The Relationship among Team Skills and Competencies, Construction Risk Management and Supply Chain Performance with Moderating Effect of Government Laws Acts, and Policies: A Study from Iraq Construction Contractors

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ABSTRACT

The performance of the supply chain provides a complete view of how operations are running at each phase. This assists the organization in finding expansion opportunities. The performance of the supply chain is unstable due to improper construction risk management. Team skills and competencies are crucial aspects that might affect construction risk management and performance. Literature also indicates that government laws, acts, and policies influence supply chain performance in the building business. This study aims to analyze the moderating effect of government statutes, acts, and policies on the relationship between team skills and competencies, construction risk management, and supply chain performance in the Iraqi construction industry. Quantitative analysis was performed on the data acquired from 300 project managers using the approach of purposive sampling. The partial least Square (PLS)-Structural Equation Modeling (SEM) techniques indicate that team skills and competencies have a positive and significant impact on construction risk management and that construction risk management has a positive and significant impact on supply chain performance. The indirect mediating effect considerably impacts the relationship between team abilities and supply performance. Government laws act and policies significantly and positively affect the relationship between team skills and competencies and construction risk management but do not affect the relationship between construction risk management and supply chain performance. The current study could assist the project team in developing effective team skills and competencies among the contractor or project managers, thereby increasing their project commitment. Organizations need project managers with strong team skills and competencies to finish projects. Strong team skills and competencies significantly impact how the project team behaves, whereas inadequate skills and competencies reduce the project team's effectiveness. In addition, adequate government laws and policies should result in improved project performance.

KEYWORDS: teams skills and competencies, construction risk management, supply chain performance, Iraq.

INTRODUCTION

Due to the COVID-19 pandemic, practically all global construction projects and supply chain performance of businesses have been severely disrupted, and a significant number of national economies have also been negatively impacted by supply chain performance (Arzu Akyuz & Erman Erkan, 2010). The availability of necessary supplies or materials is essential for the supply chain performance of construction projects; it is crucial to have all supplies readily available at all times (Wibowo & Sholeh, 2015). Nonetheless, the performance of the supply chain is susceptible to unanticipated disruptions due to numerous reasons, including financial, design, material, management, and labor risks (Wagner & Bode, 2008). By employing effective risk management approaches, a business can overcome supply chain performance issues and mitigate the negative effects of disruptions to gain a competitive edge. This suggests that companies with construction risk management can improve supply chain performance (Shojaei & Haeri, 2019). In other words, it was argued that the deterioration in supply chain performance might be attributable to construction risk management (Pham et al., 2022). Therefore, the significance of proper and effective risk management in the construction industry has been growing globally, as demonstrated by numerous studies including (Adeleke, Bahaudin, & Kamaruddeen, 2015; Adeleke, Mohd Nawi, & Abd Karim, 2020; Bosher et al., 2007; Rahman & Adeleke, 2018). The risk management technique is dependent on numerous country-specific aspects, such as the country's finances, culture, and politics (Andi, 2006). However, there is minimal emphasis on risk management in Iraq's building industry to improve supply chain performance.

Considering the relevance of construction risk management, it is crucial to achieving project objectives through investigation, categorization, and the management of risks connected with building projects. Supply chain performance can be enhanced by applying risk management methods and making optimum use of available resources (Zou, Zhang, & Wang, 2007). In contrast, inadequate, inefficient, and poor risk management in construction projects can increase costs and delay project completion (Andi, 2006), reducing supply chain performance. It is difficult for an organization to manage all the risk elements involved in a construction project (Wang, Dulaimi, & Aguria, 2004), which is only feasible with the necessary team skills and competencies. Therefore, various authors (Van Thuyet, Ogunlana, & Dey, 2007) asserted that the deficiency of project manager's skills and competencies to manage the risk by employing effective risk management techniques is the primary cause of delay in project completion, higher actual cost than budgeted cost, and declining supply chain performance. Therefore, the project manager, contractor, and project team members of a construction project must possess the necessary team skills and competencies to properly address any mishaps or negative events that may arise on the building site. According to Adeleke, Bahaudin, and Kamaruddeen (2016c), only teams with the necessary skills and competencies can complete construction projects on time, within budget, and with acceptable quality. According to the research conducted by Van Thuyet et al. (2007) in Vietnam, by Aibinu and Jagboro (2002) in Nigeria, by Sambasivan and Soon (2007) in Malaysia, by Nawaz et al. (2019) in Pakistan, by Kartam and Kartam (2001) in Kuwait, by Gao, Ren, and Cai (2019) in China, and by Andi (2006) in Indonesia, the presence of effective risk management This demonstrates that when the abilities and competencies of a team are improved, the construction risk is better handled, resulting in enhanced supply chain performance.

Various studies also stated that when organizations and teams have the right competencies, they can control their construction risk management (Adeleke, Bahaudin, & Kamaruddeen, 2016a; Rehman & Ishak, 2022b), which might help to improve the performance of the project supply chain (Ellinger & Ellinger, 2014). Another study stated that team skills and competencies might benefit countries if government laws and policies encouraged teams to improve their skills and competencies to manage their construction skills (Adeleke et al., 2016a; Rehman & Ishak, 2022b). In other words, a country's construction risk management is unique and depends on economic, political, and cultural variables (Cardona, 2013). According to Andi (2006), a significant proportion of risk management is defined by the distinctive nature of construction company practices in certain countries' government acts, rules, and laws that impact SC performance. This demonstrates that government acts, regulations, and policies are significant variables for construction risk management organizations, which could aid in improving supply chain performance. The poor implementation of government performance, policies, and regulations are constructed to increase the likelihood of risk occurrence, reducing the performance of SC projects (Rehman & Ishak, 2021). The moderating impact is studied in this study to evaluate the effectiveness of risk management in construction (Niu, 2008) and improve supply chain performance.

The current study included a moderating variable to examine the interrelationships of factors because prior empirical studies revealed both positive and negative conflicting results (Kawesittisankhun & Pongpeng, 2019; Lee, Kim, & Lee, 2011). It was employed as a moderating variable between the link of team skills and competencies and construction (Rehman & Ishak, 2021). Still, the association between construction risk management and supply chain performance was neglected. This study used government actions, regulations, and policies as a moderating variable between the links between construction risk management and supply chain performance. Moreover, earlier studies focused on the direct influence of team skills and companies on supply chain performance. Still, the current study examined this effect via the mediating effect of construction risk management. It was recommended in prior literature that supply chain performance would improve if the team's risk management abilities and competencies were enhanced (Moshood et al., 2022; Prajogo & Sohal, 2013). Consequently, construction risk management is the mediating variable in the present study.

Moreover, past research has primarily focused on other nations (Adeleke et al., 2016a; Qudus, 2016; Zailani et al., 2016), while the building business in Iraq has received less attention (Buniya et al., 2021; Neamat & Yitmen, 2017). Any nation's development depends on construction projects. The public's necessities, such as education, food, and health care, could be met relatively easily if construction corporations built the necessary infrastructure. Construction in Iraq could contribute significantly to GDP and employment prospects (Foote et al., 2004). Nonetheless, due to poor building quality, risk management was ineffective when the economy was based on specific construction risks, such as the management of materials, design, labor, equipment, and finances. This study aims to determine the moderating effect of government laws, acts, and policies on the relationship between team skills competencies, construction risk management, and supply chain performance in Iraq's construction industry.

This study contributes to the expanding body of knowledge by examining the relationship between team skills, construction risk, and supply chain performance in light of government statutes, acts, and policies. In this analysis, the three most significant

contributions have been identified. Initially, a team's abilities and competencies significantly positively impact construction risk management. The influence of government acts, regulations, and policies on construction risk management have several positive aspects. The current study identified the moderating effect of government laws, acts, and policies. The effect of construction risk management as a mediator between team skills and competencies and supply chain performance has been identified. With these findings, the study contributes to a body of knowledge that could assist future researchers in conducting their investigations. In addition, earlier research primarily focused on other industries or nations, but this study contributed to the literature on Iraq. This study provides Iraqi contractors with information on enhancing their construction and supply chain risk management practices. In addition, the paper proposes a plan to improve construction risk management through pay and incentives at each stage of construction. This research is therefore regarded as a pioneering study with major findings and contributions. This result contributes to the risk management literature and theories by demonstrating the significance of government acts, rules, and policies for enhancing team skills and competencies to handle construction risk management. Due to this, improper execution of government actions, laws, and policies could raise the risk and delay the timely completion of projects. This study could assist regulatory agencies or labor courts in developing their strategies for team skills and competencies, construction risk management, and supply chain performance enhancement.

LITERATURE REVIEW

Iraq Construction Sector

The building industry is linked to the economic growth of Iraq. Iraq exports oil of superior grade to the entire world. Iraq's building sector is expanding rapidly due to economic difficulties. The construction of factories, infrastructure expansion, and new housing schemes (Husein, 2013) are developing the construction industry in Iraq. Following the "Iraq Vision 2030" program, Iraq has established stringent requirements for applying "foreign investment licenses" by international enterprises wishing to participate in development operations. There are three significant funding methods: conventional financing, Sharia-compliant financing, and project financing. The authorization of government projects is the responsibility of the Ministry of Finance. After clearance of these projects, they are awarded to the contractor after bidding in accordance with Saudi contract norms. Principal investment techniques in securities offered to funders include parent company guarantees, bank guarantees, promissory notes, and pledges of shares. Any cheating, fraud, deception, misleading, or dishonesty by a contractor during project completion or execution is reported to the Ministry of Finance of Iraq (Berrios & McKinney, 2017).

From 2015 to 2018, the drop in crude oil prices was the reason for the slow expansion of the Iraqi building industry. Decreased crude oil prices caused the greatest difficulties for investors in the construction industry. As a result, the Iraqi government was forced to reduce funding for healthcare, education, and defense, as well as reduce fuel subsidies, to sustain the economy, which was the primary reason for the decline in construction in Iraq. According to Rehman and Ishak (2022a), construction activity has increased since the introduction of key reforms for the stability of crude oil in Iraq in 2020.

Empirical studies

Bajwa and Syed (2020) identified 29 of the most significant construction risk indicators through a comprehensive analysis of the relevant literature. In an additional, extensive literature review, Farid et al. (2020) identified 283 main risk variables. Kowacka et al. (2019) studied the construction of roads based on professional knowledge, disturbance analysis, and documentation requirements of various companies. The researcher found five significant risk factors, including a lack of GESUT data, an incongruent attitude toward data generation, terrain altitude layout, the development of a numerical terrain or model project, and an inadequate horizontal arrangement. El-Sayegh (2008) and Rehman and Ishak (2021) discovered five key construction risk management dimensions, including management or administrative risk, financial risk, labor and equipment risk, material risk, and design risk. A study by Devi and Ananthanarayanan (2017) examined about 68 risk factors. These risk indicators were derived from a comprehensive literature review and the input of construction professionals in India. Sharaf and Abdelwahab (2015) used MATLAB software to assess the 73 construction risk factors in Egyptian highway projects. They categorized these factors into twelve groups: sponsor, economic, project staff, force majeure, design, project finance, regulations and standards, construction, equipment, site location, geotechnical and environmental, and subcontractor. In the construction sector of Abusafiya and Suliman (2017) identified forty-five risk variables based on prior building data records, literature research, and feedback from construction industry experts and professionals. Algahtany, Alhammadi, and Kashiwagi (2016) also identified seven risk characteristics and provided a novel risk management model centered on PIPS and IMT and related to client decision-making for owner-managed construction projects.

The literature study analysis (El-Sayegh, 2008; Rehman & Ishak, 2021) identified five primary construction risk management aspects, including management or administrative risk, financial risk, labor and equipment risk, material risk, and design risk. Among these risk considerations, equipment and labor risks within the construction sector necessitate using diverse skill sets to complete projects. Coordination between all workers, the supervision consultant, material suppliers, the subcontractor, and the design consultant is crucial to the success of a project. Labor is the construction industry's most important asset (Gunduz & Abu-Hijleh, 2020). Hence labor has a significant impact on construction costs. The other risk component is design risk, which implies that construction projects have been delayed due to weak or deficient design. The principal causes of construction delays are designers' sluggish response time and poor project sketches. According to Banobi and Jung (2019), plans are frequently modified throughout the implementation phase of construction projects. According to Szymański (2017), financial risks such as inadequate cost planning, recession, clients' credibility, inflation, and economic and political volatility are crucial. The primary cause of construction project delay, success, or failure is the financial risk (Alaghbari et al., 2007; Sweis et al., 2008).

Moreover, material risk linked with the construction process has a significant impact on the success or performance of the project. Material scarcity or delay in deliveries is the most important risk factor on building sites around the globe. Variations in material availability, poor quality, insufficient craftsmanship, and fluctuating demand are the primary reasons for material scarcity. Government trade restrictions, workforce inefficiency, ineffective decision-making, and inadequate logistics and planning are the primary causes of material risk on

building sites (Gamil & Rahman, 2017). In other words, administrative and management risks impact supply chain performance since building projects' performance, cost, and timely completion are heavily dependent on risk management. Inadequate management skills and a shortage of human resources are two of the most important factors contributing to construction delays in Iraq. It affects project performance, and most of these reasons result in substantial project losses. A study by Sidawi (2012) suggested employing software solutions such as ACMS to improve the management performance of building projects. The project manager needs to use effective risk management approaches in the construction process. The study by Dmaidi, Mahamid, and Shweiki (2016) further demonstrates that administrative and management risks significantly impact the construction business in Jordan.

Administrative risk, financial risk, labor and equipment risk, material risk, and design risk have empirically shown effects on supply chain performance (Wagner & Bode, 2008). Others have discovered that team skills and competencies play a key role in construction risk management, which has a positive and significant effect on construction risk management (Zou et al., 2007). Further research (Adeleke, Windapo, et al., 2018) demonstrated that team ability and competencies positively and substantially affect construction risk. These findings are further corroborated by Adeleke, Bahaudin, and Kamaruddeen (2018), who discovered a substantial and favorable correlation between team skills competencies and construction risk management. Other research, however, uncovered a negative and significant impact of team skills and competencies on construction risk management (Adeleke, Bahaudin, & Kamaruddeen, 2018). Also, the analysis uncovered unfavorable and substantial construction risk management factors (Zhao & Singhaputtangkul, 2016).

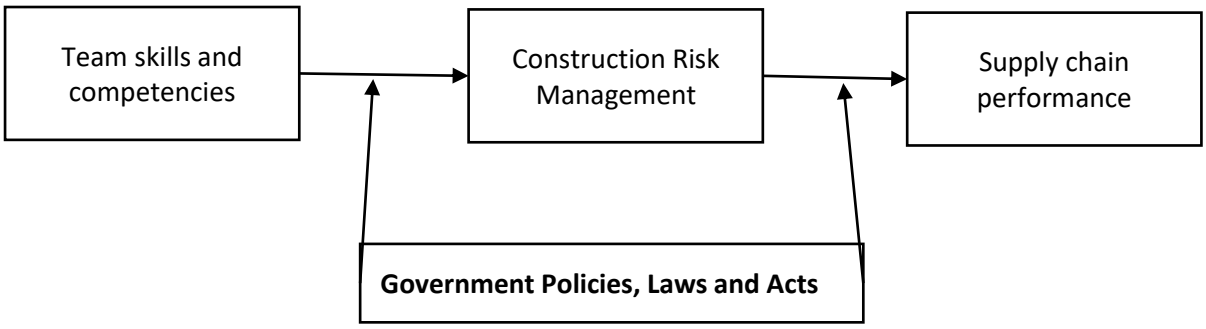
Previous empirical relationships have demonstrated that team skills and competencies directly affect construction risk management and that construction risk management directly affects supply chain performance; however, these relationships are inconsistent, indicating the need for a moderating variable that is governed by government policies and laws. The moderating effect of government statutes, acts, and policies that favor risk perception in conjunction with employee experience, workforce fitness, and expert competencies (Taofeeq, Adeleke, & Lee, 2020). In Kenya's hydrological projects, the investment and recovery are mostly controlled by the moderating effect of government policies, acts, and standards, according to Maina and Van Graan (2017). The team skills and competencies and the management risks are affected by government policies in Nigeria, according to Adeleke et al. (2016a). Scotland's rental costs are strongly correlated with government legislation. The continuous changes in construction policies significantly impact housing planners in China (Xu, Zayed, & Niu, 2020). In Malaysia, housing development policies favorably correlate with risk management (Zin & Ismail, 2012).

In addition, government Acts, laws, and policies" having a moderating influence on Malaysian contractors are explored by Taofeeq, Adeleke, and Ajibike (2020). This study utilized "structural equation modeling" (SEM) to demonstrate that government policies have a favorable impact on contractor risk attitudes, working experience, and health. Rehman and Ishak (2022a) evaluated the relationship between government policies and hydrological investment and cost recovery in Kenya, and their findings suggested a positive correlation. According to Adeleke, Bahaudin, and Kamarudeen's (2016b) study on Nigeria's construction business, government policies positively affect "team competency and skills." According to a study conducted in Scotland, housing policies positively impact rental prices (Gibb, 2011). Niu

(2008) applied the "Cobb-Douglas utility function" to analyze the difficulties and problems of housing regulations in China. The findings of this study suggested that changes to China's housing rules had resulted in less expensive housing programs. The goal of "Government Acts, Laws, and Policies" is to ensure the health and safety of workers (Sivaprakash & Kanchana, 2018). Construction risk management and project performance are positively correlated. Other research discovered that government actions, rules, and policies significantly impact the team skills and competencies within a business (Arowojolu-Alagwe & Adegoke, 2013) and enhance supply chain management (Ritchie & Brindley, 2007). Additionally, past research contends that team abilities and competencies indirectly impact construction risk management via government regulations and policies. The majority of previous research has used government acts, laws, and policies as a moderating variable in other studies (Hain, 2011; Rehman & Ishak, 2022b; Srinivasan & Rangaraj, 2020), but none has examined the relationship between team skills and competencies, constructions risk management, and supply chain performance in the context of supply chain performance.

Research Framework and Hypothesis Development

The study framework is developed based on several previous gaps. Prior studies focused primarily on other industries, while Iraq's building received scant attention. In addition, earlier studies focused on the direct impact of team skills and competencies on construction risk and supply chain performance. However, the mediating effect of construction risk management between team skills and competencies and supply chain performance has not been examined. In addition, past research has employed government laws, acts, and policies as moderating variables concerning other variables, but construction risk management and supply chain performance have received less attention. In addition, the government's laws acts, and policies were utilized to moderate the relationship between team skills and competencies and construction risk management, although Iraq's construction industry received little attention. Therefore, based on these shortcomings, the study framework depicted in Figure.1 is constructed in the present.



The research hypothesis is formulated below based on previous gaps.

H1: Team skills and competency positively and significantly affect construction risk management.
H2: Construction risk management positively and significantly affects supply chain performance.
H3: Construction risk management significantly mediates team skills, competency, and supply chain performance.

H4: The government's laws, acts, and policies significantly moderate between skills and competency and construction risk management.
H5: The government's laws, acts, and policies significantly moderate construction risk management and supply chain performance.

RESEARCH METHODOLOGY

This study employs quantitative research methods and a correlational research methodology. This study's sampling technique is a non-probability sampling of the "purposeful sampling" variety, as respondents in this survey were project managers from the Iraqi construction industry. In a survey, we gathered data by distributing self-administered questionnaires. The tool for investigation was borrowed from earlier studies. First, administrative or management risk was measured with 4 items, equipment and labor risk with 5 items, financial risks with 4 items, design risk with 4 items, and material risk with 5 items. These things were taken from Adeleke, Bahaudin, and Kamaruddeen's study (2018). The team abilities and competencies were measured by four items taken from the research of Adeleke, Bahaudin, and Kamaruddeen (2018), while the government laws, acts, and policies were measured by five items obtained from the analysis of Adeleke, Bahaudin, Kamaruddeen, et al. (2018). The performance of the supply chain was evaluated using five metrics derived from a study (Saudi et al., 2019) 500 project managers were provided with the adopted instrument. Sample selection was based on the inferential statistics of Comrey and Lee (1992).

Further, they assert that a sample size of 200 is sufficient, 300 is adequate, and 500 is ideal. A 5-point Likert scale was also utilized to collect data. The questionnaire consisted of two primary sections. The first section inquired about, among other things, age, education, income, and marital status. The second section contains questions about the study variables. Only 300 of the 500 surveys returned were returned. Two reminders were provided to respondents after a one-week break. As a result, the data was examined using the responses of 300 individuals. The response rate was 60%, which is acceptable. Nee and Wahid (2010) demonstrated that a 30% response rate is sufficient to obtain sufficient data from a survey. This study employs descriptive analysis and the Partial Least Square-Structural Equation Model (P SSEM) with the SPSS and SPPS software packages. As this study uses Smart PLS, it is also adequate for small sample sizes (Reinartz, Haenlein, & Henseler, 2009).

Descriptive Statistics

We utilized descriptive statistics, such as mean and standard deviation, to examine the variables' most significant characteristics. These statistics indicate that the mean values of the data are more important than the standard deviation, which indicates that the data follows a normal distribution (Sadiq et al., 2022). Therefore, the data's normality satisfies the conditions for other statistical approaches, allowing researchers to employ the Partial Least Square-Structural Equation Modeling (PLS-SEM) technique.

Table.1: Descriptive statistics

	Statistic	Mean	Standard Deviation
Government acts, laws and policies	300	3.79	0.822
Construction risk management	300	3.76	0.945
Supply chain performance	300	3.93	0.893
Team skills and competencies	300	3.89	0.903

Assessment of measurement model

The assessment model was utilized to examine the construct's dependability and validity. All constructs were examined to identify missing values. This required searching for anomalies and avoiding difficulties with the mean. The research employed the average variance extracted (AVE), composite reliability (CR), factor loadings, and Cronbach's alpha as criteria for the measurement model (Hair, Ringle, & Sarstedt, 2013). To ensure that the data is accurate and fits together properly, we calculated AVE, which is greater than 0.5. Cronbach's alpha, which is greater than 0.7; correlation coefficient (CR), which is 0.7; and factor loadings, which is greater than 0.5. (Hair, Ringle, & Sarstedt, 2012; Hair et al., 2013). Table.2's predicted values demonstrate that all constructs satisfy the convergent validity criterion.

Table.2: Convergent validity

	Items	FL	CA	CR	AVE
Administrative or management risk	ADMR1	0.835	0.816	0.843	0.741
	ADMR2	0.882			
	ADMR3	0.672			
	ADMR4	0.837			
Equipment and labor risk	EQLR 1	0.826	0.826	0.847	0.657
	EQLR2	0.801			
	EQLR3	0.782			
	EQLR4	0.562			
	EQLR5	0.847			
Financial risk	FIR1	0.827	0.827	0.848	0.782
	FIR2	0.805			
	FIR3	0.787			
	FIR4	0.846			
Design risk	DER1	0.831	0.827	0.848	0.758
	DER2	0.767			
	DER3	0.804			
Material Risk	MAR1	0.826	0.813	0.837	0.742
	MAR3	0.83			
	MAR4	0.876			
Governments, laws, acts, and policies	GALP1	0.804	0.828	0.848	0.761
	GALP2	0.847			
	GALP3	0.831			
	GALP4	0.783			
Team skills and competencies	TESC1	0.804	0.821	0.844	0.648
	TESC2	0.832			
	TESC3	0.823			
	TESC4	0.883			
	TESC5	0.824			
Supply chain performance	SCP1	0.806	0.825	0.846	0.753
	SCP2	0.836			
	SCP3	0.832			

For discriminant validity, the square root of AVEs must be bigger than the correlation coefficients between each pair of matched constructs, which, as shown in Table 3, are all greater than 0.5. All loadings had acceptable convergent validity, which indicates that internal consistency exceeded the required cutoff value of 0.50. (Fornell & Larcker, 1981). In addition, as indicated by Henseler, Ringle, and Sarstedt (2015), the correlation's heterotrait–monotrait (HTMT) ratios were determined. These ratios fell below the recommended cutoff value of 0.90.

(Henseler et al., 2015). Table.4's predicted values demonstrate that construction correlation values are less than 0.90, indicating discriminant validity.

Table.3: Fornell and Larcker

	ADMR	EQLR	FIR	DER	MAR	GALP	TESC	SC9
ADMR	0.807							
EQLR	0.553	0.789						
FIR	0.629	0.463	0.785					
DER	0.523	0.533	0.504	0.842				
MAR	0.483	0.337	0.427	0.363	0.826			
GALP	0.669	0.564	0.606	0.555	0.502	0.822		
TESC	0.633	0.531	0.483	0.448	0.463	0.606	0.797	
SCP	0.234	0.323	0.333	0.234	0.345	0.324	0223	0.903

Table.4: HTMT

	ADMR	EQLR	FIR	DER	MAR	GALP	TESC	SCP
ADMR								
EQLR	0.688							
FIR	0.754	0.533						
DER	0.643	0.638	0.592					
MAR	0.589	0.389	0.465	0.444				
GALP	0.332	0.656	0.685	0.658	0.585			
TESC	0.762	0.589	0.537	0.558	0.554	0.704		
SCP	0.234	0.253	0.345	0.232	0.123	0.345	0.234	

Assessment of Structural Model

Direct and Mediating Effects

The next process is to test the research hypothesis by applying a structural model. The R square was implemented to determine the magnitude of the effect of the endogenous variables on each other. The $R^2 > 0.62$ for endogenous latent variables in the structural model indicates a 62 percent relatively strong effect of exogenous variables on endogenous variables. Cohen (1988) suggested the following R^2 values for endogenous latent variables: 0.26 (considerable), 0.13 (moderate), and 0.02. (Weak). The square value is 0.62, which is substantial. The PLS-SEM direct effect predicted results in Table.5 indicate that the team skills and competencies have a positive and significant effect on construction risk management which supports to proposed hypothesis. Construction risk management also has a positive and significant effect on the supply chain management that supports the proposed hypothesis. The mediating effect of construction risk also showed a positive and significant mediating effect between team skills and competency and supply chain performance, supporting the proposed hypothesis.

Table.5: Direct and Mediating Results

	Original Sample	Sample Mean	Standard Deviation	T Statistics	P Values	Result
CORM -> SCP	0.608	0.603	0.082	7.376	0.000	Significant
TESC -> CORM	0.461	0.453	0.044	10.583	0.000	Significant
TESC -> CORM -> SCP	0.439	0.443	0.072	6.101	0.000	Significant

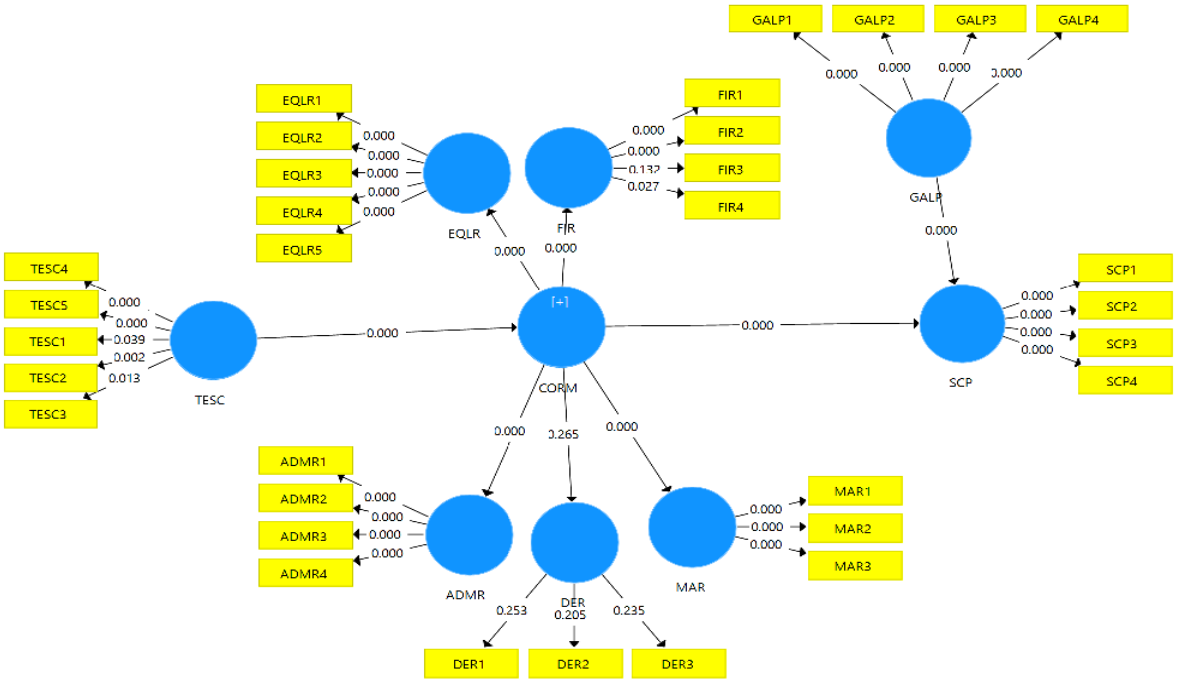


Figure.2: Structural Model

Moderating Effect

The next model examined the moderating influence between team skills and competencies, construction risk management, and supply chain management. The two-stage technique was utilized to moderate the effect. Before moderation, the R square value was 0.62, but after moderation, it increased to 0.71, indicating a 9 percent increase in the impact of the moderating variable on the dependent variable. Table.6 demonstrates that government acts, regulations, and policies significantly and favorably modify the relationship between "team abilities and competencies" and construction risk management, supporting the stated hypothesis. The other indirect impact results are predicted in Table.6. They indicate that government acts and legislation did not significantly influence the relationship between construction risk management and supply chain management, contradicting the hypothesized relationship.

Table.6: Moderation Results

	Original Sample	Sample Mean	Standard Deviation	T Statistics	P Values	Result
TESC*GALP -> CORM	0.723	0.732	0.051	14.271	0.000	Significant
CORM*GALP ->SCP	0.038	0.039	0.04	0.938	0.349	Insignificant

DISCUSSION AND CONCLUSION

The findings indicate that team competence and abilities have a favorable and significant effect on construction risk management. The outcome is consistent with earlier research (Adeleke,

Windapo, et al., 2018; Edwards & Bowen, 1998; Latham, 1994). In addition, they stated that hazards are less likely to occur throughout the construction process when team members have the proper abilities and a desire to improve. According to organization control theory, monitoring and regulating can maintain building projects under appropriate management. The current study reveals that team participants should be encouraged and compensated at every step of construction for risk management to improve. This strategy will make it easier for them to communicate with one another, which will assist them in performing their tasks well and enhancing their skills and competencies, contributing to the firm's growth (Jaworski, 1988). On the other hand, construction risk management has a positive and statistically significant impact on supply chain performance, indicating that when construction risk management is correctly monitored and controlled, supply chain performance likewise improves, as indicated by numerous prior research (Munir et al., 2020; Wagner & Bode, 2008). On the other hand, the mediating effect of construction risk management between the relationship of team skills and competency and supply chain performance of the Iraqi construction industry was also discovered, indicating that when the team possesses the proper skills and companies, they will effectively manage the risk, which could increase supply chain performance.

In contrast, this work has provided empirical support for organizational control theory, which is significant from a theoretical standpoint. Theoretically, the behavior and conduct of an organization's employees are molded by how they are regulated and by the implementation of government laws, acts, and policies for reward, direction, and monitoring. Risks are less likely to occur during the construction phase of a project if the team possesses the necessary skills and knowledge and if the theory is expanded to include a wide variety of construction project risks, such as "financial risk, equipment, and labor risk, administrative risk, design risk, and material risk." If government laws and regulations adequately assist employees, this increases the efficiency of firms. Current research has demonstrated that government laws, acts, and policies significantly and positively moderate the relationship between team skills and competencies and construction risk management, indicating that the Iraqi government played a significant role in enhancing the skills and competencies of employees to manage construction risk. These results are consistent with earlier research (Edwards & Bowen, 1998; Kangari, 1988; Xia et al., 2018). The other moderating effect revealed that government acts, laws, and regulations did not considerably moderate the connection between construction risk management and supply chain performance. This correlation may be because Iraqi government laws and regulations did not support risk management for enhancing supply chain performance.

Current research revealed that team abilities and competencies are significant indicators that could aid construction risk management and enhance supply chain performance. Therefore, the construction sector should provide suitable training and development programs to enhance employees' and managers' teamwork abilities and competencies, which could indirectly improve supply chain performance. Second, the moderating effect of government laws and policies considerably moderates the relationship between team skills and competencies and construction, indicating that government laws, acts, and policies contribute to improving skills and competencies, which aids in risk management. Thirdly, government rules and policies do not significantly moderate the relationship between construction risk management and supply chain performance, indicating that they do not contribute to enhancing construction risk management. With the present data, it is possible to conclude that all the variables listed above are significant for the Iraqi building industry.

CONTRIBUTION AND RECOMMENDATION

This study contributes to the expanding body of knowledge by examining the relationship between team skills, construction risk, and supply chain performance in light of government statutes, acts, and policies. In this analysis, the three most significant contributions have been identified. Initially, a team's abilities and competencies significantly positively impact construction risk management. The influence of government laws, actions, and policies on construction risk management have several positive aspects. In addition, the current research has identified the moderating effect of government laws, acts, and policies. The effect of construction risk management as a mediator between team skills and competencies and supply chain performance has been identified. With these findings, the study contributes to a body of knowledge that could assist future researchers in conducting their investigations. In addition, earlier research primarily focused on other industries or nations, but this study contributed to the literature on Iraq. This study provides Iraqi contractors with information on enhancing their construction and supply chain risk management practices. In addition, the paper proposes a plan to improve construction risk management through pay and incentives at each stage of construction. This research is therefore regarded as a pioneering study with major findings and contributions. This result contributes to the risk management literature and theories by demonstrating the significance of government acts, rules, and policies for enhancing team skills and competencies to handle construction risk management. Due to this, improper execution of government actions, laws, and policies could raise the risk and delay the timely completion of projects. This study could assist regulatory agencies or labor courts in developing their strategies for team skills and competencies, construction risk management, and supply chain performance enhancement. Because the IRAQ government's actions, regulations, and policies are correctly implemented, the construction sector is thriving, and individuals have fewer financial difficulties, particularly with cash flow. This is beneficial for building companies. Most of the amendments to the Iraq Building Code Application Law's implementing rules aim to improve the Building Code's maintenance and risk settings to improve the country's social, economic, and environmental consequences.

LIMITATIONS AND FUTURE DIRECTIONS

The study has numerous limitations. This study utilized a cross-sectional design as opposed to a longitudinal design. This indicates that causal conclusions cannot be drawn from the population study. For future evaluations of constructs, a longitudinal design is required. In addition, government acts, regulations, and policies did not modulate the links between construction risk management and supply chain performance in a substantial way. Consequently, this framework might be tested in different nations to determine variances in the outcomes; there is a chance that this association will be significant. To strengthen the generalizability of the findings, a comparative analysis between the construction and service industries could be done in a future study.

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