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RESEARCH ARTICLE

Influence of Internal Organizational Factors and Institutional Pressures on Construction Firms' Performance

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Abstract

A significant number of empirical studies have reported contrasting results regarding the effects of certain internal organizational factors (Leadership Style - Team competency and Skills - Effective Communication) on construction performance. As a result, generalizations remain sketchy, and a better understanding is needed. This study lends a voice to the literature's debate by introducing the part played by institutional pressures. The aim is to evaluate the impact of internal organizational factors and institutional pressures on a Syrian construction firm's performance outcomes, with institutional pressures playing a mediator's role. Data were collected using a questionnaire instrument from a sample of 197 building experts working in large public construction companies in Syria and analysed using the partial least squares structural equation modelling (PLS-SEM). The results reveal that leadership style and effective communication have a significant and positive effect on construction firm performance outcomes. However, the effect of team competency and skill was not supported; nonetheless, providing institutional pressures as a mediator into the relationship made it significant, thus, providing a vital theoretical contribution worth considering in future research. Practically, this study is the first attempt at evaluating organizational factors and institutional pressures as a critical determinant of organizational performance that should interest management at organizational levels.

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Keywords

Construction Firms; Performance Measures; Internal Organizational Factors; Institutional Pressures; Smart-PLS

Introduction

The construction industry is a significant player in any nation's economic growth and occupies a central role in the region's development plan and its ties to other sectors of the economy. For the past few years, both professionals and scholars have stressed the challenges facing the construction industry as it has been characterized as a complex and dynamic industry in which organizations that work meet relentless challenges and enormous demands (Balatbat, Lin and Carmichael, 2011). Many of these challenges force construction firms to be highly flexible, efficient, and customer-oriented to compete with increasingly strong emerging-market players effectively and achieve high performance in future construction markets (Accenture, 2012).

For construction companies to address these challenges, the performance measurement models as a management improvement tool have been introduced to bring out desired improvements in performance (Hubbard, 2009). Several studies have found that the construction firms' performance outcomes were undesirable due to the lack of effective and efficient measures (Luu, et al., 2008). The central dilemma of choosing these measures is linked to their reasoning and design, regulation and operation, and adjustment of dysfunctional effects when implemented in different countries (Luu, et al., 2008; Wang, El-Gafy and Zha, 2010; Yang, et al., 2010). Moreover, as construction firms have faced several challenges when seeking a suitable mechanism to deliver construction projects, it is believed that advancement could only be evaluated by measurement (Marr, 2007).

Although performance outcomes right after measurement present benefits to those who implement them for functions such as evaluation, control, and the advancement of-business procedures, the factors that influence these performances are still not studied well enough on an organizational level (Dorsey and Mueller-Hanson, 2017). These factors exert pressure on organizations and set their performance at the medium or high stage, or adapt to dynamic business environments in a way that will reduce or eliminate business threats (Sousa and Aspinwall, 2010). In that light, growing concern about the effect of certain internal organizational factors (leadership style, team competency and skills, and effective communication) on construction firm performance has reignited interest in the questions of various literature (Adeleke, Bahaudin and Kamaruddeen, 2017; Jin, 2018; Onana, 2018). In addition to this, many management scholars have contended that the external pressures determine heterogeneity in organizational performance outcomes within the industry structure that an organization operates (Dubey, Gunasekaran and Samar Ali, 2015; Iliya Nyahas, et al., 2017; Wang, et al., 2018). Such a move to the organizational level of analysis has highlighted that complex institutional pressures generate variation in organizational factors' impact on firms' outcomes. However, a potentially missing piece of the puzzle relates to the fact that construction firms are part of a network inside the construction industry that faces institutional pressures (Li, et al., 2019). The potential for the effect of institutional pressures as a mediator, beyond mere responses to institutional demands, has not received sufficient attention. To better depict institutional pressures within a construction firm, we need a more fine-grained explanation for how these pressures influence the construction firm's performance. Such a consideration might enhance our theoretical understanding and render empirical evidence on how institutional pressures affect construction performance outcomes.

The World Bank has estimated the damage due to the conflict in Syria at $200bn, while the UN Economic and Social Commission for West Asia (ESCWA) forecasts that the total cost of restoring the country to its 2010 condition will be almost $400bn. These are huge figures, and it is hard to imagine such

resources being found quickly or easily (Asseburg, 2020). The enormous challenges extend far beyond mine clearance and physical rebuilding of infrastructure and housing: a massive loss of (skilled) labour, contraction of the economy, currency devaluation, and the collapse of public services head the list (Talbot and Dacrema, 2019). As a result, this presents a colossal toll to an already weakened construction industry. However, quantitative estimates of the costs on the construction industry are not readily available. Although there is a lack of official data, Maya (2016) argues that the Syrian construction sector's recent performance is weak, with a significantly reduced yearly contribution to GDP in the last decade. Devarajan and Mottaghi (2017) attribute this challenge to significant disruptions in supply chains of raw material inputs caused by the war. This reasoning is in line with the allegation that wars reduce GDP per capita by about 10% to 15% permanently, with a total loss of output at around 18% (Collier, et al., 2003). Though, to a certain level, some of these reports are based on sketchy evidence, as no insight has been offered to organizational factors' influence on the operating construction firm's performance outcomes in Syria. Thus, it is crucial to clarify the indecisive deductions on the relationship among the internal organizational factors, institutional pressures, and construction firms' performance outcomes. As such, a comprehensive model is needed which will integrate these factors in the Syrian construction context.

Literature Review

CONCEPTUALIZATION OF CONSTRUCTION FIRM PERFORMANCE

Over the years, several construction firms have shown an imperative for identifying vital areas of their business model that are crucial to their performance. These perspectives highlight indicators that have been defined by the National Institute for Standards and Technology (NIST) and adopted for this study as "numerical information used to quantify the input, output and performance dimensions of processes, products, programs, projects, services and the overall outcomes of an organization" (NIST, 2019. p17). Construction firms' outcomes are not homogeneous due to their diverse nature, so integrating a limited number of performance measures to fit all types of their operated projects is complex (Rathore and Elwakil, 2020). Many measurement frameworks developed emphasized measuring project performance rather than the firm's level performance (Ali, Al-Sulaihi and Al-Gahtani, 2013). Besides, the measurement of firm performance was primarily based on financial measures, and however, due to its limitations, authors have recommended the use of non-financial performance measures (Othman, et al., 2015). Consequently, some research scholars (e.g., Yu, et al., 2007) have suggested that the original perspectives of the Balanced Score Card (BSC) should be utilized in analyzing the construction firms' performance. However, other authors (e.g., Ozorhon, et al., 2011; Ali, Al-Sulaihi and Al-Gahtani, 2013; Jin and Deng, 2012; Oyewobi, Windapo and Rotimi, 2015) have either replaced the original BSC with newer dimensions or added other vital dimensions to the original perspectives of the BSC to appraise construction firms' performance. This reasoning is consistent with Lueg (2015) argument, who believes that the original BSC does not consider specific natural, social and industry-specific contexts.

Furthermore, research scholars have made attempts to operationalize the construction performance concept. In Vietnam, Luu, et al. (2008) developed a model that combines the original BSC with strength-weakness-opportunities-threats (SWOT) analysis in large contractors' performance evaluation. In China, Jin and Deng (2012) applied a revised BSC by adding a market and stakeholder dimensions for the construction firm performance measures. While in Iraq, Tofan and Breesam (2018) applied five dimensions (financial, customer, social and environmental, internal business, and learning and growth) as performance measures. Given these facts, this study adopts a holistic approach for measuring organizational performance that reflects the current reality in Syria using revised dimensions of the original BSC (financial performance, customer satisfaction, internal business processes, environmental performance).

ORGANIZATIONAL INTERNAL FACTORS AND CONSTRUCTION FIRM PERFORMANCE OUTCOMES

Researchers in construction management have emphasized considerable effort to understand the organizational factors that influence construction firms' performance. Rathore and Elwakil (2020) demonstrated that though there is adequate awareness of performance management within the construction industry, the internal organizational factors' impact as an invisible and intangible resource on overall performance remains unclear. Some scholars in construction firms have explored the causes of performance heterogeneity based on adopted internal organizational factors (Geraldi, Lee and Kutsch, 2010; Zuhairy, et al., 2013). Many studies conclude that the effects of internal organizational factors on firms' performance are heterogeneous as some of the studies present positive impacts, while the other show negative impact (Lee, Kim and Lee, 2011; Yidizs, Basturk and Boz, 2014; Leje, Kasimu and Kolawole, 2019). These factors vary from study to study without being clear about why some studies emphasize some of them over others, though the findings are heterogeneous regarding whether the impact is direct or indirect (Ortega, Azorin and Cortes, 2010).

Furthermore, it is acknowledged that specific organizational characteristics will yield better outcomes for organizations under different environmental situations (Nandakumar, Ghobadian and Regan, 2010). How these constructs interact to generate superior performance remains unexplored primarily in the construction context. There were several reasons for selecting the particular variables from the range of variables covered in the literature. Firstly, internal organizational factors have a considerable impact on organization performance (Black, et al., 2019). A review of previous studies in the construction industry reveals that construction firms' performance is also influenced by certain internal organizational factors (leadership style, team competency and skills, effective communications). This would be sufficient reason for including them in the study, but little research has investigated these variables within developing countries such as Syria. Secondly, these variables have been paid insufficient attention by construction firms' performance researchers across countries. Toor and Ofori (2008) view leadership style in construction firms as the way project managers execute their responsibilities in line with construction activities; hence we developed the first hypothesis, which is:

H1: Leadership Style has a positive relationship with a construction firm's performance outcomes.

Furthermore, Lee, Kim and Lee (2011) view team competency and skills as a reflection of a firm's vital intangible assets, such as the additional skills an employee deploy during a construction project which this was making us develop the second hypothesis, which is:

H2: Team Competency and Skills has a positive relationship with a construction firm's performance outcomes.

More so, effective communication is essential to both the employee and the organization. It enables efficient communication during construction, leading to enhanced employee productivity and firm performance (Jallow, et al., 2014) and hence the third hypothesis:

H3: Effective Communication has a positive relationship with a construction firm's performance outcomes.

INSTITUTIONAL PRESSURES AS A MEDIATOR

Within the construction management field, the construction business environment's dynamic nature makes it necessary for construction organizations to identify institutional pressures that could lead to superior performance and vigorously promote and incorporate these pressures to achieve performance excellence within organizations (Druckman, Singer and Van Cott, 1997). Institutional pressures help explain the source of performance heterogeneity within construction organizations' performance (Wang, et al., 2018). In understanding these external variables, this present study draws from the power of the 'Institutional

Theory' developed by DiMaggio and Powell (1983) by recognizing their effect on firm performance. There are three kinds of institutional pressures that affect firm performance outcomes: coercive pressure to fulfill regulatory requirements, mimetic pressure to monitor competitors' actions, or normative pressure to invest in developing its leadership. How firms respond to institutional pressures can vary widely, depending on the characteristics of the isomorphic pressures, the organization itself, and their organizational environment (Samairat, 2008). A longitudinal study by Wang, et al. (2018) affirmed that both mimetic and normative pressures created significant impacts on megaprojects' environmental performance, while no evidence existed of a significant impact from coercive pressures. The study of Li, et al. (2019) provided insight into the regulative, normative, and cognitive institutional pressures faced by Chinese construction companies and supported their efforts in improving relevant laws, norms, and cognitions.

Researchers often get puzzled between moderating, mediating, and controllable variables with being directly related to firm performance. However, adequate understanding and critical review by this present study further facilitate the resolution of the conflicts. Because the institutional pressures are correlated with firm performance outcomes as it was mentioned in previous literature, as well as the precondition that the relation between the antecedent and the outcome should be significant makes it preferred for examining the mediation effect in this study (Wu and Zumbo, 2008; Aguinis, Edwards and Bradley, 2017). Thus, this study evaluates the latent institutional pressures that can influence construction organizations performance and mediate the relationship between internal organizational factors and construction firm performance as shown in Figure 1 with the developed hypothesis as follows:

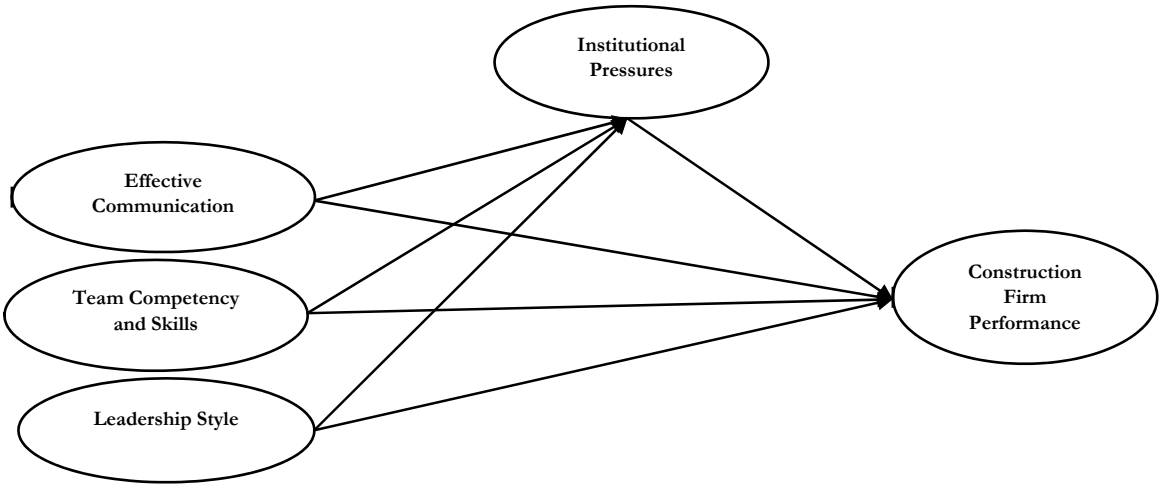

Figure 1. Conceptual Model

Consistent with Figure 1, the hypotheses are stated as follows:

H_4: Institutional pressures have a positive relationship with a construction firm's performance outcomes.

H_5: Institutional pressures positively mediate the relationship between leadership style and a construction firm's performance outcomes.

H_6: Institutional pressures positively mediate the relationship between team competency and skills and a construction firm's performance outcomes.

H_7: Institutional pressures positively mediate the relationship between effective communications and a construction firm's performance outcomes.

Research Method

After pooling the research instrument to 8 subject matter experts in content validity, a pilot survey was conducted among 25 construction organizations in the study area to test and improve the reliability of the instrument, as well as ensure the clarity of the final research instrument before the primary survey (Fehan and Aigbogun, 2020). A deductive research approach using quantitative methods, a methodology widely adopted in social sciences, was carried out. This study is cross-sectional; Therefore, the data was collected at a single point in time using a questionnaire survey anchored on the scale of a 5-point Likert to measure the feedback to the questionnaires ranging from 1- Strongly Disagree; 2- Disagree; 3- Neutral; 4- Agree; 5- Strongly Agree. The target population for the study was public-sector construction firms around Syria considered as a unit of analysis. Whereas the unit of observations were the professionals inside these firms, which were sampled using the snowball technique. For this study's sample size to be ascertained, a power analysis was done using a software package named G*Power 3.1.9.4. Based on the G*Power model, this study used four (4) predictors' variable equations in determining the sample size (Faul, et al., 2007). Based on Figures 2 and 3, a minimum adequate sample of 129 assumptions for PLS-SEM. Therefore, using a

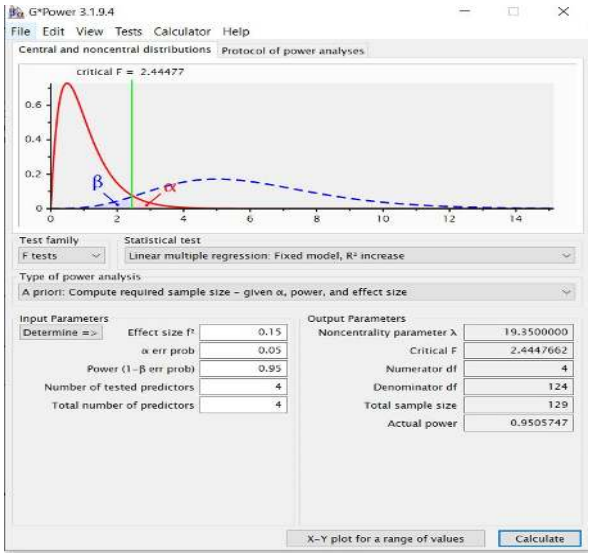

Figure 2. Power Analysis for Medium Effect

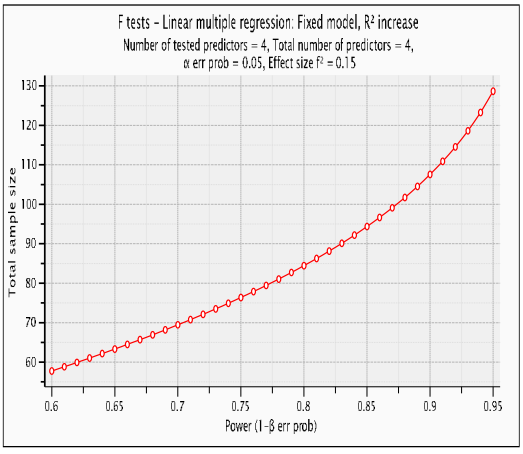

Figure 3. X-Y Plot for Medium Effect Power Analysis

Snowball sampling technique, a total number of 250 questionnaires were distributed, and 197 valid surveys were returned with a response rate of 78.8%, which was considered acceptable.

Analysis and Results

Using SmartPLS 3 software to assess the effect of manifest variables on construction firm performance. The PLS modelling was deemed to be a valuable technique for this study as it possesses the potential to estimate the relationships among the indicators and their corresponding latent constructs (measurement model); the relationships between the constructs (structural model) concurrently; and the predictive relevance of the endogenous latent variable (Henseler, 2018). Figure 4 illustrates the steps of data analysis per Smart-PLS.

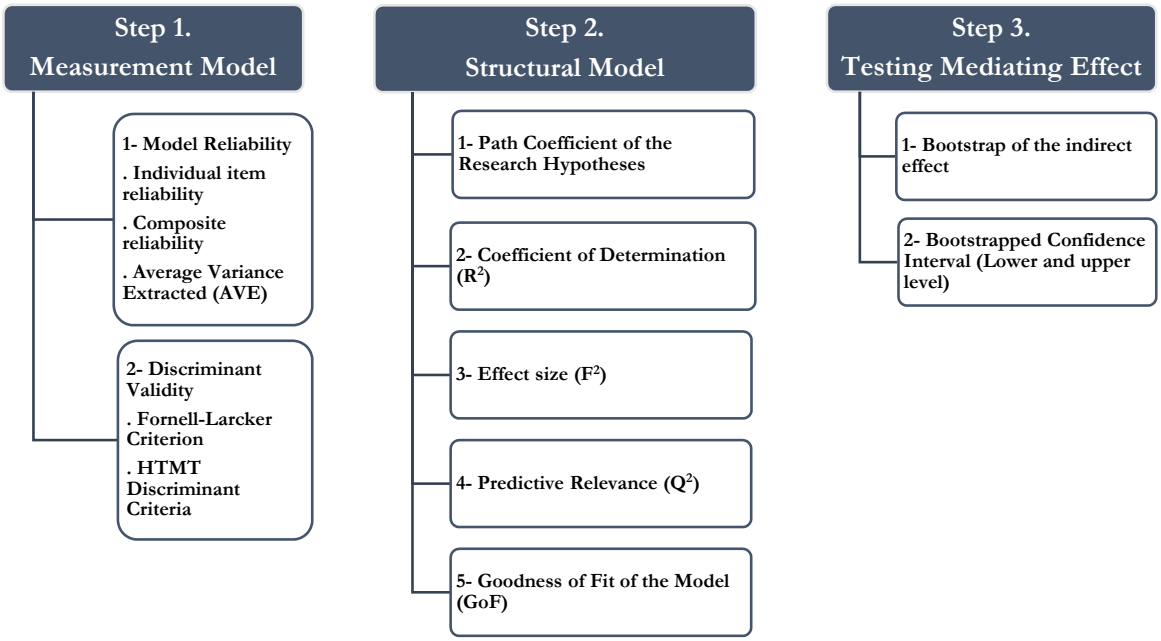

Figure 4. Steps of Smart-PLS data analysis

MEASUREMENT MODEL

Model Reliability

The adopted model's reliability in the current research was determined based on two factors. First, individual item reliability was determined by analysing each construct's measure's outer loadings, which should be above the threshold of 0.70, and the loadings less than the threshold should be omitted (Chin, 1998). Hence, for the whole model, 25 items remained as they depicted loadings between 0.705 and 0.969 (see Figure 5). Second, the composite reliability coefficient and Average Variance Extracted (AVE) were used to ascertain the reliability of measures' internal consistency. Hair, Ringle and Sarstedt (2011) proposed that the composite reliability coefficient must be at least 0.70, and Average Variance Extracted (AVE) must be at least 0.50. Table 1 depicts the composite reliability coefficients of each latent construct ranging from 0.883 to 0.962, and the AVE was ranged from 0.621 to 0.848, and it is beyond the baseline threshold of 0.70, 0.50, respectively. Therefore, the consistency reliability of measures used in the current study is viewed as adequate.

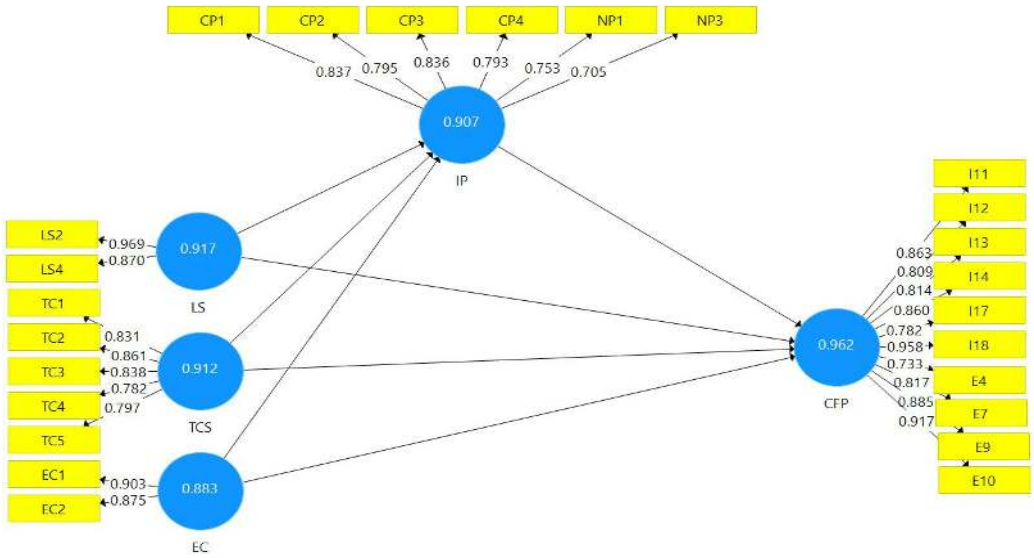

Figure 5. Measurement Model (Outer loadings and Composite Reliability)

Table 1. Result of measurement model-convergent validity

Constructs	AVE	CR
Construction Firm Performance	0.716	0.962
Leadership Style	0.848	0.917
Team Competency and Skills	0.676	0.912
Effective communication	0.791	0.883
Institutional Pressures	0.621	0.907

Discriminant Validity

The discriminant validity assessment has the objective of ensuring that a reflective construct has the most intense relationships with its indicators (e.g., in comparison with any other construct) in the PLS path model (Hair, et al., 2017). The Fornell-Larcker criterion and the Heterotrait-monotrait ratio of correlations (HTMT) criterion were employed.

Fornell-Larcker Criterion

Table 2 represents the results of the Fornell-Larcker criterion to assess the discriminant validity of the measurement model.

As shown in Table 2, the off-diagonal elements' value was smaller than AVE's square root value. Therefore, it proves that each latent construct measurement was completely discriminating against each other.

HTMT Discriminant Criteria

Table 3 represents the results of HTMT discriminant criteria to assess the discriminant validity of the measurement model.

Table 2. Latent Variable Correlations-Square Root of AVE

	CFP	EC	IP	LS	TCS
CFP	0.846				
EC	0.694	0.829			
IP	0.784	0.685	0.788		
LS	0.384	0.442	0.769	0.821	
TCS	0.602	0.447	0.723	0.731	0.822

Table 3. HTMT discriminant criteria

	CFP	EC	IP	LS	TCS
CFP	-				
EC	0.825	-			
IP	0.839	0.838	-		
LS	0.435	0.514	0.845	-	
TCS	0.633	0.554	0.78	0.797	-

All the HTMT values of the latent constructs were below 0.9, as seen in Table 3. Thus, it assured that each latent construct was fully discriminating against each other.

STRUCTURAL MODEL

Path Coefficient of the Research Hypotheses

With 5000 bootstrap samples and 197 cases, this study presents the significant paths of the coefficients for the research model as illustrated in Table 4 and Figure 6.

Table 4. Path Coefficient of the Research Hypotheses

Hypo	Relationship	Std. Beta	Std. Error	T-value	P-value	Decision
H1	Leadership Style -> Construction Firm Performance Outcomes	0.484	0.06	8.11	0	Supported**
H2	Team Competency and Skill -> Construction Firm Performance Outcomes	-0.051	0.097	0.525	0.599	Not Supported
H3	Effective Communication -> Construction Firm Performance Outcomes	0.205	0.055	3.695	0	Supported**

Table 1. continued

Hypo	Relationship	Std. Beta	Std. Error	T-value	P-value	Decision
H4	Institutional Pressures -> Construction Firm Performance Outcomes	1.06	0.107	9.951	0	Supported**
Significant at P**= < 0.01, p* <0.05						

The findings in Table 4 illustrate the relationship between leadership style and construction firm performance outcomes with standard beta value, standard error, t-value, and p-value of 0.484, 0.06, 8.11, 0.000, respectively, which means the relationship was positive and significant. Also, the relationship between team competency and skills and construction firm performance outcomes was not-supported with t-value and p-value of 0.525, 0.599 respectively. Furthermore, as for effective communication, a positive and significant relationship was revealed between effective communication and construction firm performance outcomes with standard beta value, standard error, t-value, and p-value of 0.205, 0.055, 3.695, 0.000, respectively. Finally, the relationship between institutional pressures and construction firm performance outcomes was revealed to be supported with standard beta value, standard error, t-value, and p-value of 1.06, 0.107, 9.951, 0.000, respectively, which means the relationship was positive and significant.

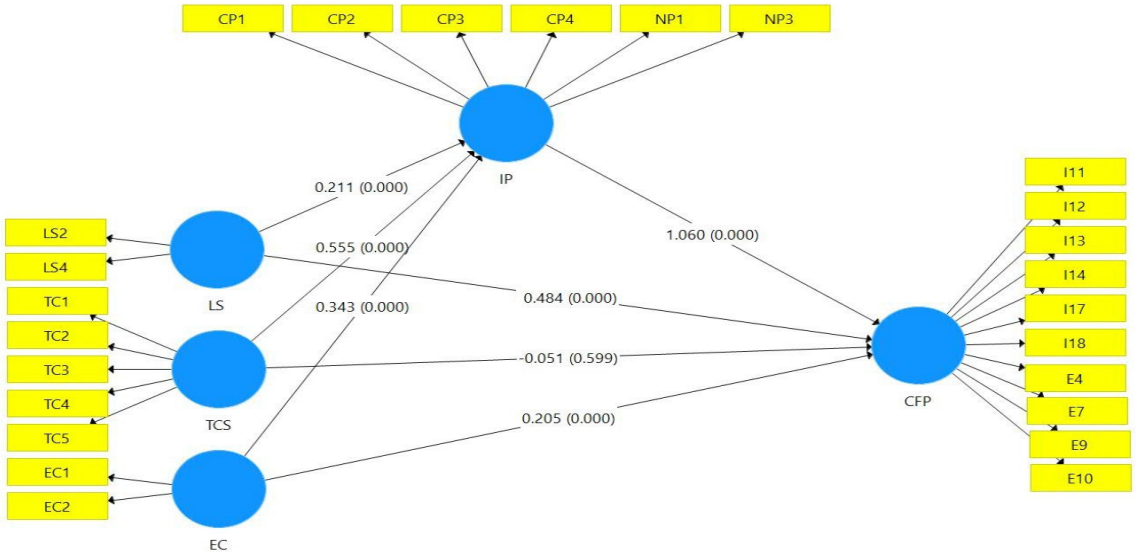

Figure 6. Structural Model (Path coefficient and P-value)

Coefficient of Determination (R^2)

The research model revealed 75.7 percent of the total variance in construction firm performance outcomes and 87.6 percent of the total variance in institutional pressures, as depicted in Table 6. Chin (1998) suggests that R^2 values above 0.67 are considered high, whereas values between 0.33 and 0.67 are moderate, while values between 0.19 and 0.33 are small and R^2 values below 0.19 are undesirable. This study's R^2 value is drawn that the endogenous latent variables hold the high-rate level of R^2 values.

Table 5. R-Square of the Endogenous Latent Variables

Constructs	R^2	Result
Construction Firms Performance Outcomes	0.757	High
Institutional Pressures	0.876	High

Effect size (F^2)

Effect size would indicate the relative influence of a particular exogenous latent variable on the endogenous latent variable(s) through shifts in R^2 values, as well as if the measurement of F^2 value was: 0.02, or 0.15, or 0.35, respectively, the exogenous latent variable reflects small, medium, and high impacts (Chin, 1998). As shown in Table 6, the findings verified effect sizes for each exogenous variable on the endogenous variable.

Table 6. F-Square of the Endogenous Latent Variables

	Firms Performance Outcomes	Results	Institutional Pressures	Results
Leadership Style	0.373	Large	0.161	Medium
Team Competency and Skill	0.002	No Effect	1.114	Large
Effective Communication	0.077	Small	0.735	Large
Institutional Pressures	0.572	Large		

Predictive Relevance (Q^2)

The present research utilizes Stone–Geisser test to determine the entire research model's predictive relevance by using blindfolding processes (Stone, 1974; Geisser, 1974).

Table 7. Construct Cross validated Redundancy

Total	SSO	SSE	Q^2 (=1-SSE/SSO)
Firms Performance Outcomes	1,970.00	984.02	0.5
Institutional Pressures	1,182.00	584.55	0.505

As depicted in Table 7, results have verified a Q^2 statistic of 0.5, 0.505 for the studied endogenous latent variables (construction firm performance, institutional pressures), respectively, which is greater than zero, thus proposing predictive relevance of the model (Jain, Vyas and Chalasani, 2016).

Goodness of Fit of the Model (GoF)

The values of GoF in the structural model analysis were 0.804, 0.865 for (construction firm performance, institutional pressures) respectively, which is greater than the high threshold of 0.36 (Wetzels, Odekerken-Schröder and Van Oppen, 2009). Therefore, it can be concluded that the GoF model of this study is large enough to consider sufficient global PLS model validity.

TESTING MEDIATING EFFECT

The current study employed the bootstrap approach utilizing PLS-SEM following Preacher and Hayes (2008) to discover the mediating effect of institutional pressures on the relationship between internal organizational factors and construction firms' performance outcomes. Table 8 shows the bootstrap of the indirect effect.

Table 8. Bootstrap of the indirect effect

Relationship	P-value	Decision
Leadership Style -> Construction Firm Performance Outcomes	0.000	Significant
Team Competency and Skill -> Construction Firm Performance Outcomes	0.000	Significant
Effective Communication -> Construction Firm Performance Outcomes	0.000	Significant

According to Preacher and Hayes (2008), the next step is to examine the bootstrapped confidence interval (Lower and upper level), and it must not contain a true zero value. Table 9 shows the Bootstrapped Confidence Interval (Lower and upper level).

Table 9. Bootstrapped Confidence Interval (Lower and upper level)

	Original sample = standard beta						
	IV- -> Mediator	Mediator --> DV	Automatic calculation	Standard deviation	Automatic calculation	Bootstrapped Confidence Interval	
	Path a	Path b	Indirect Effect	SE	t-value	95% LL	95% UL
M1(LS)	0.211	1.060	0.224	0.064	3.495	0.098	0.349
M2(TCS)	0.555	1.060	0.588	0.091	6.465	0.410	0.767
M3(EC)	0.34	1.060	0.364	0.043	8.455	0.279	0.448

Table 10. Type of Mediator

	P-value of the direct effect (C`)	Decision	Original Sample of Indirect Effect (a*b)	Original Sample of Direct Effect (c`)	Type of Mediator
M1(LS)	0.001	Significance	0.224	-0.26	Competitive Partial Mediation
M2(TCS)	0	Significance	0.589	0.538	Complementary Partial Mediation
M3(EC)	0	Significance	0.364	0.569	Complementary Partial Mediation

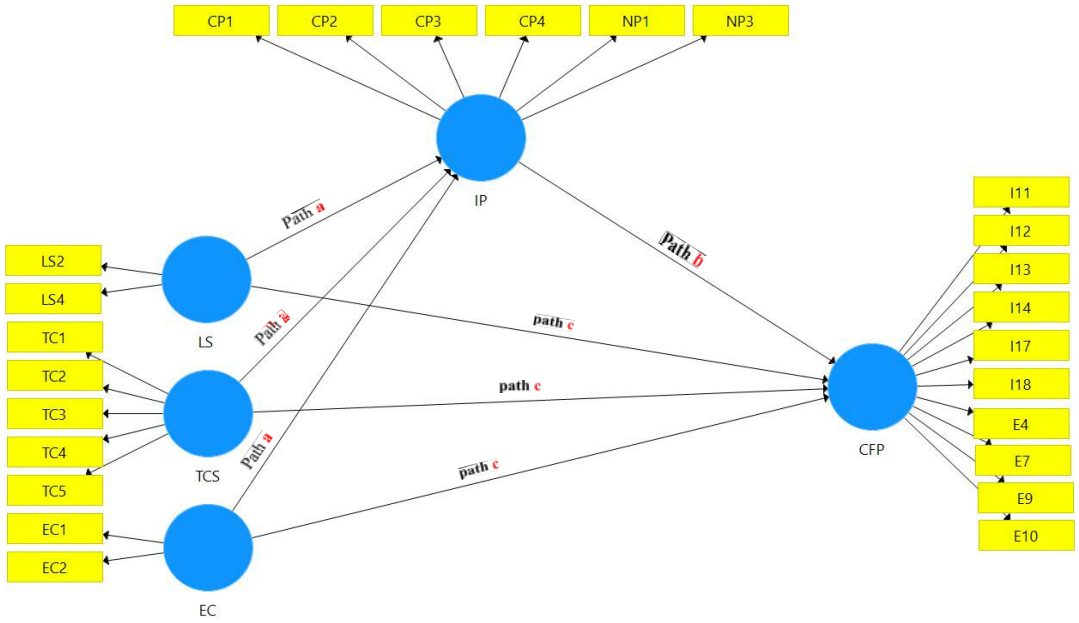

Figure 7. Mediation path Model

Figure 7, and Table 8, Table 9, and Table 10, depict the approximations after applying the Preacher and Hayes (2008) mediator analysis method to determine the mediating effect of institutional pressures on the relationship between the exogenous and endogenous latent variables.

Hypothesis 5 stated that institutional pressures significantly mediate the relationship between leadership style and construction firms' performance outcomes. However, the result is statistically significant for bootstrap indirect effect as P-value = 0.000, which means that the relationship between leadership style and construction firms' performance outcomes through institutional pressures is significant. As anticipated, the results presented in Table 9 showed that the bootstrapped confidence interval values should not contain a true zero value (95%LL = 0.098, 95%UL = 0.349). Therefore, Hypothesis 5 was supported, and there is a mediator between leadership style and construction firm's performance outcomes. Table 10 illustrates that the institutional pressures played as a competitive partial mediation (Nitzl, Roldan and Cepeda, 2016).

Similarly, Hypothesis 6 was confirmed, which stated that institutional pressures significantly mediate the relationship between team competency and skills and construction firm's performance outcomes, such that result is statistically significant for bootstrap indirect effect as P-value= 0.000. However, the bootstrapped confidence interval values (95%LL =0.410, 95%UL =0.767) mean it does not consist of a true zero value. Consequently, Hypothesis 6 was supported, and there is a mediating effect of institutional pressures on the relationship between team competency and skills and the construction firm's performance outcomes. Based on Nitzl, Roldan and Cepeda (2016) studies with reference to Table 10, the institutional pressures play as a complementary partial mediation.

Finally, Hypothesis 7 was confirmed, which stated that institutional pressures significantly mediate the relationship between effective communication and construction firms' performance outcomes, such that the result is statistically significant for bootstrap the indirect effect as P-value= 0.000. However, the bootstrapped confidence interval values (95%LL =0.279, 95%UL =0.448) mean it does not contain a true zero value. As a result, Hypothesis 7 was supported, and there is a mediation effect of institutional pressures on the relationship between effective communication and construction firms' performance outcomes. Based on Nitzl, Roldan and Cepeda (2016) studies with reference to Table 10, institutional pressures assume the role of a complementary partial mediation.

Discussion

In this study, we combined two streams of literature. On the one hand, we looked at the influence of certain internal organizational factors (leadership style, team competency and skills, effective communication) and institutional pressures (coercive, normative, mimetic) on the construction firm's performance outcomes. On the other hand, we examined the mediating role of institutional pressures on the strength of the relationship between internal organizational factors and a construction firm's performance. The PLS measurement model assessment results were relatively well specified in terms of its reliability and validity, and the PLS structural model assessment results indicate that the independent variables explain 75.7% of the variance in the construction firm's performance. In addition to this, the predictive ability of the model and model fit were both acceptable.

The findings revealed that the relationship between team competence and skill and construction firm performance outcomes was not significant. However, adding institutional pressures as a mediator into this relationship has made it significant, and this proves that aligning suitable pressures on construction firms will improve their team's competencies and skills. Consequently, there will be increasing in the effectiveness of the organization's construction activities and confers a value-addition point to construction firms. This result might be valuable in explaining and specifying the condition under which positive associations were derived from other studies carried out in developing country context, such as Indris and Primiana (2015) who affirmed that organizational internal and external factors affect small and medium industries (SMEs) performance in Indonesia; Jin (2018) who found a positive relationship between internal organizational factors, external organizational factors, and construction performance management in Nairobi, Kenya. Also, Onana (2018) noted that finance and other organizational factors influenced contractors' performance delivering road projects on time in Gabon. However, from internal and external factors, the competition was the only factor that had a significant association with SMEs' performance in KwaZulu-Natal, South Africa (Sitharam and Hoque, 2016). The results suggest that institutional pressures partially mediate the effects of internal organizational factors on construction firms' performance. However, integrated analysis of coercive, normative, and mimetic pressures related to environmental regulation should be a priority in helping us move toward a complete understanding of construction firm performance in a regulated business context. Based on this study, only coercive and normative pressures significantly affect construction firm performance outcomes while mimetic pressures do not affect; this might be due to the lack of successful international construction firms for Syrian construction firms to mimic.

Moreover, leadership style, effective communication, and institutional pressures are revealed as significant predictors of a construction firm's performance outcomes. Considering the turbulent and hypercompetitive environment in which construction firms operate in Syria, they must become adaptable, creatively crafting measures for these factors that will ensure their survival while also meeting their clientele' performance expectations and recording high performance. Further, institutional pressures separately were a significant mediator as a lens to comprehend the factor-related effects within a firm.

This paper presents notable findings for the management of construction organizations. It first speaks to institutional theory more broadly. Prior works on construction management rooted in institutional theory have mostly treated performance outcomes as an isomorphic process at the project level. This paper considered performance outcomes as an inter-organizational matter, which allowed us to focus on the institutional mechanisms at the firm level.

Conclusion

This study contributes to the literature of construction firms' management in two main perspectives. Firstly, from the theoretical perspective, the study established a foundation for future researchers interested in

examining the causes of heterogeneity in construction firms' performance. Exploring these causes will also help new construction firms' stakeholders, and policymakers obtain a pre-knowledge of organizational and institutional pressures that may confront them and develop and deploy their resources and strategies to achieve superior performance in such an evolving context. Therefore, construction firms should realize that institutional pressures have to be consistent with the performance enhancement strategy and how they can mould the firms in this field in their quest for legitimacy.

Secondly, from the practical perspective, this study is the first attempt at evaluating the organizational factors and institutional pressures as a critical determinant of organizational performance that should interest management at organizational levels. The findings are likely to be of interest to chief executive officers, project managers, and others with managerial responsibilities in construction firms who need to understand the type of internal pressures most appropriate for different business environments if they wish to make strategic decisions to improve their firm's performance. However, the findings' interpretation should be made with caution because when a business environment is considered complex, managers need to acquire market and environmental data and process them to reduce its uncertainty. Public agencies tasked with developing and implementing a policy regarding the construction industry's performance and construction professionals may also be interested in this research outcome.

Limitation and Directions for Future Research

Though this study has revealed some understanding of internal organizational factors' roles with institutional pressures on construction firms' performance outcomes, this is not without limitations. Since the present research adopted a cross-sectional design, underlying inferences cannot be made to the study population. Consequently, a longitudinal approach to data collection with more robust methodologies (mixed approach) may yield better results.

Furthermore, due to sample size limitations, the findings' generalisability may be limited, as a larger sample could have permitted more realistic conclusions. Future researcher works should try to increase the study samples from the 197 for better results and consider different internal pressures capable of causing heterogeneity in construction firms' performance to raise the total variance explained of endogenous variable above 75.7 percent. Furthermore, researching other charismatic traits of pressures such as legitimacy could be another field to study.

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