

Paper ID: BECM 0128

An investigation of contractual dispute avoidance measures taken by construction firms in Bangladesh during COVID-19: Effective options for dispute resolution

S.U.H. Lobongo^{1*}, M.A. Islam², A. Islam³

¹Department of Building Engineering and Construction Management, RUET, Bangladesh, (lobongo.becm14@gmail.com)

²Department of Building Engineering and Construction Management, RUET, Bangladesh, (ashraful.ce.ruet13@gmail.com)

³Department of Building Engineering and Construction Management, RUET, Bangladesh, (asadruetce11@gmail.com)

Abstract

Due to the spread of COVID-19, the construction industry of Bangladesh has been severely disrupted. When a range of diverse participant groups is involved in a project, it creates disagreements. As a result, schedule and cost overruns would harm the projects. However, 100% conflict avoidance in a project is a near-impossible circumstance. This research aims to look into the various contractual dispute avoidance strategies used by construction companies of Bangladesh to mitigate the effects of the Covid-19 pandemic on contractual terms. Also, to review the primary coping and underpinning methods used by construction firms to deal with the effects of Covid-19 among the identified measures. Some of these measures include- the contracting parties designated an adjudicator to resolve disputes within 30 days after receiving the complaint, maintaining good relationship with the contractual parties, the employer investigated the topic of any labor complaint and making an early decision on site closure. At first, qualitative measures were established through a number of different approaches. Individuals who are working on different construction projects in Bangladesh were interviewed by online questionnaire as part of the data collection process. The collected data was analyzed using statistical data screening and analysis. This include-Reliability analysis, Descriptive statistics, and Exploratory factor analysis. This study provides the most effective ways for minimizing contractual conflicts and mitigating the effects of Covid-19 or such future pandemics on construction business operations and avoiding problems escalating into uncontrollable and untimely conflicts. Also, minimize the logistical strain of contractual matters.

Keywords: COVID-19; conflict; contractual dispute; construction industry; pandemic.

1 Introduction

The SARS-CoV-2 virus, which causes the novel coronavirus illness (COVID-19), spreads when an infected person comes into close contact with a susceptible individual. Because of lowered investments, degraded human capital, and dispersed global trade and supply lines, this pandemic is predicted to leave a lasting impact on the world economy. Global GDP is expected to decline by 5.2 percent in 2020, according to estimates. COVID-19 has significant public health risks. The pandemic has killed over 2, 727, 837 individuals and afflicted 123, 902, 242 people with confirmed cases (WHO 2020 a). Initially, the virus was assumed to be "unknown origin pneumonia" and was related to a seafood market in Wuhan (Zhu et al., 2020). In fact, on January 2, 2020, WHO informed the Global Outbreak Alert and Response Network partners of a batch of pneumonia cases in the People's Republic of China. On January 4, WHO announced that there had been no deaths as a result of the pneumonia case cluster (WHO 2020b). 8 September 2022, Dhaka (BSS) - One Covid-19 death was reported in Bangladesh today, compared to 388 coronavirus positive infections during the same time period. As 5,241 samples were examined during the course of the last 24 hours, Bangladesh recorded 7.40 percent Covid-19 positive cases, according to a daily statement from the Directorate General of Health Services (DGHS). According to the official count, the virus has so far infected 20,14,077 persons and killed 29,330 people. According to DGHS figures, 1.46 percent of Covid-19 patients who were infected at the start of the pandemic died while 97.22 percent of them recovered. Twelve thousand nine hundred and three of the 29,330 fatalities occurred in the divisions of Dhaka, 5,893 in Chattogram, 2,153 in Rajshahi, 3,732 in Khulna, 988 in Barishal, 1,343 in Sylhet, 1,423 in Rangpur, and 895 in Mymensingh (BSS, 2022). The construction industry in Bangladesh has been significantly disrupted as a result of COVID-19's spread, for instance by postponing and stopping projects that were in the works before to the epidemic.

Construction projects must still be completed on construction sites where workers may interact with one another and contract COVID-19 since online activities cannot take the place of construction activities there. Construction projects appear to be a desirable choice for local governments to do so when towns and countries reopen from stay-at-home rules and establish plans for financial responses to enhance local economies.

The majority of mega projects of Bangladesh aren't progressing as quickly as they were expected to, so timelines need to be reevaluated. The coronavirus situation in Bangladesh has made development on megaprojects difficult, despite government efforts to speed things up. Many times, small scale construction is accomplished through maintaining social distance. The government intends to carry out 1,500 projects as part of the Annual Development Program (ADP) in FY2020–21, according to the Finance Division. To conserve money, it has chosen to halt funding for 30% of the projects that have been deemed to be of lower priority (Dhaka Tribune, 2020). Due to the pandemic, 30% of the remaining 70% of projects will have high priority this year, while 40% will receive moderate priority. That means that work on most of the mega projects will not be accomplished according to their deadlines (Dhaka Tribune, 2020).

The application of force majeure is solely contractual under English Common Law. It is accepted that there is no universal doctrine of force majeure, and it is up to the parties to define what events qualify as force majeure. In Bangladesh, the situation is similar, as there is no direct regulation that rules or expressly gives effect to the idea of force majeure. However, not all business contracts contain a force majeure clause, and in today's COVID-19 environment, parties may be unsure if they will be able to perform their respective responsibilities under the contract in a timely or even timely way. It's crucial to know if parties in Bangladesh can effectively claim a force majeure event or be released of their respective responsibilities as a result of COVID-19 within Bangladesh's current legal framework. The Contract Act 1872 governs all contracts that are governed by Bangladeshi law (Contract Act, 1872). The Supreme Court of Bangladesh clearly stated that in order to invoke the doctrine of frustration of contract, the performance of the contract must become absolutely impossible due to an event (following the making of the agreement) that was not in the parties' contemplation and could not be foreseen with reasonable diligence. Force majeure situations are controlled by identical provisions of the Indian Contract Act 1872, according to the Indian Supreme Court. To use the theory of frustration, the contract's performance must become completely impossible due to the occurrence of some unforeseen event.

Unfortunately, Construction industries do not presently have access to any response plans or guidelines that are both detailed enough to meet the COVID-19 pandemic-related challenges in the construction industry and broad enough to cover all potential responses. This study was designed to fill this knowledge gap by collecting information from industries and academics to establish a response strategy for construction businesses that will help them deal with pandemic situations more effectively. In the absence of well-founded research studies on the effects of the pandemic on the building industry in this particular location, field studies, comparable studies, and corporate blueprints were examined for construction-related preliminary, contractual, and conflict avoidance metrics against Covid-19. These data were used to build the questionnaire survey's content, which provided the necessary foundation for comprehensive generalizability. Descriptive statistics and exploratory factor analysis were utilized to understand the various levels of impact that all of the identified measures had on the coronavirus pandemic.

2 Methodology

First, qualitative measures were developed using a variety of methods, such as a review of the literature on how construction companies reduced the risk of lawsuits and took preventative safety precautions during prior pandemics. Similar to this, online brainstorming sessions with construction specialists were performed to obtain knowledge about the present measures implemented by construction businesses. This is a successful method for establishing questionnaire constructs, according to Field (Field A., 2013). The information on the individuals was then added to the questionnaire along with the specified measures and constructs.

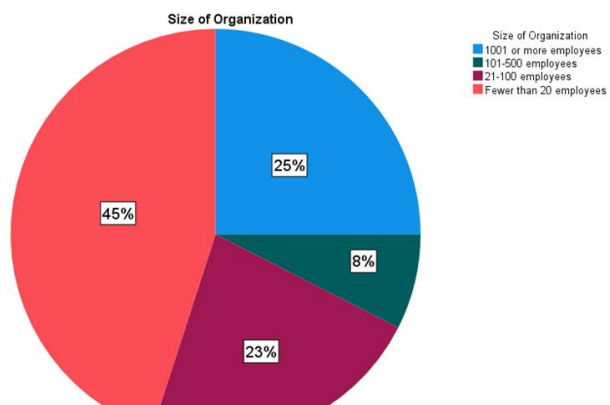


Figure 3.1. Respondents of questionnaire

3 Data Collection

The measures were presented on a five-point Likert scale, allowing for the summarization, averaging, and further statistical analysis of the participants' responses (Nunnally & Bernstein, 2007). The Likert scale has a range of 1 to 5, with 1 denoting no consideration of the measure and 5 denoting implementations of the measure by construction enterprises. The questionnaire was tested by industry experts in construction. A distributed internet survey strategy was used to reach the desired audience. In particular, Google Form, was selected for this survey work. of the replies into SPSS using Excel data format as well as sharing and sending of questionnaire links is possible with this platform. Finally, 40 replies from various construction industry professionals of Bangladesh were gained. Shown in figure 3.1 & 3.2.

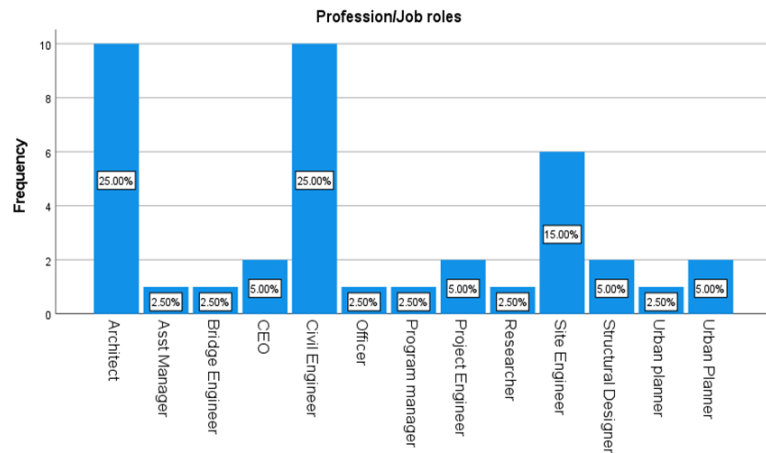


Figure 3.2. Size of Organizations of respondents

4 Data Analysis

This study uses statistical data screening and analysis techniques to reach the research goal. Also, to determine the primary and underlying strategies implemented by construction enterprises to handle the Covid-19 storm in a method to limit the litigation risk. These consist of exploratory factor analysis, descriptive statistics, and reliability analysis. In this study, total number of valid responses is 36 and 4 were deleted due to missing responses.

4.1 Data Screening and Reliability Analysis

Cronbach Alpha coefficients were calculated for each of the questionnaire's measures in order to guarantee the reliability of the data utilized for analysis. A group of survey items' internal consistency or reliability is measured by the Cronbach's alpha coefficient. On a uniform 0-1 scale, Chronbach's alpha assesses the degree of agreement. Higher number denotes items with greater agreement. According to research by Nunnally and Bernstein (2007), with a Cronbach Alpha value ranging from 0 to 1, a number above 0.7 denotes that the data is suitable for further analysis, while a value above 0.8 denotes that the data has outstanding internal consistency (Nunnally & Bernstein, 2007). In this study, the Chronbach's alpha was found 0.876 with 20 variables using SPSS V28, which suggests an excellent internal consistency. Cronbach's Alpha if item deleted was calculated to delete any factor that had a value above 0.919, which recommends that such a factor is not contributing to the overall internal consistency of the data. This was done in accordance with Field's (Field A., 2013). There is no such variable found which can be removed for further analysis. Table 4.1 shows the values of Chronbach's Alpha Coefficients and summary of reliability analysis.

Table 4.1. Values of Chronbach's Alpha

Reliability Statistics		
Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.876	.879	20

4.2 Descriptive Statistics

In this section, descriptive statistics were performed to determine the top coping measures used by construction firms in accordance with the study's objective. To determine the best measures, the means and standard deviation were estimated using SPSS. Table 4.2 shows the mean values of the contractual measures and overall ranking of them. This ranking is done based on mean values.

Table 4.2. Results of the reliability analysis and descriptive statistics

SN	List of Factors	Reliability Analysis		Significance Index	
		Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted	Mean value	Overall Ranking

CM 1- Since business partners and subcontractors face comparable problems', good relationship is maintained.	.357	.874	4.0968	2
CM 2- Maintaining goodwill with contractual parties while acknowledging the necessity to share losses	.507	.870	3.9677	4
CM 3- In accordance with the contract, preparations were made in advance to provide contractual notices on time.	.403	.873	3.9677	4
CM 4-Early decision was made on who will authorize site closure	.518	.869	3.9677	4
CM 5 - A choice was made and announced regarding how employees will be compensated (before the actual closure)	.482	.870	4.0645	3
CM 6- Contract provisions were examined to confirm details regarding the notice period	.516	.869	4.1290	1
CM 7- With the partners, contract changes were made with COVID-19 serving as the primary basis.	.678	.863	3.6452	7
CM 8- Automatic "force majeure contract on project" occurred due to COVID 19.	.521	.869	3.5484	8
CM 9- COVID-19 is automatically covered by any other clauses already present in the contract, such as those that refer to "causes beyond a party's control" or "Acts of God."	.403	.873	3.5161	9
CM 10-According to COVID-19, a contract's existing clauses will cause it to end automatically.	.533	.868	2.9677	15
CM 11- In order to accommodate COVID-19, changes to employment policies (sick compensation, salary, remote working, etc.) were made.	.473	.871	3.4194	12
CM 12- Employees were told to report any potential source of conflict.	.228	.878	3.9032	5
CM 13- The parties concur on a suitable dispute resolution provision.	.471	.870	3.7333	6
CM 14- In pre-bid meetings, custom provisions appropriate for the project are created and further discussed.	.508	.869	3.3548	12
CM 15- In order to protect their own interests, the owner, contractor, subcontractor, EPC and O&M businesses, architects, engineers, etc. allotted time and resources for legal due diligence in order to prevent disagreements	.546	.868	3.5161	9
CM 16-Drafting of contract with the help of legal advisor has been done	.643	.864	3.4516	11
CM 17- The contractual parties designate an adjudicator who is an expert in the relevant subject to settle disagreements	.519	.869	3.1613	14
CM 18-Adjudication has been made mandatory or a default provision	.528	.870	3.2903	13
CM 19-The employer had investigated the matter of complaint of any labor within 30 days of receiving the complaint	.373	.874	3.2903	13
CM 20-The employers or the collective bargaining agent have communicated his or its views in writing to the other party if an industrial dispute is likely to arise between employers and workers	.447	.871	3.4839	10

4.3 Factor Analysis

A strong method of data reduction is factor analysis. Factor analysis was used as a data reduction method to identify the underlying policies that were implemented for minimizing contract disputes and litigation brought on by Covid-19. According to Field (Field A., 2013), a number of criteria, such as Bartlett's test of sphericity and Kaiser-Meyer-Olkin, are typically used to determine if data are appropriate for factor analysis (KMO). Values above 0.6 are deemed appropriate for KMO values ranging from 0 to 1, and a Bartlett's test of sphericity value of less than 0.05 is required to be regarded significant (Taherdoost et al., 2014). According to Kaiser (Kaiser, 1974), KMO values higher than 0.5 should only be barely accepted. KMO levels below 0.5 should prompt the collection of additional data or the selection of additional variables. The KMO value was found 0.630 and the Barlette's Test of sphericity was <0.001 which confirmed the acceptance of factor analysis. Values of KMO and Barlette's test are shown in Table 4.4. Varimax with Kaiser Normalization and Principal Axis Factoring (PAF), as recommended by Worthington and Whittaker (Worthington & Whittaker, 2006), were used for factor extraction and factor rotation, respectively. These led to the development of three main components that indicated the comprehensive steps implemented by the construction industry as a method of averting disputes and litigation brought on by Covid-19 and its accompanying interruption to industry operations. (Salami et al., 2021) The three components were given labels based on their component factors, and their Eigen factors and percentage of variation were used as their significance indicators. Results are shown in Table 4.5.

Table 4.4: Values of KMO and Barlette's test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.630
Bartlett's Test of Sphericity	Approx. Chi-Square	149.960
	df.	66
	Sig.	<.001

Table 4.5: Component labeling and its associated criteria

SN	Extracted and rotated components	Eigen Value	% Of variance	Factor Loading
COMP-1	Covid-19 pandemic early analysis for probable effects on force majeure clause	4.120	37.453	
CM- 4	Who will approve the shutdown of the property has already decided before the actual site closure			0.682
CM-5	A choice was made and announced regarding how employees will be compensated (before the actual closure)			0.930
CM-6	Contract provisions were examined to confirm details regarding the notice period			0.681
CM-12	Employees were told to report any potential source of conflict.			0.684
CM-13	The parties concur on a suitable dispute resolution provision.			0.404
COMP-2	Relationship Management	1.863	16.940	
CM-1	Since business partners and subcontractors face comparable problems', good relationship is maintained			0.790
CM-2	Maintaining goodwill with contractual parties while acknowledging the necessity to share losses			0.725
CM-7	With the partners, contract changes were made with COVID-19 serving as the primary basis.			0.552
CM-8	Automatic "force majeure contract on project" occurred due to COVID-19			0.663
COMP-3	Review of the terms and conditions of the contract	1.171	10.641	
CM-3	In accordance with the contract, preparations were made in advance to provide contractual notices on time			0.838
CM-9	COVID-19 is automatically covered by any other clauses already present in the contract, such as those that refer to "causes beyond a party's control" or "Acts of God."			0.833

5 Discussions

This section describes the fundamental strategies construction companies are employing to lessen the effects of Covid-19 based on the three-factor components that were isolated and rotated from factor analysis.

5.1 Covid-19 pandemic early analysis for probable effects on force majeure clause

It is certain that the dynamics of the construction sector would alter as a result of the Covid-19 outbreak, so it is essential to do an early analysis of how this might affect a force majeure claim. All suggested methods for evaluating pre Covid-19 implications on internal and external contract commitments, particularly the force majeure rules, are included in the factor component, which has three elements and a total variance of 37.453% percent. However, it is important to keep in mind that evaluating whether the corona virus pandemic qualifies as a force majeure event necessitates a careful review of the specific agreement's precise wording as well as the scope, character, and content of the contract in light of the relevant law. It will also be necessary to prove that Covid-19 has prevented, hampered, delayed or negatively affected the performance of the contract in order to be able to rely on it.

5.2 Measures for Relationship Management

This section emphasizes relationship management as a strategy for reducing issues related to carrying out contractual commitments in building projects. The factor grouping with four measures to manage interactions between contractual parties has the highest proportion of total variation (16.940%), as shown in Table 4.5. Since the contractual obligation measures recommended by the factors could only be realized through effective relationship management between contractual parties, the factor name "Relationship Management Measures" was placed on the grouping. Without a doubt, the success of these measures depends on the contractual parties' willingness to forego expensive inconveniences by reaching a reasonable settlement and upholding a pleasant and happy relationship. For firms that are expanding their organizational span outside of their core competences and creating a network of connections to gain the necessary expertise for value creation, the ability to manage relationships with others is critical (Sheth & Parvatiyar, 1995).

5.3 Review of the terms and conditions of the contract

This factor takes into account various contractual dispute avoidance strategies with regard to construction enterprises surviving the effects of Covid-19. Without a reference to a pandemic, the WHO's declaration of Covid-

19 as a pandemic will not enact a force majeure clause, which may result in disagreements between the parties in addition to project delays. Owners of projects must review contractual clauses that cover things like force majeure, project termination, notification obligations, rights to time extensions, resource availability, health and safety precautions, etc. The coronavirus pandemic has had significant effects on the labor market, similar to other aspects of the construction industry. This has led to a reevaluation of employment contracts, which in some circumstances has resulted in a loss of earnings, production, remuneration, and employment (Ogunnusi et al., 2020).

6 Conclusion

The coronavirus outbreak has had a significant negative influence on Bangladesh's building sector. The Bangladeshi government was forced to impose a general shutdown of the nation's economic activity because to the coronavirus outbreak. This study examines the perspectives of practitioners in the construction industry on strategies for avoiding contractual disputes that were implemented during the Covid-19 pandemic

- In order to understand the legal implications of force majeure clauses, this study also urged early investigation of the Covid-19 pandemic's effects on all contractual terms to manage contractual responsibilities.
- Additionally, in response to the effect of Covid-19 on contractual commitments, this study recommends re-evaluating contractual terms and conditions for site opening or closure decisions, contractual information on notice duration, and revisions to specific components of employee contracts.
- The identified measures were investigated by stakeholders in the construction sector, including site management. The main coping and supporting strategies used by the construction enterprises to deal with the effects of COVID-19 have been reviewed among the recognized measures.
- Contractors and owners who plan to enter the Bangladeshi building sector and encounter issues resolving disputes would benefit from this study.

A limitation was found during this research is a little number of the data collection when compared with construction professionals all over the country. It could be expected that such data would have a large number of survey participants. Further study could expand to gather more participants so as to explore latest updates on the impact of COVID-19 in the construction industry. Another limitation is the lack of literature to go in-depth for this study.

References

- BSS 2022. (2022). Bangladesh reports 269 fresh cases, one death from Covid-19 | News. Retrieved June 1, 2023, from <https://www.bssnews.net/news/32891>
- Contract Act. (1872). ACT NO. IX OF 1872. Retrieved June 5, 2023, from [http://bdlaws.minlaw.gov.bd/https://en.wikipedia.org/wiki/Contract_Act,_1872_\(Bangladesh\)](http://bdlaws.minlaw.gov.bd/https://en.wikipedia.org/wiki/Contract_Act,_1872_(Bangladesh)).
- Dhaka Tribune. (2020). How Covid-19 is affecting mega projects | Dhaka Tribune. Retrieved May 21, 2023, from <https://archive.dhakatribune.com/bangladesh/2020/07/18/how-covid-19-is-affecting-mega-projects>
- Field A. (2013). *Discovering statistics using IBM SPSS statistics*. 4th ed. London: SAGE.
- Kaiser, H. F. (1974). An index of factorial simplicity. *Psychometrika*, 39(1), 31–36.
- Nunnally & Bernstein. (2007). Nunnally, Jum C. and Ira H. Bernstein. *Psychometric theory: Nunnally and Bernstein*, 3rd edition.
- Ogunnusi, M., Hama-adama, M., Salman, H., & Kouider, T. (2020). COVID-19 Pandemic: The Effects and Prospects in the Construction Industry.
- Salami, B. A., Ajayi, S. O., & Oyegoke, A. S. (2021). Tackling the impacts of Covid-19 on construction projects: an exploration of contractual dispute avoidance measures adopted by construction firms. *International Journal of Construction Management*.
- Sheth, J. N., & Parvatiyar, A. (1995). Relationship marketing in consumer markets: Antecedents and consequences. *Journal of the Academy of Marketing Science* 1995 23:4, 23(4), 255–271.
- Taherdoost, H., Sahibuddin, S., & Jalaliyoon, N. (2014). Features' Evaluation of Goods, Services and E-services; Electronic Service Characteristics Exploration. *Procedia Technology*, 12, 204–211.
- WHO (2020a). Coronavirus disease 2019 (COVID-19): Situation Report - 78 (7 April 2020) - World | ReliefWeb. Retrieved June 9, 2023, from <https://reliefweb.int/report/world/coronavirus-disease-2019-covid-19-situation-report-78-7-april-2020>.
- WHO (2020b). Coronavirus Disease (COVID-19) Situation Reports. Retrieved September 13, 2022, from <https://www.who.int/emergencies/diseases/novel-coronavirus-2019/situation-reports>
- Worthington, R. L., & Whittaker, T. A. (2006). Scale Development Research. *The Counseling Psychologist*, 34(6), 806–838.