



COVID-19 PANDEMIC AND MEGAPROJECTS IN THE GCC COUNTRIES

Azzam Alroomi

Assistant Professor at Arab Open University,
Business Department, Ardiya, Kuwait
aalroomi@aou.edu.kw

Abstract

The purpose of this study is to examine the impact of the covid-19 pandemic on the megaprojects in the GCC region. This paper looks at the historical evidence before, during and after the covid-19 crisis, we show that the megaprojects in the GCC region is a main driver for economic growth. How countries went into emergency status and were forced to change the status quo. Furthermore, we look at the impact of the pandemic in the economic landscape. Based on the reviews and interviews with experts in the industry, the purpose of this report is to disseminate findings on the manner in which COVID-19 has affected megaprojects in the region, The region depends heavily on oil production as a source of revenue and in the past decade the GCC countries are systematically moving away from the complete dependence on oil, thus relying more megaprojects, examples of these megaprojects are research in this paper. Keywords: Megaprojects; Covid-19; Crisis; GCC; Economic

INTRODUCTION

The COVID-19 pandemic has brought with it major disruptions in all sectors of the economy across the globe. Just as in many other countries, the pandemic has manifested detrimental effects on megaprojects in Gulf Cooperation Council (GCC) countries, with industries such as construction, real estate, hospitality, and transportation bearing the heaviest brunt. Megaprojects have traditionally been influential drivers of economic growth in the GCC countries, which include the Kingdom of Saudi Arabia, Qatar, Kuwait, Bahrain, the United Arab Emirates (UAE), and Oman. Nevertheless, the onset of the pandemic has led to delays,



postponement, or cancelation of some megaprojects in the region, resulting in negative economic consequences among the GCC member states. While the Gulf States have implemented some measures to combat the COVID-19, issues revolving around delays caused by worker shortage and cost overruns continue to plague projects in the region. It is therefore imperative to come up with additional countermeasures that can enhance the sustainability and feasibility of these projects even in times of uncertainty in order to accelerate economic growth in the GCC member states. Many empirical and theoretical studies have explored the evolution, economic effects, and mitigation efforts of COVID-19 on megaprojects in the GCC. Based on the reviews and interviews with experts in the industry, the purpose of this report is to disseminate findings on the way COVID-19 has affected megaprojects in the region, for example in terms of delays, while also providing solutions for fixing the problems caused by the pandemic on GCC megaprojects.

Emergence and Evolution of COVID-19 in the GCC Countries

Alandijany, Faizo, & Azhar (2020) conducted a study exploring the status and management strategies targeting COVID-19 in the GCC countries. In this study, the authors provide a timeline of the emergence and spread of the pandemic in the Gulf countries. According to the researchers, the UAE was the first to report cases of COVID-19 among the GCC countries through its Ministry of Health & Prevention on January 29, 2020. The patients were four family members who had recently arrived from Wuhan, China, where the virus originated. Qatar, Iraq, Oman, Kuwait, and Bahrain reported their first COVID-19 cases in late February. These cases were either Iranians or citizens of the GCC countries who had recently visited Iran for religious or personal purposes.

As soon as these Gulf countries reported confirmed cases, the Kingdom of Saudi Arabia put in place control measures and management practices such as suspension of Umrah, cancellation/suspension of some international flights, and suspension of tourism. Nevertheless, despite these restrictions, Saudi Arabia reported its first confirmed case of COVID-19 on March 2, 2020. Alandijany et al. (2020, p. 840) contend that with other GCC countries, Saudi Arabia's first case "was linked to a recent visit to Iran". Owing to the tremendous efforts initiated to curb the spread of the virus, as at the end of May 2020 the active cases of COVID-19 in the six GCC countries was 92,171, with 54,300 recovered patients and 841 deaths. This represents 934.3 active cases, 550.4 recoveries, and 8.5 deaths per a million population/people.

Since then, the cases of COVID-19 have continued to rise gradually just like everywhere else in the world. Measures taken by the GCC countries to combat the spread of the infection have included lockdown of major cities, university and school closure, full suspension of flights,

banning of sports events and social gatherings, launching of COVID-19 active screening, and provision of free-of-charge healthcare to patients afflicted by the virus. The countries have also initiated multiple awareness campaigns through various forms of media to enhance public awareness regarding COVID-19 infection and offer up-to-date information on new cases, recoveries, and deaths.

Megaprojects as Drivers of Economic Growth in the GCC

Over the past four decades, the Gulf States of Saudi Arabia, Qatar, Kuwait, Bahrain, the United Arab Emirates (UAE), and Oman have used megaprojects for promoting economic development. Examples have included the construction of the physical infrastructure needed for oil production, but more importantly, megaprojects for stimulating non-oil sources of growth. Walsh & Walker (2021) describe megaprojects as complex, transformational, large-scale ventures costing a billion dollars or more, involving multiple public and private stakeholders, taking many years to build and develop, and having an impact on millions of people.

Just like in other parts of the world, megaprojects in the Gulf States have been important engines for economic growth, transformation, and poverty alleviation. These projects have facilitated knowledge and technology spillovers and helped link domestic firms in GCC member states to global value chains (Zaidan & Abulibdeh, 2021). In addition, megaprojects in the GCC have burnished the image and profile of the countries in the eyes of investors, thereby helping to attract more foreign direct investment.

Furthermore, historically, megaprojects in the Gulf region have made major fiscal contributions to state coffers, for instance through taxation and profit-sharing arrangements. All of these have accelerated economic growth in the Gulf countries and improved other aspects of social life. For example, countries in the region have invested fiscal revenues from the megaprojects to improve education and infrastructure to support industrial production, which in turn promotes economic transformation. Given their capital-intensive nature, megaprojects in the GCC countries have additionally played an instrumental role in creating employment and opportunities to develop local skills via training and on-the-job knowledge transfers.

Impact of the Pandemic on Megaprojects and Economic Landscape of GCC

Nonetheless, starting in early 2020 at the onset of the COVID-19 pandemic, the industries such as construction, retail, transportation, and energy in the GCC have suffered tremendously. The economic shocks of this pandemic coupled with tumbling oil prices have weakened the demand for construction materials such as rebar, leaving many of the projects delayed, postponed, or cancelled. Walsh & Walker (2021) contend that approximately 550

projects worth over \$60 billion have stalled since March 2020 owing to the COVID-19 pandemic, most of them in the UAE and Saudi Arabia. In April of the same year, the number of contracts awarded in the GCC countries was worth just \$4.1 billion, down by 40% a year earlier (Walsh & Walker, 2021). The researchers forecast the construction sector in the UAE to contract by 1.9% from an expectation of 4.3% growth pre-COVID.

Schreiber, Khoury, Dadhich, Sumo, & Bauer (2020), citing forecasts from the International Monetary Fund (IMF), suggest that the GDP of all GCC countries will decline in 2020, with the Kingdom of Saudi Arabia registering a 2.3% reduction in 2020. Consequently, this GDP fall will affect government spending, thereby resulting in reprioritization, more economic slowdowns, and postponement of the visions of GCC states, especially those related to asset-heavy projects. A statement by HE Mohammed Al-Jadaan, Saudi Arabia's Minister of Finance, reaffirmed the devastating impact of the pandemic by stating. In the statement, he reiterated, "Some of the national projects' infrastructure that was supposed to be built by the government could be delayed in delivery time based on the new prioritized schedule of such projects, which have a combined budget of over SAR 10 billion riyals" (Schreiber et al., 2020).

Indeed, the ongoing COVID-19 pandemic has created a hostile environment particularly for contractors. In September 2020, shareholders of Arabtec Holding, a giant construction company based in the UAE, voted to place the debt-laden firm into liquidation following a loss of \$216 million in the first half of 2020 (Sayegh, 2020). Another UAE construction firm, Brake and Scull, announced in October 2020 that because of the pandemic it was in advanced stages of talks with banks for financial restructuring, other megaprojects in the region have also suffered a similar fate of postponement or termination. For instance, Majid Al Futtaim (MAF), the biggest mall operator in the Middle East, delayed the launch of its largest center in Oman, the 1.5 million sq-ft (145,000 square-meters) Mall of Oman due to the repercussions of the pandemic (Sayegh, 2020).

Emaar Malls, operator, and owner of the largest shopping center in the world, the Dubai Mall, also halted construction on some of its megaprojects. The halted megaprojects included a 185,000 square-meters mall in the residential area of Dubai Hills and a mall near the site of the Expo 2020 world fair, which also the organizers delayed to the crises brought about by the COVID-19 pandemic (Sayegh, 2020). Such luxury malls, which feature international brands as well as entertainments such as indoor ski slopes and dancing fountains, have been the corner stone of the retail industry in the oil producing GCC member states particularly during the blistering summer months. Stalling of these megaprojects due to the ongoing COVID-19 will thus have negative implications on the economic growth and prosperity of the Gulf States.

In an interview conducted with Khalil Jahshan, a specialist in GCC megaprojects, the executive noted that the decline in megaprojects in the jurisdictions is mainly because of the operational difficulties brought about by the pandemic. He acknowledges that while construction workers in many Gulf States including the UAE remained on-site during the initial onset of COVID-19, social distancing measures resulted in approximately 10-30% drop in productivity. The industry also relies heavily on expat workers, many of whom left in large numbers following the announcement of the pandemic, leading to massive labor shortages that had an adverse effect on megaprojects in the GCC. In addition, the interview revealed that tumbling oil prices in the region implies that firms involved in megaprojects face a shrinking market, which subsequently stalls projects and may lead to cost overruns.

REVIEW OF THE LITERATURE

Various researchers have also explored the manner in which the pandemic has dealt a blow to megaprojects in countries across the region. For instance, Alenezi (2020) examined the impact of COVID-19 in bringing about delays in mega construction projects in Kuwait. The methodology utilized by the researcher comprised of questionnaire surveys to collect qualitative and quantitative data from professionals involved in megaprojects in Kuwait. Survey responses analyzed by the researcher came from 26 engineers, 16 architects, 10 surveyors, 5 employees in construction management, and 2 coordinators. Findings from this study showed that many of the respondents, approximately 95%, reported that the pandemic had caused significant delays in their megaprojects. The most common reason cited by the respondents for delays in the megaprojects was the inability of employees to report to work due to the COVID-19 pandemic. The researcher found out that the type of delay in the megaprojects in Kuwait was mostly critical delay, which he defines as “delay in completion date for the project. This delay becomes a reality of the project when a contractor has not completed the project within the contract period” (p. 6).

Amri & Marey-Pérez, (2020) from a different dimension explored the impact of COVID-19 on megaprojects underway in Oman, with specific emphasis on the construction sector. The scholars conducted secondary research based on governmental statistics, news and current literature pertaining to the impact of the pandemic in major projects in the Omani construction industry. According to Amri & Marey-Pérez (2020), the government of Oman imposed strict quarantine in the wake of the pandemic, which had a detrimental effect to the construction industry that almost came to a stall. The main reasons for the delay of megaprojects and the decline of the Omani construction company during the pandemic as cited by the researchers are the suspension of constructing projects by the decision of government agencies or developers,

interruptions in the supply of equipment and materials, and reduced productivity of laborers due to increased security measures.

Just like Alenezi (2020), Amri & Marey-Pérez (2020) also acknowledge that other causes of delays in megaprojects in the Gulf have included the displacement of workers because of border closures and the suspension of transport links. The lockdown situation is one of the principal factors attributable to the delays and decline in the construction company in Omani as per the research conducted by Amri & Marey-Pérez (2020). The researchers acknowledge that at the onset of the pandemic, authorities of the Sultanate of Oman decided to close the capital province of Muscat in an effort to fight against the spread of the virus. The lockdown situation resulted in reduced commercial activity with market focus shifting towards the necessities of life such as food and medical facilities. Amri & Marey-Pérez (2020) reiterate that during the month of March 2020, the contract rate for megaprojects in Oman decreased to about 75% and has continued to decline since.

Besides Kuwait and Oman, the megaprojects in the United Arab Emirates (UAE) have also faced major setbacks due to the outbreak of the pandemic. Ghandour (2020) conducted a study to explore the effects of COVID-19 on megaproject delivery focusing of the construction sector in the UAE. The researcher employed the within-subject research design, using purposive and simple random sampling in the selection of respondents. The final sample consisted of 116 project managers overseeing megaprojects in the construction industry in the UAE. Data collection was via self-administered online questionnaires. The researchers then applied the SPSS software to analyze the data collected from the respondents using the paired samples t-test analysis technique to compare the means of the estimated number of days taken to complete a project before and during the COVID-19 period.

Findings from this study by Ghandour (2020) revealed a statistically significant effect of COVID-19 on the number of days taken to finalize or complete a project in the construction industry in the UAE, akin to what Amri & Marey-Pérez (2020) and Alenezi (2020) had found in Oman and Kuwait respectively. Specifically, the results indicated that the COVID-19 pandemic resulted in lack of access to labor and raw materials, thereby leading to the delays in the completion of projects. An important insight provided by the researcher is that unlike other industries, the construction projects cannot accommodate long-distance working and therefore the industry is at risk when the government enforces curfews and other stringent quarantine measures, as was the case from the onset of the COVID-19 pandemic (Ghandour, 2020).

Gamil & Alhagar (2020) also conducted a comprehensive investigation on the impact of COVID-19 on the survival of the construction industry, albeit focusing not only on the Gulf region but also across the globe. Their investigation applied two methods including questionnaire

surveys administered to 129 respondents and exploratory interviews with 10 experts from the construction industry to share and express their opinions and insights on the current state of the construction industry in the mid of pandemic. Due to the restrictions of movement imposed because of the pandemic, the researchers conducted the exploratory interviews via Skype. From the interviews and the analysis of the questionnaires, various themes emerged regarding the impact of the pandemic on mega project. Consistent with the findings by Alandijany et al. (2020), the major impacts of the crisis included suspension of projects, job losses accounting for workforce shortages, supply shortage, cost overrun, time overrun, and interruption of planning and scheduling. Other impacts identified by Gamil & Alhagar (2020) were interruption of contractual terms resulting in legal issues and shortage of materials to support running megaprojects coupled with sudden fluctuation of material price.

The issue of force majeure contracts, which binds project stakeholders legally, has also received notable attention from Casady & Baxter (2020). Their research centered on expectations and implications of pandemics, force majeure, and public-private partnerships (PPPs) in the wake of COVID-19. The intention of the research by Casady & Baxter (2020) was to make practical contributions that aim at “anticipating and influencing the type of managerial knowledge needed to deal with coming societal and organizational concerns – what we need to know to enlighten both academic and reflective practitioners” (p. 3). The contribution of the research called for both contractual improvements to force majeure provisions and non-contractual means of equitable risk sharing in megaprojects during unprecedented crises such as COVID-19. In their inquiry, Casady & Baxter (2020) echoed similar sentiments to Gamil & Alhagar (2020) through stressing the importance of sophisticated anticipatory planning while additionally stressing the need for mutual sensitivity between project members, effective communication, and collective responsibility and teamwork.

Pudney, Mills, & Mudunuri (2021) from another perspective looked at various aspects of megaproject certainty in the aftermath of the COVID-19 pandemic. As envisaged by the researchers, the emergence of COVID-19 is a defining event in infrastructure management. In this study, the scholars applied real options analysis and the Black Scholes option valuation model to determine value for money in front-end engineering megaprojects in Australia. Even though the focus of the study was on Australian megaprojects, the scholars acknowledge that findings can replicate in other jurisdictions including in the Arab peninsula. In this inquiry, the researchers found that through its pervasiveness, the COVID-19 pandemic has revealed weaknesses in the manner in which countries such as Australia manage their portfolio of infrastructure projects.

Unlike many of the cited studies, Pudney et al. (2021) in their investigation reached the conclusion that given the complex and uncertain world characterized by issues such as the recent plague, traditional infrastructure projects “in which a project passes through a long planning period before being delivered in exact accordance with that plan may no longer apply” (p.285). They also found that under conditions of uncertainty, there appears to be a gap in the knowledge body with respect to the management of a portfolio of infrastructure megaprojects at a national level. As the preferred portfolio of infrastructure projects during times of uncertainties such as the present moment of COVID-19, the investigators propose a diverse and flexible portfolio of “shovel ready” nationally distributed solutions and project plans while maintaining a readiness to defer, stage, scale, grow, abandon, shut down and restart infrastructure projects as required.

Researchers have also delved into other pertinent issues that have arisen in GCC megaproject landscape following the emergence of the COVID-19 pandemic. One of the major issue or factors as identified from interviews with professionals in the region and from research by Gamil & Alhagar (2020) is the impact on workforce. Most of the GCC countries depend heavily on migrant workforce and laborers from different countries including China for construction projects. The outbreak affected many people who had previously been working on the megaprojects in the gulf region. For example, as an interviewee confided, many Chinese workers had travelled to their home country for the Chinese New Year that inadvertently coincided with the outbreak of the pandemic. Subsequent travel restrictions affected the ability of Chinese workers to return to the region to work. Apart from the Chinese laborers, other workers from various parts of the world were also unable to return to the GCC to work due to the travel restrictions.

COVID-19 and the resulting economic contraction have also accelerated the intensification of the GCC workforce nationalization policies. These workforce nationalization policies as envisaged by Ullah, Lee, Hassan, & Nawaz (2020) will have wide-ranging negative implications on migrants in addition to affecting GCC labor markets. In 2019, approximately 35 million migrant workers resided in the GCC, constituting almost half (49.7%) of the total population of the GCC countries (Ullah et al., 2020). Most of these migrants were blue-collar workers from Asia and Africa. A surge in prejudiced discourse has accompanied the latest wave of workforce nationalization policies, with locals largely blaming the spread of COVID-19 on migrants, particularly the blue-collar workers. This is because the majority of these workers live under dismal conditions in overcrowded accommodations, some of which have emerged as hotspots for the spread of COVID-19 (Santamaria, 2020, and Ullah et al., 2020). For many migrant workers, the overall impact of the nationalization policies and prejudice have been

devastating, as they have lost their jobs and GCC governments repatriated them to their home countries. To the GCC countries, the result has been escalating workforce shortage in the implemented megaprojects.

From the existing literature, the other typical issue related to COVID-19 that has affected megaprojects in the Gulf countries revolves around health and safety impacts for employers. In their thorough examination of the driving factors of successful megaproject construction management, He, Xu, Wang, & Chan (2021) opined that in the context of COVID-19, employers had to review their health and safety protocols and policies in order to guarantee compliance with the appropriate/relevant Labor Laws. As in other jurisdictions across the globe, employers in the GCC countries have a duty of care to protect their employees from disease and injury in the workplace, an assertion reiterated by He et al. (2021) and supported by Zaidan & Abulibdeh (2021). Failure to meet this obligation would constitute a violation of human rights.

STRATEGIES FOR REDUCING DELAYS AND INCREASING SUSTAINABILITY OF MEGAPROJECTS IN GCC

In response to the various delays and cost overruns to megaprojects brought about by the COVID-19 pandemic, various stakeholders have proposed some strategies and action plans that can help in addressing the problem and ensuring that the projects remain on track. For example, Deloitte Development LLC (2020) recommends schedule assessment as an important strategy for dealing with the impacts of COVID-19 on the progress of megaprojects. From an interview with Samer Touqan, a Projects director at Dewan Architects & Engineers, he was adamant that in the wake of many jurisdictions barring construction, the impacts of the pandemic have been far-reaching to suppliers, designers, contractors, and subcontractors. Whether the projects are at risk of shutting down or have already shut down, Deloitte Development LLC (2020) acknowledge that it is critical for construction companies involved in megaprojects to document the current schedule status of these projects. The organization notes that performing a schedule assessment that includes examining the material procurement status is important since it can aid in identifying latent delays in the project schedule.

The other important recommendation provided by Deloitte Development LLC (2020) as well as the interviewee is resource planning. This entails revisiting resource plans across all project stakeholders such as owner, project manager, engineer, architect, contractor, and subcontractors, identifying current key resources, and those resources required during the project duration. Tracking work situations of projects on resources and obtaining updated project organizational charts is another critical element of resource planning during the COVID-19 pandemic to ensure that megaprojects do not suffer from further delays that might

compromise issues such as costs. Touqan during the interview confided that increased absenteeism of resources including human resources due to travel restrictions, sickness of employees or the need to care for others could have detrimental effects on the efficiency of the megaprojects. As such, it is imperative to understand resourcing trends to be able to predict changes to productivity vis-à-vis the original resource plan.

Another important recommendation for combating the delays in megaprojects during times of this pandemic is conducting comprehensive risk analysis. From the interviews conducted with construction specialists, this essentially involves refreshing the project risk register and considering different scenarios on the manner in which the projects may play out. Risk analysis as identified by Deloitte Development LLC (2020) involves consideration of market factors such as potential bankruptcy or insolvency of suppliers, contactors, vendors, and subcontractors, disruptions to the supply chain, and delays in obtaining permits. In the risk analysis undertaking, it is also essential to perform a cost-benefit analysis of project slowdowns versus shutdowns using simulation tools and prioritizing mitigation and response activities based upon the probability and the effects of the risks manifesting themselves (Walsh & Walker, 2021).

Reviewing contracts, consulting with counsel, and maintaining open communication channels with all the concerned stakeholders is the other effective mechanisms of overseeing megaprojects during this time of the COVID-19 pandemic. Because of the pandemic, it is inevitable for disputes to arise surrounding applicable statutory requirements and existing contractual provisions. Therefore, as Touqan and other field experts put it, understanding the manner in which project teams have administered and executed contracts will be vital in the development of claims as well as developments of defenses to the potential claims. Construction companies involved with megaprojects in the GCC should review their contracts with the aim of understanding force majeure contracts and ascertaining whether the applicable statutory requirements define pandemics as force majeure events (Deloitte Development LLC, 2020). It is also instrumental to understand contract terms surrounding time extensions, delays, excusable conditions, unforeseen conditions, and liquidation damages, as COVID-19 has the potential to affect each of these areas in differing and fundamental ways.

Another important change that can help megaprojects in the GCC countries to navigate the delays, cost overruns, and other economic consequences brought about by the COVID-19 pandemic is public procurement transformation. As economies in the Gulf State struggle to come to terms with the COVID-19 pandemic, the pressure is growing on public expenditure due to a severe reduction in government earnings coupled with increase in economic stimulus packages. Visions of new megaprojects such as Silk City in Kuwait, Lusail City in Qatar, NEOM

in Saudi Arabia, and other infrastructure intensive megaprojects determine large spending and activities focused on public procurement. Governmental entities typically associated with local, regional, or central procurement agencies execute this type of procurement. Crises such as COVID-19, as mentioned by Schreiber, Khoury, Dadhich, Sumo, & Bauer (2020) have put the GCC governments under immense pressure to focus on an expanding procurement scope, for example, managing supply-side risks at the forefront. Hence, in the midst of the COVID-19 pandemic, public sector entities involved in megaprojects have an increased role to play in the managing supply chains, associated risks, and supplier portfolios.

Providing economic stimulus packages to megaprojects is yet another important strategy that the Gulf countries can implement to ensure sustainability of the projects in the wake of COVID-19 pandemic. The stimulus packages are critical to heading off the impacts of job losses caused primarily by the pandemic. In Saudi Arabia, for example, the government has announced financial support and stimulus measures totaling to approximately \$19 billion to help the economy deal with the disruptions caused by the pandemic while the UAE implemented a \$34 billion stimulus package and Qatar implemented a \$23 billion stimulus package (Zaidan & Abulibdeh, 2021). The other Gulf States including Kuwait, Oman, and Bahrain have similarly announced plans to implement stimulus packages to support citizens and businesses in the wake of the COVID-19 crisis. Directing some of the financial support to megaprojects in the region can help in shielding such projects from failure and ensuring that they meet their goals including on-time completion and cost feasibility. GCC governments need to ensure that their stimulus packages go toward supporting economic sectors and enterprises that are most essential to their diversification plans and economic development including supporting megaprojects that diversify their revenue streams.

Apart from addressing the delays caused by the COVID-19 pandemic on megaprojects in the GCC countries, it is also necessary to address other problems that have historically led to delays in the completion of such projects in the Gulf States. Some of these challenges as identified by Abdulmoneim, Samadony, & Nosair (2021) include ineffective planning and scheduling of the megaprojects by the contractors, delays in progress payment by the client, poor qualification, experience, and skills by the contractors' staff and changes during construction. The researchers also identified administrative corruption, low labor productivity due to poor supervision, lack of construction material because of delay of supplier payment, and inadequate project complexity analysis that leads to technical problems starting from the design phase as the other major risks for delays and cost overruns of megaprojects in GCC countries including Saudi Arabia. Addressing these challenges is of utmost importance if the GCC

member states are to accomplish their goals of developing megaprojects in a sustainable and economically feasible manner particularly in the post-COVID-19 era.

Oyegoke & Al Kiyumi (2017) also performed a study to examine the causes, impacts, and mitigations of delay in megaprojects with specific emphasis on the Sultanate of Oman. Even prior to the crisis caused by COVID-19, project delay was a major problem in the Sultanate as evidenced by many projects running behind schedule in the country. The design utilized by the researchers was a systematic review of literature through main stakeholders. They also administered a questionnaire survey to sample the opinions of 53 practitioners after which they analyzed the responses using the relative importance index (RII) method. In rank of order, the four frequently cited causes of delay were selection of the lowest bid rather than best bid for the client, the financial condition of the main contractor, delay in decision-making by the client, and poor construction planning by the main contractor. The findings also indicated that project time overrun, and extra cost were the most significant effects of the delay in the Omani megaprojects. Mitigation strategies of construction delays in Oman megaprojects that can also be viable in other GCC countries as identified by Oyegoke & Al Kiyumi (2017) include the use of experienced consultants and contractors, effective construction planning by the main contractor, and efficient site management and supervision.

GOVERNMENTS RELIEFS AND SOCIAL INTERVENTION

After the covid-19 struck the world by surprise, we witnessed a great deal of reaction and intervention from governments and the respected governing bodies, this would eventually entail the highest relief packages in recent history. Diving deep into the relief bills from the US to Kuwait we see that the main purpose of these bills was to retain and regain the public confidence, nevertheless governments and central banks weren't eager lose their economy, either through failure of corporation or through consumer spending. However, as unemployment soared governing bodies needed a quick response as "initial unemployment claims hitting 3.3 million on the week of 3/21/20" Noah Williams (2020), that was a sign that small companies and large corporation were not shying away from letting people go. The quick response included the initial 1.9\$ trillion dollars in the United States. The bill included funds transferred to consumers without any repercussions. However, the funds in the relief bill were central bank owned loans with repayments. Other economies also pledge to providing reliefs bills in Europe, the ECB provided a 1.7 trillion Euros. Taking the remarks into consideration, how will this impact social good. Will the consumer confidence index recover from unseen lows to new highs with the publics newly issued free money? Will the consumer save what they had received from the governments? Witnessing the GCC region

moving from the dependency of oil to megaprojects has seen fiat of academic research on the subject, however, will the postponement of these projects have the GCC countries go under or will they recover. In wake of more fiat currency printing the world will have to accommodate to a new wave of inflation.

CONCLUDING REMARKS

As the COVID-19 global pandemic continues to affect communities and businesses, the construction and engineering industries in the GCC member states need to be more agile and flexible in order to adapt to changing market dynamics. These industries need to transform the manner in which they deliver megaprojects more efficiently in order to circumvent the delays, cost overruns, and other economic consequences that may result from the postponement or delays of these projects. A trend that is likely to continue industry transformation in the midst of the pandemic is harnessing digital technologies and data to enable efficient delivery of megaprojects and facilitate better decision-making. Building a strong collaboration between the public and private sectors through nurturing local capabilities and supporting nationalization programs will additionally be beneficial in ensuring the sustainability of megaprojects in the GCC countries. As stated earlier, the novel COVID-19 pandemic has placed unprecedented stress on public-private partnerships and created the real possibility of widespread project failures not only in the Gulf but also across other nations in the globe. Hence, strengthening public-private partnerships is a sure way for megaprojects to navigate sustainably through the COVID-19 crises. In addition, providing stimulus packages, public procurement transformation, conducting comprehensive risk analysis, and resource planning are other important strategies that can help to revamp megaprojects in the GCC countries even amidst pandemics such as the recent COVID-19.

FURTHER STUDIES

Future research should include the investigation of how the megaprojects contributed to the replacement of dependence on oil. Where studies such as how fast and significant the megaprojects were able to get back to full recovery from the covid-19 pandemic. Research of megaprojects that failed during the pandemic, megaprojects that recovered but are not back on track, megaprojects that fully recovered. The role of the GCC central banks, in aiding and funding the megaprojects as a consequence of the covid-19 pandemic is of great academic value and shall be investigated. Did the timeline of governments funding schemes benefit the megaprojects?

REFERENCES

- Abdulmoneim, A., Samadony, A., & Nosair, I. (2021). Identification and ranking the most significant risks of the mega construction projects in Saudi Arabia. *Saudi Journal of Civil Engineering*, 5(2), 35-49.
- Alandijany, T. A., Faizo, A. A., & Azhar, E. I. (2020). Coronavirus disease of 2019 (COVID-19) in the Gulf Cooperation Council (GCC) countries: Current status and management practices. *Journal of Infection and Public Health*, 13(6), 839–842.
- Alenezi, T. A. (2020). Covid-19 causes of delays on construction projects In Kuwait. *International Journal of Engineering Research and General Science*, 8(4), 6-9.
- Amri, T. A., & Marey-Pérez, M. (2020). Impact of covid-19 on Oman's construction industry. *Technium Social Sciences Journal*, 9, 661-670.
- Casady, C. B., & Baxter, D. (2020). Pandemics, public-private partnerships (PPPs), and force majeure | COVID-19: Expectations and implications. *Construction Management & Economics*, 2-13.
- Deloitte Development LLC. (2020). *COVID-19 Impacts: A proactive response to a shifting planning, design, and construction landscape*.
- Gamil, Y., & Alhagar, A. (2020). The impact of pandemic crisis on the survival of construction industry: A case of COVID-19. *Mediterranean Journal of Social Sciences*, 11(4), 122-128.
- Ghandour, A. (2020). The impact of Covid-19 on project delivery: A perspective from the Construction Sector in the United Arab Emirates. *Humanities & Social Sciences Reviews*, 8(5), 54-63.
- He, Q., Xu, J., Wang, T., & Chan, A. (2021). Identifying the driving factors of successful megaproject construction management. *Frontiers of Engineering Management volume*, 8, 5-16.
- N Williams (2020) Unemployment Benefits under the Federal COVID-19 Relief Package - Center for Research on the Wisconsin Economy, 2020
- Oyegoke, A., & Al Kiyumi, N. (2017). The causes, impacts and mitigations of delay in megaprojects in the Sultanate of Oman. *Journal of Financial Management of Property and Construction*, 22(3), 286-302.
- Pudney, S. G., Mills, D., & Mudunuri, S. (2021). The end of megaproject certainty: Post COVID-19 national infrastructure management. In C. Márquez, *WCEAM 2019* (pp. 271-287). Springer Nature Switzerland AG.
- Santamaria, G. d. (2020). Megaprojects, development and competitiveness: Building the infrastructure for globalization and neoliberalism. *Athens Journal of Social Sciences*, 6(4), 263-290.
- Sayegh, H. A. (2020, June 8). Gulf mall operators rein in expansion as retailers reel from COVID-19. *Reuters* <https://www.reuters.com/article/us-health-coronavirus-emirates-retail/gulf-mall-operators-rein-in-expansion-as-retailers-reel-from-covid-19-idUKKBN23F0IG>.
- Schreiber, B., Khoury, R., Dadhich, L., Sumo, R., & Bauer, J. (2020, October). *Public procurement transformation in the GCC region – post-COVID-19 era*. Retrieved from <https://www.adlittle.com/en/insights/report/public-procurement-transformation-gcc-region-%E2%80%93-post-covid-19-era>
- Ullah, A. A., Lee, S. C., Hassan, N. H., & Nawaz, F. (2020). Xenophobia in the GCC countries: Migrants' desire and distress. *Global Affairs*, 2-23.
- Walsh, A., & Walker, P. (2021). Re-Evaluating Megaproject Cost Overruns: Putting Changes Into Perspective. *International Journal of Innovation and Economic Development*, 6(6), 19-29.
- Zaidan, E., & Abulibdeh, A. (2021). Master planning and the evolving urban model in the Gulf cities: Principles, policies, and practices for the transition to sustainable urbanism. *Planning Practice & Research*, 36(2), 193-215.