakistan Economic Corridor investment activities. *Energy* **2016**, *33*, 76–82.
9. Shibani, A.; Hasan, D.; Saaifan, J.; Sabboubeh, H.; Eltaip, M.; Saidani, M.; Gherbal, N. Financial risks management within the construction projects. *J. King Saud Univ.-Eng. Sci.* **2022**. https://doi.org/10.1016/j.jksues.2022.05.001.
10. Razzaq, A.; Thaheem, M.J.; Maqsoom, A.; Gabriel, H.F. Critical external risks in international joint ventures for construction industry in Pakistan. *Int. J. Civ. Eng.* **2018**, *16*, 189–205.
11. Ma, H.; Liu, Z.; Zeng, S.; Lin, H.; Tam, V.W.Y. Does megaproject social responsibility improve the sustainability of the construction industry? *Eng. Constr. Archit. Manag.* **2020**, *27*, 975–996.
12. Maqsoom, A.; Choudhry, R.M.; Umer, M.; Mehmood, T. Influencing factors indicating time delay in construction projects: Impact of firm size and experience. *Int. J. Constr. Manag.* **2021**, *21*, 1251–1262.
13. Zahoor, H.; Khan, R.M.; Ali, B.; Maqsoom, A.; Mazher, K.M. Diverse Impact of Sensitive Sub-Categories of Demographic Variables on Safety Climate of High-Rise Building Projects. *Architecture* **2022**, *2*, 175–195.
14. Maqsoom, A.; Wazir, S.J.; Choudhry, R.M.; Thaheem, M.J.; Zahoor, H. Influence of perceived fairness on contractors' potential to dispute: Moderating effect of engineering ethics. *J. Constr. Eng. Manag.* **2020**, *146*, 04019090.
15. Xiaolong, T.; Gull, N.; Iqbal, S.; Asghar, M.; Nawaz, A.; Albasher, G.; Hameed, J.; Maqsoom, A. Exploring and validating the effects of mega projects on infrastructure development influencing sustainable environment and project management. *Front. Psychol.* **2021**, *12*, 1251.
16. Zaman, U. Examining the effect of xenophobia on "transnational" mega construction project (MCP) success: Moderating role of transformational leadership and high-performance work (HPW) practices. *Eng. Constr. Archit. Manag.* **2020**, *27*, 1119–1143.
17. Ullah, F.; Sepasgozar, S.M.; Thaheem, M.J.; Wang, C.C.; Imran, M. It's all about perceptions: A DEMATEL approach to exploring user perceptions of real estate online platforms. *Ain Shams Eng. J.* **2021**, *12*, 4297–4317.
18. Sacilotto, J.; Loosemore, M. Chinese investment in the Australian construction industry: The social amplification of risk. *Constr. Manag. Econ.* **2018**, *36*, 507–520.
19. Alam, S.; Yin, Z.; Ali, A.; Ali, S.; Noor, A.; Jan, N. A comprehensive study of project risks in road transportation networks under CPEC. *Int. J. Financ. Stud.* **2019**, *7*, 41.
20. Awan, M.A.; Ali, Y. Risk Assessment in Supply Chain Networks of China–Pakistan Economic Corridor (CPEC). *Chin. Political Sci. Rev.* **2022**, 1–24. https://doi.org/10.1007/s41111-021-00199-w.
21. Ali, M.; Sajjad, W.; Haleem, A. Climate engineering: A strategic approach to combat environmental potential risks associated with Pak-China Economic corridor (CPEC) Development. *Rev. Environ. Health* **2021**, *36*, 143–144.
22. Ullah, F.; Qayyum, S.; Thaheem, M.J.; Al-Turjman, F.; Sepasgozar, S.M. Risk management in sustainable smart cities governance: A TOE framework. *Technol. Forecast. Soc. Chang.* **2021**, *167*, 120743.
23. Jahan, S.; Khan, K.I.A.; Thaheem, M.J.; Alqurashi, M.; Alsulami, B.T. Modeling Profitability-Influencing Risk Factors for Construction Projects: A System Dynamics Approach. *Buildings* **2022**, *12*, 701.
24. Yuan, M.; Li, Z.; Li, X.; Luo, X.; Yin, X.; Cai, J. Proposing a multifaceted model for adopting prefabricated construction technology in the construction industry. *Eng. Constr. Archit. Manag.* **2021**. https://doi.org/10.1108/ECAM-07-2021-0613.
25. Ahmad, Z.; Thaheem, M.J.; Maqsoom, A. Building information modeling as a risk transformer: An evolutionary insight into the project uncertainty. *Autom. Constr.* **2018**, *92*, 103–119.
26. Aslam, B.; Maqsoom, A.; Tahir, M.D.; Rehman, M.S.U.; Albattah, M. Identifying and Ranking Landfill Sites for Municipal Solid Waste Management: An Integrated Remote Sensing and GIS Approach. *Buildings* **2022**, *12*, 605.
27. Ali, Y.; Sabir, M.; Bilal, M.; Ali, M.; Khan, A.A. Economic viability of foreign investment in railways: A case study of the China-Pakistan Economic Corridor (CPEC). *Eng. Econ.* **2020**, *65*, 158–175.
28. Istiak, K.; Serletis, A. Risk, uncertainty, and leverage. *Econ. Model.* **2020**, *91*, 257–273.
29. Browning, T.R. Planning, tracking, and reducing a complex project's value at risk. *Proj. Manag. J.* **2019**, *50*, 71–85.
30. Xia, N.; Zou, P.X.; Griffin, M.A.; Wang, X.; Zhong, R. Towards integrating construction risk management and stakeholder management: A systematic literature review and future research agendas. *Int. J. Proj. Manag.* **2018**, *36*, 701–715.

31. Ullah, F.; Sepasgozar, S.M. A study of information technology adoption for real-estate management: A system dynamic model. In *Innovative Production and Construction: Transforming Construction through Emerging Technologies*; World Scientific: Singapore, 2019; pp. 469-486.
32. Sepasgozar, S.M.; Shirowzhan, S.; Davis, S. Modelling users' perception of the online real estate platforms in a digitally disruptive environment: An integrated KANO-SISQual approach. *Telemat. Inform.* **2021**, *63*, 101660.
33. Li, X.; Wang, C.; Alashwal, A.; Bora, S. Game analysis on prefabricated building evolution based on dynamic revenue risks in China. *J. Clean. Prod.* **2020**, *267*, 121730.
34. Hilorme, T.; Zamazii, O.; Judina, O.; Korolenko, R.; Melnikova, Y. Formation of risk mitigating strategies for the implementation of projects of energy saving technologies. *Acad. Strateg. Manag. J.* **2019**, *18*, 1–6.
35. Siraj, N.B.; Fayek, A.R. Risk identification and common risks in construction: Literature review and content analysis. *J. Constr. Eng. Manag.* **2019**, *145*, 03119004.
36. Deng, X.; Low, S.P.; Zhao, X.; Chang, T. Identifying micro variables contributing to political risks in international construction projects. *Eng. Constr. Archit. Manag.* **2018**, *25*, 317–334.
37. Chang, T.; Deng, X.; Zuo, J.; Yuan, J. Political risks in Central Asian countries: Factors and strategies. *J. Manag. Eng.* **2018**, *34*, 04017059.
38. Ayub, B.; Ullah, F.; Rasheed, F.; Sepasgozar, S.M.E. Risks In EPC Hydropower Projects: A Case Of Pakistan. In Proceedings of the 8th International Civil Engineering Congress, Karachi, Pakistan, 23–24 December 2016.
39. Sanni-Anibire, M.O.; Mohamad Zin, R.; Olatunji, S.O. Causes of delay in the global construction industry: A meta analytical review. *Int. J. Constr. Manag.* **2022**, *22*, 1395–1407.
40. Chang, T.; Deng, X.; Hwang, B.-G.; Zhao, X. Political risk paths in international construction projects: Case study from Chinese construction enterprises. *Adv. Manag. Civ. Eng. Proj.* **2018**, *2018*, 6939828.
41. Shi, Q.; Liu, Y.; Zuo, J.; Pan, N.; Ma, G. On the management of social risks of hydraulic infrastructure projects in China: A case study. *Int. J. Proj. Manag.* **2015**, *33*, 483–496.
42. Maqsoom, A.; Babar, Z.; Shaheen, I.; Abid, M.; Kakar, M.R.; Mandokhail, S.J.; Nawaz, A. Influence of construction risks on cost escalation of highway-related projects: Exploring the moderating role of social sustainability requirements. *Iran. J. Sci. Technol. Trans. Civ. Eng.* **2021**, *45*, 2003–2015.
43. Albattah, M.; Shibeika, A.; Sami Ur Rehman, M. Understanding the Hiring Issues of the Craft Workers in the UAE's Construction Labor Market: Project Managers Perspective. *Buildings* **2021**, *12*, 26.
44. Zhang, J.; Li, H.; Mo, D.; Chang, L. Mining multispectral aerial images for automatic detection of strategic bridge locations for disaster relief missions. In Proceedings of the Pacific-Asia Conference on Knowledge Discovery and Data Mining, Macau, China, 14–17 April 2019; pp. 189–200.
45. Rastogi, N.; Trivedi, M.K. PESTLE technique—A tool to identify external risks in construction projects. *Int. Res. J. Eng. Technol. (IRJET)* **2016**, *3*, 384–388.
46. Wang, C.; Loo, S.C.; Yap, J.B.H.; Abdul-Rahman, H. Novel capability-based risk assessment calculator for construction contractors venturing overseas. *J. Constr. Eng. Manag.* **2019**, *145*, 04019059.
47. Sabirov, O.S.; Berdiyarov, B.T.; Yusupov, A.S.; Absalamov, A.T.; Berdibekov, A.I.U. Improving Ways to Increase the Attitude of the Investment Environment. *Rev. Geintec-Gest. Inov. Tecnol.* **2021**, *11*, 1961–1975.
48. Mahrous, A.A.; Genedy, M.A. Connecting the dots: The relationship among intra-organizational environment, entrepreneurial orientation, market orientation and organizational performance. *J. Entrep. Emerg. Econ.* **2019**, *11*, 2–21.
49. Urbański, M.; Haque, A.U.; Oino, I. The moderating role of risk management in project planning and project success: Evidence from construction businesses of Pakistan and the UK. *Eng. Manag. Prod. Serv.* **2019**, *11*, 23–35.
50. Habibi, M.; Kermanshachi, S. Phase-based analysis of key cost and schedule performance causes and preventive strategies: Research trends and implications. *Eng. Constr. Archit. Manag.* **2018**, *25*, 1009–1033.
51. Namous, E.A.; Al Battah, M. Evaluating the Factors That Cause Cost and Time Overrun in the Residential Construction Projects in the UAE: Project Manager Perspective. In Proceedings of the 8th Zero Energy Mass Custom Home International Conference, Dubai, United Arab Emirates, 26–28 October 2021.
52. Xu, X.; Wang, J.; Li, C.Z.; Huang, W.; Xia, N. Schedule risk analysis of infrastructure projects: A hybrid dynamic approach. *Autom. Constr.* **2018**, *95*, 20–34.
53. Li, C.Z.; Xu, X.; Shen, G.Q.; Fan, C.; Li, X.; Hong, J. A model for simulating schedule risks in prefabrication housing production: A case study of six-day cycle assembly activities in Hong Kong. *J. Clean. Prod.* **2018**, *185*, 366–381.
54. Ullah, F.; Sepasgozar, S.M.; Thaheem, M.J.; Al-Turjman, F. Barriers to the digitalisation and innovation of Australian Smart Real Estate: A managerial perspective on the technology non-adoption. *Environ. Technol. Innov.* **2021**, *22*, 101527.
55. Hsieh, P.-J. Physicians' acceptance of electronic medical records exchange: An extension of the decomposed TPB model with institutional trust and perceived risk. *Int. J. Med. Inform.* **2015**, *84*, 1–14.
56. Purwanto, A.; Sudargini, Y. Partial Least Squares Structural Squation Modeling (PLS-SEM) Analysis for Social and Management Research: A Literature Review. *J. Ind. Eng. Manag. Res.* **2021**, *2*, 114–123.
57. Shrestha, N. Factor analysis as a tool for survey analysis. *Am. J. Appl. Math. Stat.* **2021**, *9*, 4–11.

58. Zhang, J.; Zhai, H.; Meng, X.; Wang, W.; Zhou, L. Influence of social safety capital on safety citizenship behavior: The mediation of autonomous safety motivation. *Int. J. Environ. Res. Public Health* **2020**, *17*, 866.
59. Pan, W.; Chen, L.; Zhan, W. PESTEL analysis of construction productivity enhancement strategies: A case study of three economies. *J. Manag. Eng.* **2019**, *35*, 05018013.