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### Construction industry before and after pandemic

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**Abstract:** Since the World Health Organization (WHO) announced the coronavirus 2019 (COVID-19) outbreak as a pandemic, many countries have declared a complete national lockdown after a remarkable spike in COVID 19 cases. These decisions have restricted the movement of people and resulted in a complete shutdown of many businesses across many sectors. The construction industry, as a significant growth driver of the economy with no exception, has also been completely shut down. All the developments and projects were postponed until further notice. It is, therefore, a prudent to address the impact of the pandemic at the outset and end of the crisis to prepare for any future possibility and gain lessons for plans. This study aims to investigate the effect of COVID 19 on the construction industry's survival. The impacts and fallout have been determined and evaluated through the recruitment of construction experts and practitioners. The impacts have been classified into different groups which include economic, human resources. The study implied two methods include exploratory interviews and questionnaire surveys. The study found the most prominent impacts of COVID 19 are the suspension of projects, labour impact and job loss, time overrun, cost overrun, and financial implications. The findings of this study shed light on the consequences of the sudden occurrence of pandemic and raise awareness of the most critical impacts which can't be overlooked. The findings also help project stakeholders to realise the sequences of the sudden epidemic and prepare for the worst-case scenario during the planning stage of the construction projects. The problem for the construction and engineering sector in India is aggravated and difficult to address as there is no standard form or format for contracts followed by the industry. To say that the companies engaged in the construction and engineering sector, would be affected due to the current unprecedented situation would be an understatement. The various restrictions put in place by the Governments to control the effects of the virus may trigger shortage of raw material and manpower, disrupted supply chain, further creating handicaps in performing contractual obligations. Contraction in consumption demand should be the least of the worries for the sector. Some elements in construction and engineering are imported from countries, which may be more badly affected, creating a domino effect on the entire sector.

**Keywords** –Development progress, supply chain, economic, material availability.

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#### I. INTRODUCTION

The pandemic has had by far-reaching very severe consequences since it has spread to all the countries. A pandemic is defined as “an epidemic occurring worldwide, or over a very wide area, crossing international

boundaries and usually affecting a large number of people”. The classical definition includes nothing about population immunity, virology or disease severity. Like the economy, in general, faces a direct impact in the mid of COVID 19 outbreak. Many countries face recession and economic downturn. All the business activities have been shut down unless it falls under the essential categories as necessary supplies and medical sectors, in addition to a few vital projects which are necessary to support the health system and safety of the people. Relatively, it has limited the business around the world and companies have shifted to work Work-From-Home (WFH) concept remotely to accommodate and run the business and services. However, in the construction industry, all the workers and technical engineers need to nearly work on-site either to perform activities or to monitor the work is done correctly (Financial times, 2020). The construction industry is far different from other industries which typically requires on-site involvement of all the project members. Hence, it is crucial to appreciate how the construction industry addresses this unforeseen situation.

During the pandemic, the situation drastically deteriorated by firstly shortage of construction material supply, which then impacted the construction industry. Following the spread of the virus, many countries started implementing several measures to reduce movement of people, and that has mainly obstructed the construction because it requires on-site work and every project member must be available to work, check, and monitor all the work activities. Job losses is also a major disaster during the escalating situation of the pandemic. Globally millions of employees have lost their jobs amid the pandemic crisis. In the construction industry, all the employees lost their jobs and most of the small enterprises are not able to pay salaries during lockdowns. Literature in the subject of the pandemic is still scarce, especially in the construction industry sector. Hence, it is crucial to investigate the impact of the epidemic in the construction industry. This article aims to identify the impact and assess them based on their level of severity. Heavy & civil engineering sector to be the fastest-growing construction type during the forecast period.” The coronavirus pandemic has created many challenges for several businesses, governments, organizations, and societies around the world. Companies working in different sectors are reacting in different ways to ensure business continuity, supply chain flexibility, and other such measures to innovative ways to generate revenue. The uncertainties with regard to this pandemic have affected the heavy & civil engineering sector. Despite the effects of COVID-19, a few civil engineering activities have been maintained to some extent and are likely to continue in the very short term. There is no complete lockdown in several countries, and hence, companies are willing to continue executing their contracts to avoid liquidation damages. However, these activities are expected to halt soon, as supply chains are disrupted by a shortage of equipment and materials. In addition, public agencies and administrations are beginning to terminate contracts to control expenses.

## II. METHODOLOGY

### Methodological approach

In this project, we have made an in-depth research of various problems arising and by studying them we have tried to reduce their side effects. And we have also tried to study their far reaching results and why these results occurred. In the meantime, we have done our searches in the following way. Some information was collected online with the help of media and some information was collected when we went to the near by side. The method of collecting information was as follows. Qualitative method and Quantitative method.

### Qualitative method

The first method was conducting an exploratory interview with selected experts from the construction industry sectors to share and express their insight and opinions. If we talk about qualitative method, then we have put all the information under it which will express how our construction industry affected by pandemic. And the information about what problems have occurred during the epidemic is kept under it. And we took the help of our nearest site engineer and with several Labours. And with their help we gathered a lot of information. However,

during this time we also realised that now the train is coming back on the track and work is being started again in stalled projects. Additionally ,the experts were asked to share the impact of the pandemic on the construction industry.

### Quantitative method

The second method is quantitative data by associating construction practitioners to assess the level of impact. If we talk about our method, then generally it has been based on some specific subject. The first stage search was limited to ongoing work in nearby site. After that we enter into our next phase in which we collect all the information with the help of various literature. Apart from this we also got information about many more new topic using a qualitative survey such as the various resources and the material availability in construction project.

### Key benefits of buying this report

Most will likely be about where and how we gathered. Key benefits of buying the report is that it will help market leader or new entrants in the market. This report segment the global construction industry comprehensively and provides the closest approximation of the revenue for the overall market and the sub segment across different vertical and region. The report helps stakeholders understand the pulse of the construction industry and provides them with information on key markets drivers restraints challenges and opportunities. This report will help stakeholders to understand competitors better and gain more insight to strengthen their position in their business. An increase in automation in public spaces along with the rising awareness about antibacterial construction materials, is expected to boost the construction industry post pandemic.

### Main aspects of our method

Evaluation of problems as well as their far reaching consequences and the use of qualitative and quantitative methods to discuss it is an important part of our methodology. Then collect literature review and evaluate all the information with in properly and incorporate them. This was the methodology of the first part of the project . After this our work of the second part and the last one are construction practitioners using a questionnaire survey. Through the survey we will try to compare all the epidemic that have come so far so that we can come to the conclusion that of what damage the epidemic have actually caused. Only then can we fully ascertain how and what major part have been affected by the pandemic in the construction industry.

## III FIGURES AND TABLES

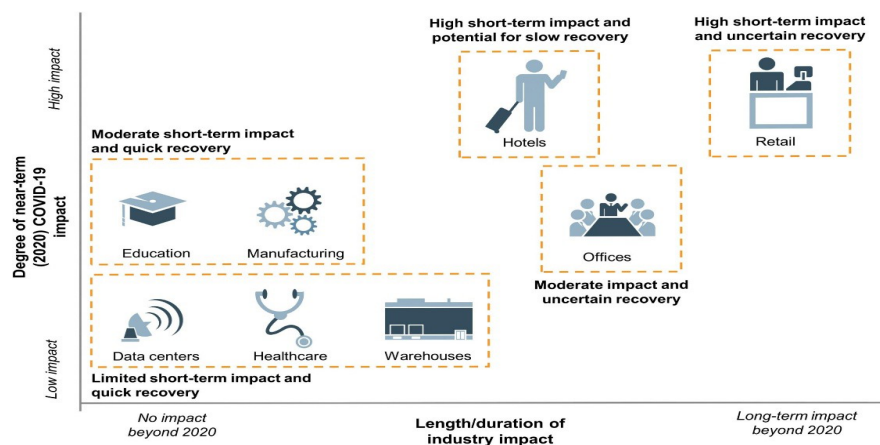


Fig. – 3.1 Covid 19 impact

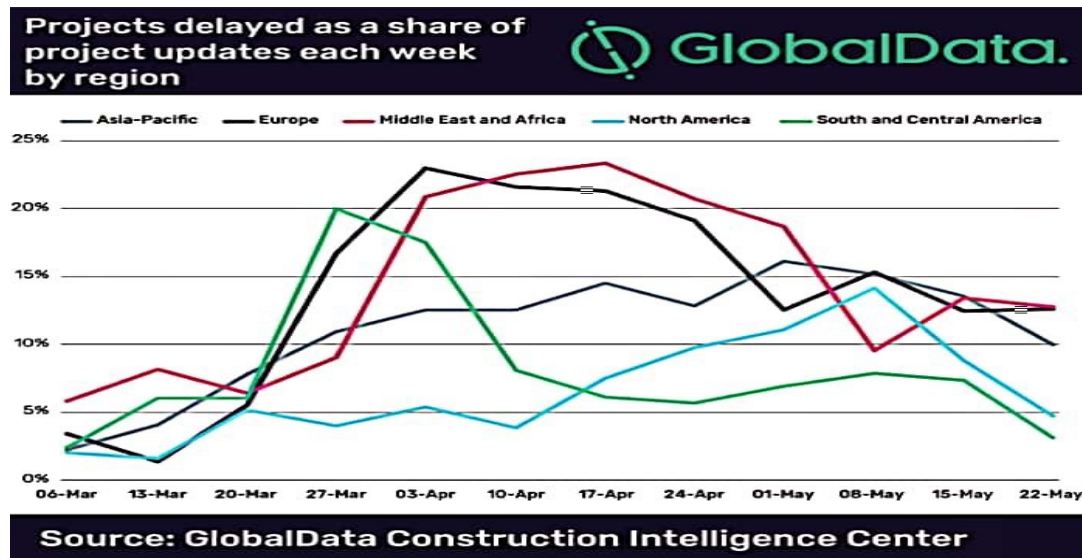


Fig. – 3.2 Delay in construction projects

## V. CONCLUSION

The pandemic are not in control but when we prepared for that we can reduce their effects. From this project we get information such that many of the working projects are delayed and sum of there project management get changed. Still we are doing our project so final conclusion we will get soon

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