

gleeds



The Evolution of Project Management in the New Normal.

Content

Introduction	3
Pandemic to the new normal.....	4
Supply chain disruption.....	4
Post COVID-19 safety measures.....	7
Productivity and schedule reassessment in project sites	8
Moving on –	
The new normal of project management.....	10
Adoption of technology	10
Changed methods -	
Off-site & modular construction	10
Clear liability –	
Pandemic specific contract clauses.....	11
Clean & safe construction Site.....	11
Increase profits, remain competitive	11
Shift in market trends	11
Conclusion.....	12



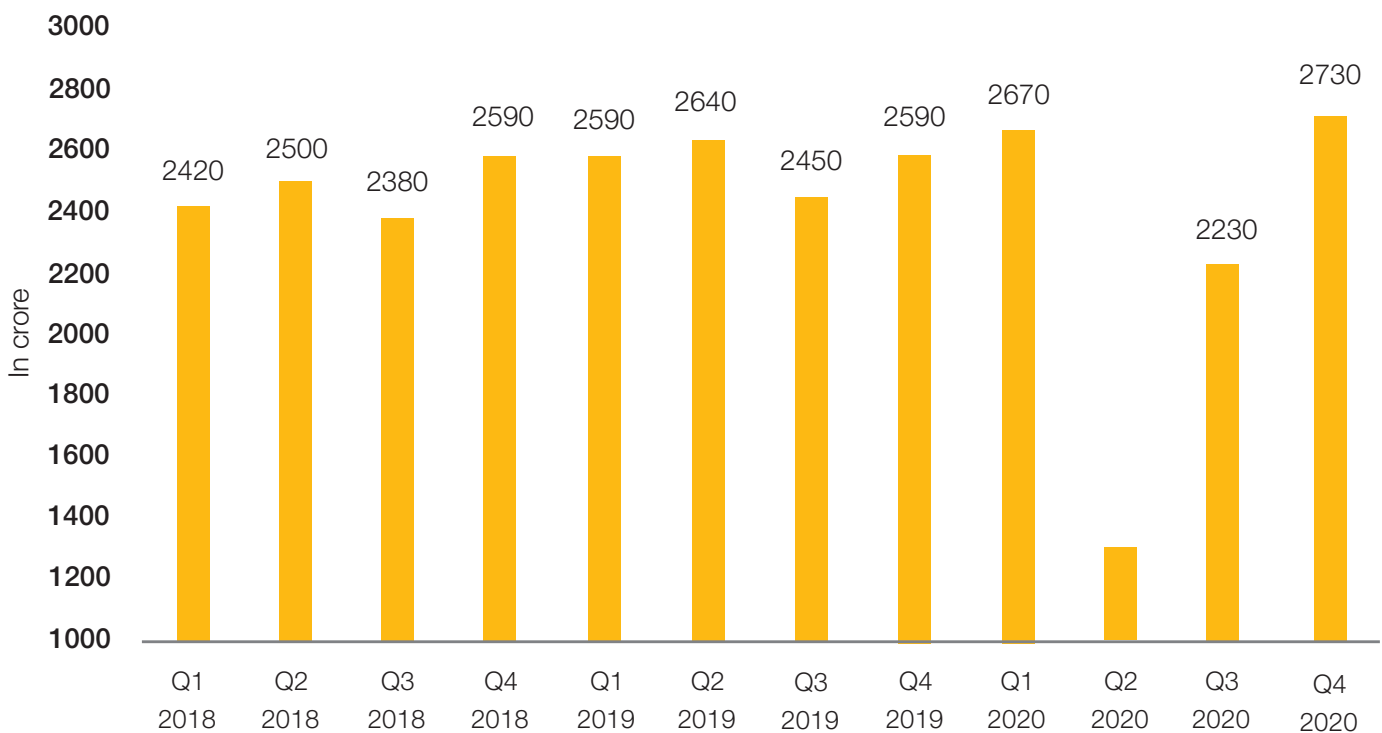
Introduction

The COVID-19 continues to impact the world. The supply chain took the biggest hit in the construction industry, especially when the nation went into a complete lockdown between March and June 2020. The second wave a year later, forcing another lockdown has washed out any progress made by the country.

After the 2020 lockdown, the industry tried to recuperate from the shock, uncertainty and the cash crunch. With this was also the attempt to recover from losses, lack of labour, limited mobility and most importantly the break in the supply chain. The Indian economy took a big hit, no different to the global economy. Experts say the recovery of the realty market in India could now prolong until 2022.

While all sections of the construction industry is adapting to this changed environment, project management is adapting to the new challenge. The remote working limited working personnel, social distancing, renewed schedules is forcing project management to re-route.

Graph 1: Construction Industry spending in 2019 vs 2020



Source: Tradingeconomics.com

*Preliminary data

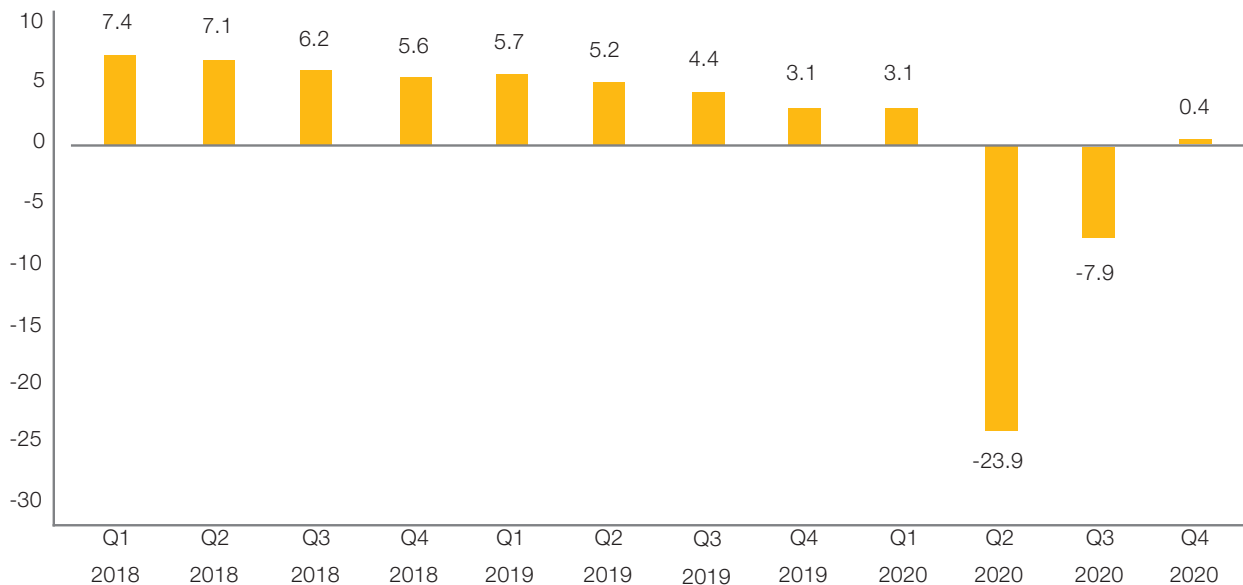
Pandemic to the new normal

The management of a single construction project is dependant on several factors, right from the management of all stakeholders at the design stage, to the management of materials, manpower and machinery at the execution stage to the final close out. While resources and experience is vital there are several factors that have become game changers at these unprecedented times. Some of the factors that are to be addressed differently to achieve the best results are spelt out below.

Supply chain disruption

Construction is the second largest contribution to the Indian Gross Domestic Product (GDP) after agriculture. The pandemic has taken toll on the GDP, when most industries including construction came to a standstill in the 2nd quarter of 2020. The recovery is slow and there was a great positivity entering into the year 2021. The near to uncontrollable spread of the virus in the second wave got the economists slashing GDP predictions.

Graph 2: Illustration of current impact of GDP on India



Source: *Indiamacroadvisors.com*

The supply chain in the construction industry, one of the top three industries that has been affected, is still burdened by this deadly virus and unable to revert to pre-COVID-19 times.

Supply chain disruption is when an external force acts upon the business' ability to get, make, ship, and/or sell products.

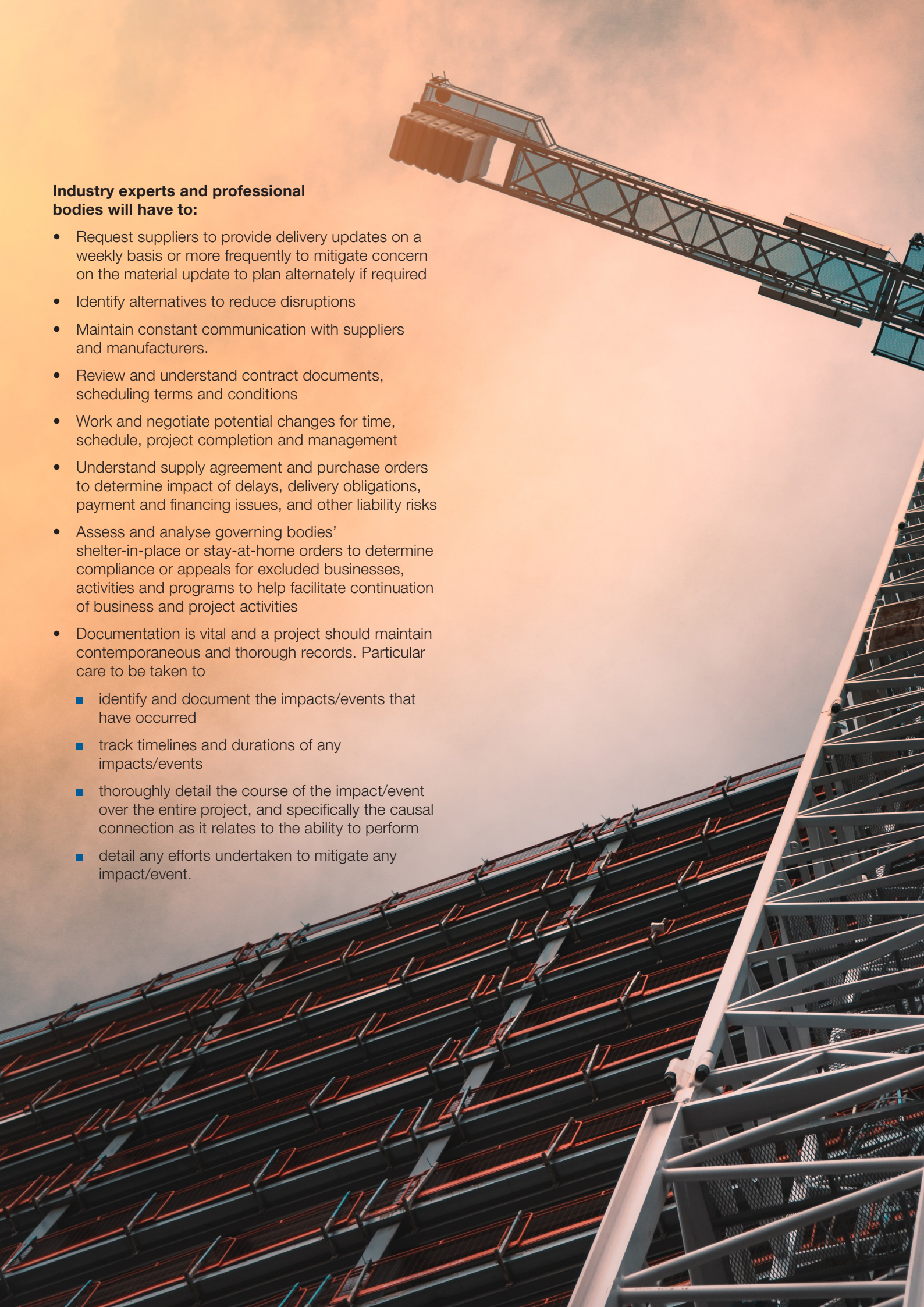
The stakeholders affected are Owners, Developers, Contractors, Subcontractors, Consultants, Architects, Designers and Supply Chain vendors who have experienced a varying degree of impact.

The nature of the impact and the extent of the ramifications are highly dependent upon the location of both the respective businesses and underlying projects.

The direct impact is the slowdown of available goods and labour through suspensions and, in some instances, termination of parties/contracts or projects entirely. Construction activities remain in flux in some states and cities.

Suppliers, contractors and project supply chains are significantly disrupted resulting in material delays and/or shortages likely to carry on for the length/duration of the project or for a significant time.

Mitigation efforts are imperative requiring all parties to come up with new and creative solutions. It is critical for all to work collaboratively to reduce impacts that have occurred to date and that which will occur in the future.



Industry experts and professional bodies will have to:

- Request suppliers to provide delivery updates on a weekly basis or more frequently to mitigate concern on the material update to plan alternately if required
- Identify alternatives to reduce disruptions
- Maintain constant communication with suppliers and manufacturers.
- Review and understand contract documents, scheduling terms and conditions
- Work and negotiate potential changes for time, schedule, project completion and management
- Understand supply agreement and purchase orders to determine impact of delays, delivery obligations, payment and financing issues, and other liability risks
- Assess and analyse governing bodies' shelter-in-place or stay-at-home orders to determine compliance or appeals for excluded businesses, activities and programs to help facilitate continuation of business and project activities
- Documentation is vital and a project should maintain contemporaneous and thorough records. Particular care to be taken to
 - identify and document the impacts/events that have occurred
 - track timelines and durations of any impacts/events
 - thoroughly detail the course of the impact/event over the entire project, and specifically the causal connection as it relates to the ability to perform
 - detail any efforts undertaken to mitigate any impact/event.

The strained supply chain - China crisis- An opportunity for India?

With the trade differences and recent diplomatic show down emerging between China and other world powers such as United States, Japan, and India, it is expected that the supply chain will have major shift in years to come.

At \$ 70.32 billion in 2018-19 and \$ 62.38 billion between April 2019 and February 2020, China accounts for the highest proportion of goods imported into India (around 14 per cent in 2019-2020 so far).

Construction sector dependency on China

On the construction front, though most material is mainly imported from Netherlands and Turkey, wall angles, waterproofing material, threading machine, PVC drainpipes, galvanized steel pipes, electrical, lighting and plumbing fixtures, wall panels, artificial stone, glass, elevators and carpeting are still imported from China.

With globalization and easy international trades, exotic and luxury products have been the statement of developers, resulting in connections with different parts of the world and China is the root supplier of most raw and intermediate exports to most countries.

Most commercial and industrial buildings, using steel sections largely in the framework design, will feel the strain of the distorted supply chain.

Hospitality, retail, and commercial fit-outs depend on China for the supply of glass, carpets , furniture, textile, sanitaryware, electrical wires and telecom services which impacts the design and aesthetics.

Supply of high-end equipment such as chillers and other machinery parts also impact works in the hospitality, retail, and commercial sectors.

This direct and or indirect dependency on China by the industry gives rise to serious disruption and time lags, followed on by strict cross border controls, quarantine rules, stringent checks, and intensive documentation.



Post COVID-19 safety measures

As construction industry sector members and clients ramp up operations, they continue to evaluate and consider workplace safety and compliance issues. Maintaining an “employment and a place of employment, which is free from recognized hazards that are causing or are likely to cause death or serious physical harm,” is required of every employer (with limited exception) Occupational Safety and Health Act.

International safety standards require adherence not only to occupational safety, recommendations and best practices but also that employers adopt and implement workplace safety orders and regulations issued by central, state & local governmental agencies. Individual Corporates safety regulations also emphasizes on workplace safety and health compliance, including advising on concerns and issues raised by the COVID-19 pandemic such as:

- Developing and updating plans and procedures both for office and jobsite operations compliant with applicable standards. Safety standards were modified accommodating the guidelines & regulations governing
 - respirators, masks, and face coverings
 - other personal protective equipment (PPE)
 - hazard communication
 - handwashing or hand cleansers
 - cleaning, disinfecting and sanitizing workplaces.
- Developing and implementing jobsite best practices and working through risk exposure analyses that are driving workplace logistics, including social distancing guidelines.
- Several important measures required clients developing

and implementing processes such as temperature checks and frequent sanitisation that are compliant with Central Government regulation as part of Standard Operating Procedures as applicable.

- Project site implemented the below as new normal safety standards as mandatory protocols. Few of the key ones noted below.
 - a) HSE Induction via toolbox talk conducted daily on project site. Proper record of all these workers maintained & monitored for adherence to the protocol.
 - b) There is a total ban on non-essential visitors at project sites.
 - c) Mandatory Thermal Scanning of everyone entering and exiting site being done.
 - d) Medical checks conducted for all staff and workers.
 - e) Provision for hand wash & sanitizer is made available for all.
 - f) Wearing face masks and frequent washing of hands being implemented as best practice and new normal post covid.

The above measures are being implemented and adherence to these standards are now a vital part of project management. The successful implementation of the above results in safe sites and seamless project workflow.



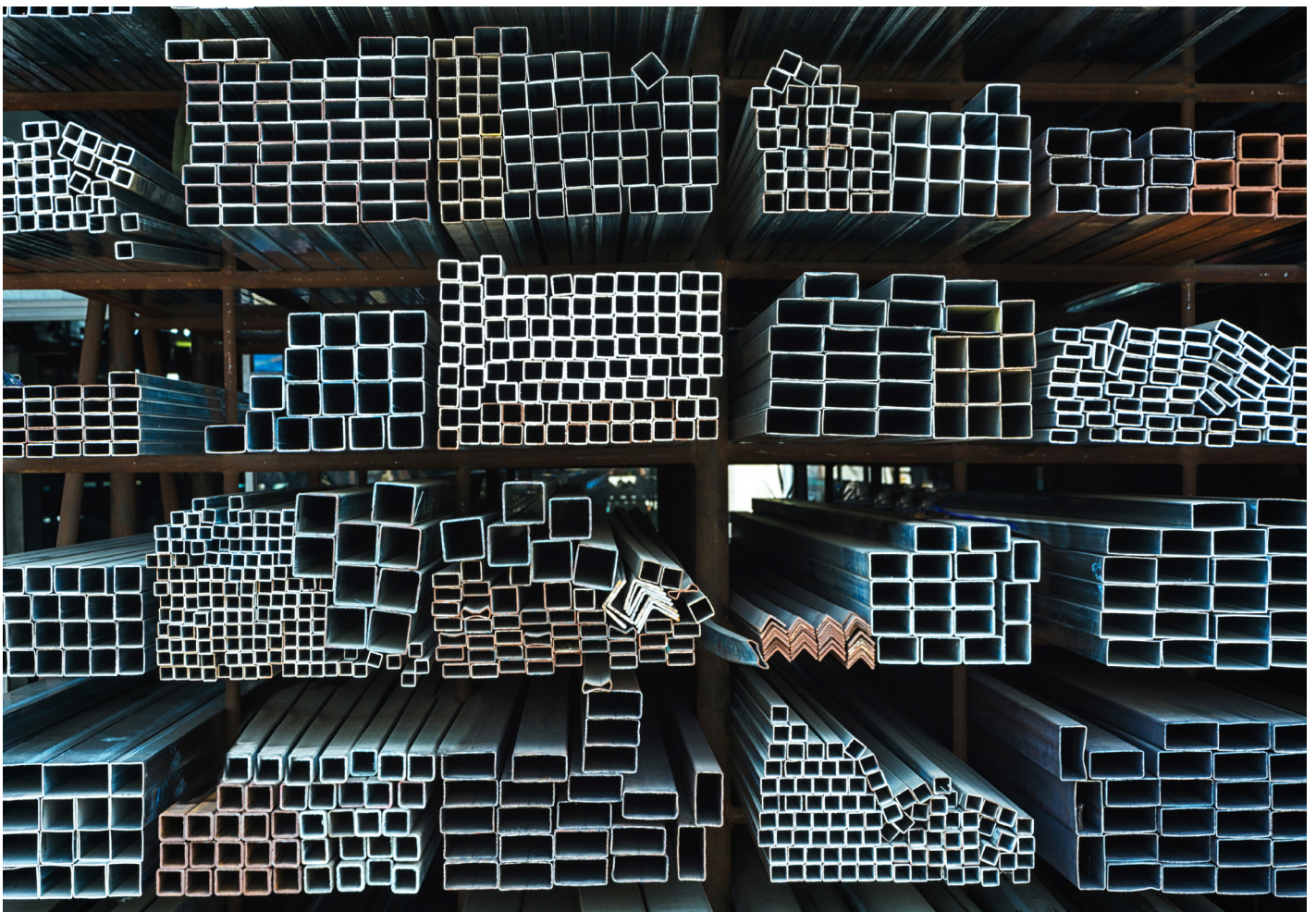
Productivity and schedule reassessment in project sites

Productivity is key in any construction project. The construction organizations continue to invest in resources that can greatly improve on productivity. The critical elements that can affect construction productivity are labour, material, and implementation of technology which impacts the project performances. Post COVID-19, the construction work, was allowed to continue, and project sites have resumed operations, many with restrictions and guidelines on social distancing, mask wearing, and other safety protocols in place.

The Covid-19 pandemic continued second wave has brought in plenitude of issues such as uncertainty over time, cost, and safety mostly for long term projects. The major area of focus & concern for the investors/owners/clients revised project schedule and the completion date or schedule reassessment of the project, keeping in mind the safety of the personnel and the reduced productivity from pre-COVID times reassessment.

The Construction Industry experts & professional project management organisations developed the strategy with the experience to assist the stakeholders in the schedule reassessment of projects with various possible ways. Widely adopted methods being:

- Working with the contractor / PMC / Client to establish a revised project program considering the restriction sites are likely to face, supply chain associated issues, and remobilisation timeline
- Understanding the benchmark productivity of various tasks/activities & adopting possibilities of machine driven instead of manual labour approach to optimise duration
- Exploring the possibilities of using technology to reduce the manual interfacing works and reduction in the duration of repetitive works
- Usage of offsite & modular construction processes in a controlled environment to reduce time.



Project delays (risks) and recovery plan

There are several internal as well as external factors which play a vital role in the outcome of a project, the external being crucial in the cause of project risks. Risk is an event due to which a project is affected negatively.

This means that risk factors are to be taken care of so that the project can run successfully. Risks if managed efficiently can be mitigated preventing construction business loss. A proper understanding of risks is a must to prevent them.

The public funding on which infrastructure projects rely and the general economic health of the nation both threaten to significantly slow down the market. Therefore, getting the perspective of contractors on their business expectations and on how they are responding to the new requirements and conditions is quintessential.

While construction projects in execution phase continues to progress, with enhanced safety protocols, projects in the design and bidding phases are still heavily impacted due to the second wave resulting in delays or stoppage.

As the rollout of vaccinations continue, and the possible lifting of the temporary restrictions in place, the industry is hopeful on getting back on its feet.

Pent up demand and cautious production has resulted in soaring construction materials prices. Stability is expected but when is uncertain.

Metal prices like Aluminium, copper and steel prices are in surge as concerns about supplies from Chile, sliding inventories, a lower dollar and expectations of stronger demand from top consumer China triggered fresh buying.

The continuing surge in global steel demand, production curbs in China, and high iron ore prices will together fuel another surge in domestic steel prices.

This high escalation in material prices, poses a high risk on costs of projects in progress and uncertainty on the requirement of capital expenditure. Such risks are to be analysed all stakeholders are to assess costing based on renewed timelines, with sufficient contingency at hand for the immediate material fluctuations



Moving on – The new normal of project management

Adoption of technology

Despite the growing number of construction technology start-ups over the past few years, adoption and implementation in the construction industry has remained low. Due to the coronavirus, many contractors have turned to technology to keep projects moving, monitor and screen workers on the jobsites, and communicate and collaborate with stakeholders.

Building Information Modelling (BIM) and virtual reality (VR) allows owners, architects, engineers, and contractors to better visualize projects before and during construction. Drones, thermal cameras, and wearables are being used to monitor workers, looking for signs of illness and to ensure social distancing practices as well as performing other jobsite inspections. Bidding software like e-sourcing tools and collaborative systems and estimating tools allow quantity surveyors and project managers to take control of their project pipelines and work together remotely.

Project management software allows project managers to keep construction projects on schedule and update everyone, whether they are in the office or out on the jobsite. Construction robots and autonomous and semi-autonomous construction equipment will supplement and aid workers to allow them to increase productivity on jobsites.

The list of applications and benefits of construction technology goes on and on. The construction industry is due for a true technology revolution and the pandemic has accelerated and has become the catalyst needed to get it going.

Changed methods - Off-site & modular construction

Limitation on the numbers of personnel on site to stop the spread of COVID-19., is causing longer construction times with only one or two trades being allowed to work on a project at a time with social distancing.

Performing construction off-site in a climate-controlled environment would allow work to continue around the clock in shifts. The streamlined, assembly line process used in off-site and modular construction, along with continued work regardless of foul weather, allows construction to be completed quicker compared to conventional construction methods.

Off-site and modular construction is also a great option once recovery begins, especially if there is a sudden surge of demand of certain types of buildings like hospitals, schools, hotels, office buildings, dormitories to name a few.



Clear liability – Pandemic specific contract clauses

There has been a lot of discussion over force majeure clauses in construction contracts and whether or not they apply to the COVID-19 pandemic. Force majeure clauses are in place to limit liability caused by unforeseen circumstances or events outside the control of the parties involved that results in construction projects to be delayed or cancelled.

Depending on the exact language of the clause and the specific circumstances involved, force majeure clauses may or may not apply to the coronavirus pandemic. Going forward, it's likely that construction contracts will either start including a COVID-19 or pandemic-specific clause that tackles liability in the midst of a major health crisis in the future.

Clean & safe construction site

Construction has had its fair share of workplace fatalities as well as having a major number of injuries from jobsite accidents.

Fewer workers on construction sites at a time will make it easier for safety officers, foremen, and site superintendents to monitor workers and ensure that not only are all COVID-19 safety guidelines are being followed but also all other safety rules and regulations.

The virus has brought in increased vigilance on cleaning, sanitizing, and disinfection on construction sites. This along with regular handwashing will help to reduce the spread of COVID-19 along with other viral and bacterial infections that can be easily spread on construction sites.

Much like changes to construction contracts, COVID-19 will also force safety officers to include training and additions to their safety programs and site-specific safety plans to deal with future outbreaks or pandemics.

Increase profits, remain competitive.

The competition for projects will also get tougher as more contractors are bidding on fewer projects. This will force contractors to be more diligent in their bid/no-bid process as well as ensuring their take-offs and estimates are accurate so they can focus on pursuing profitable projects and maintaining their bid-hit ratio. It might also lead to contractors adopting new project management methods, such as lean construction, to ensure the projects they do win, are delivered on time and within budget. Majority of both civil and commercial contractors seem to have changed work procedures to increase social distancing apart from having separate budgeted costs allotted for new normal safety protocols.

A portion of the industry sees advantages to remote working, but the longevity of this practice after the crisis subsides maybe be short lived.

Shift in market trends

In a healthy economy, construction activity across all verticals tends to be strong. The pandemic has seen the demand for certain types of projects dropping dramatically while others witness increase. Demand for new retail buildings, movie theatres, hotels, restaurants, are some that have dropped while infrastructure projects such as roads, highways, and bridges, sewer and water, and others have increased over the past year.

These fluctuations and uncertainties are causing contractors to keep a closer eye on market trends and adjust their bidding and procurement strategies of materials. Construction companies that specialize in one or two building types have to broaden their preferences and be cautious in the type of projects they bid for. Contractors that focus solely on public work may have to start looking at private projects and vice versa to reduce risk during these unprecedented times



Conclusion

The year 2020 created unique opportunities for the real estate sector that are likely to usher in a new era of innovation and digital transformation going forward. The pandemic has necessitated recalibration at a systemic and individual level. The construction industry has not remained untouched from this recalibration but has shown remarkable resilience in the face of the pandemic. As we continue to learn to live in this Covid era, the year 2021 would require us to recalibrate at all levels.

The health and safety precautions for people working in various industries both on and offsite are here to stay changing the nature of project management at its core. The importance of a safe environment is being more emphasized.

Advances in digital technology will play an important role in the future of the infrastructure project and construction management industry. There will be wider use of technology to manage projects as companies realize the long-term efficiency and cost savings of such techniques.

The industry is slowly but truly moving on with changed methodology and procedures aiding to the quicker progress and growth of the economy. Sustainability and wellness have taken the centre stage especially post pandemic times.

With the renewed outlook towards methods, the re-assessment of schedules, adoption of new contractual clauses and advance towards technology, project management is moving onto a now new path, the new normal of project management.

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Click on <https://tinyurl.com/gleedsregister> to complete the registration.

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