

Impact of Covid-19 on Construction Industry In Sri Lanka And Recommendations For Sustainability During The Post-Pandemic Era

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ABSTRACT: The COVID-19 pandemic has created many challenges for many industries and organisations that are operating in the world. The Sri Lankan construction industry is one of the main industries in the country that was impacted by the pandemic and the lockdowns that were imposed within the country. However, as vaccination programmes continue all around the country, it is expected that the country will slowly but steadily move towards the post-pandemic era. Therefore, construction companies operating in Sri Lanka must identify the most suitable strategies that are to be implemented within their projects when the country moves towards a post-pandemic era. Interviews were conducted with industry experts to understand their opinion on the impact on the construction industry due to the pandemic and thereby understand what strategies are recommended by them, as the industry moves towards a post-pandemic era. Data that was collected from the interviews are analyzed and represented in this study. Finally, the researcher has summarized the findings of this study and has provided suitable recommendations for the construction industry of Sri Lanka, intending to support the long-term business sustainability of the construction industry.

KEY WORDS: COVID-19, Construction industry, Impact, Business sustainability

I. INTRODUCTION

In 2019, the first case of COVID-19 was reported in Wuhan, China. The coronavirus was identified by the Chinese authorities, as the cause. The disease is considered to be an infectious disease that is caused by the newly discovered virus. Most people will fall sick with this virus and will experience mild to moderate symptoms and are expected to recover without having to obtain special treatments (World Health Organisation, 2021). The coronavirus spread across many countries, within a matter of a few months, and as a result, countries had to go into full or partial lockdowns in early 2020. Amaratunga, et al. (2020), states that the first case of the virus in Sri Lanka was reported on the 27th of January 2020. By March 2020, numbers started rising and Sri Lanka has to move towards a lockdown, which included a curfew being imposed island-wide. The curfew that was imposed in Sri Lanka lasted for more than three months and this impacted many industries and sectors in the country, the construction industry in Sri Lanka, being one of the main industries to have been impacted by the pandemic. Hence, this research was conducted to understand the impact on the construction industry due to the COVID-19 pandemic in Sri Lanka. Further, this research aimed at understanding the systemic responses that can be followed by the industry, as the world slowly moves towards a post-pandemic era, with vaccines being made available in many parts of the world.

II. LITERATURE REVIEW

Impact of COVID-19 on the economy of the country : A study by Pathirana (2020), states that the COVID-19 pandemic, impacted the Sri Lankan economy on a larger scale as was the case in many other countries well. In March 2020, the government immediately took measures to stop the spread of the virus, by implementing island-wide curfews. The curfew was extended for over three months, resulting in many corporate sector organizations having to implement work-from-home strategies. By September 2020, the country had been successful in controlling the first wave of the pandemic with only 13 deaths being reported. However, the country faced the second wave of the pandemic which rapidly increased the number of cases by the last quarter of the year 2020. Manoharan (2021), states that the government practiced lockdowns rather than curfews during the second wave.

The World Bank In Sri Lanka (2020), records that by the year 2020, the economy of the country had contracted by a percentage of 3.6, and this has been the worst growth performance which is recorded thus far. Similar situations were reported from many other countries as well. The main sectors in the country that was considerably impacted by the pandemic are tourism, transportation, construction, etc. Decreases in global demands collapsed the textile industry as well. It was recorded that many employees had lost their jobs during the pandemic, which resulted in losses in earnings and disruptions in private consumption, while at the same time impacting the investments of the people.

The UN Social Protection Working Group (2020), states that the Sri Lankan economy began to slowly recover in the third quarter as the first wave of the pandemic was brought under control by the government taking measures to control the damage to the economy. The government took proactive measures intending to mitigate the impact of the pandemic, even though the country was facing limitations in income and resources. Further, public expenditures increased, while revenues declined and resulted in the widening of the fiscal deficit during the year 2020. With this situation, the fiscal deficit elevated during the pandemic along with public guaranteed debt started increasing by a value of 109.7 percent of the GDP. During this time, it was identified that the Central Bank of Sri Lanka had a significant contribution, as a response to the crisis. The introduction of the debt moratorium for COVID-19 impacted businesses and individuals was one of the steps taken towards controlling the financial situation of the country. However, studies have still not been able to evaluate the exact impact of the pandemic on the economy of the country.

Impact of COVID-19 and Opportunities in the Construction industry of Sri Lanka : The construction industry in Sri Lanka is said to be contributing around 7.4% towards the GDP of the country and is said to be employing over 600,000 workers within the industry. KPMG Deal Advisory (2020), states that recent developments in high-end residential construction projects, commercial construction projects, resorts, and other development projects since the year 2010, have resulted in the growth of the sector. The annual turnover from the construction industry has been estimated as being at an average value of 4.3 billion USD. The industry consists of both international and local construction companies and can therefore be considered an extremely competitive industry. Many large-scale construction projects are under development in the country, which includes the Port City development projects. However, Kawmudi, et al. (2021), records in their study that the COVID-19 pandemic and the economic slowdown of the country had severely impacted the industry. Some of the optimistic projects have been put on hold, in the sector. Although this is the case, there is hope that the demand for infrastructure development projects in Sri Lanka is expected to increase with the recovery of the Sri Lankan economy. Certain opportunities that currently exist in the sector may further offer opportunities for those employed in the construction and development sector.

The World Bank (2021), states that US organizations are having opportunities towards selling a wide range of equipment and technology to the industry which will range from earth moving equipment to much other construction equipment, which shall include building appliances that are used for HVAC activities. Many of the local contractors have already teamed up with many US engineering organizations to obtain the required technical know-how and technology in the development of high-end office buildings as well as luxury apartments etc. The Ministry of Urban Development of Sri Lanka hopes to modernize urban infrastructure within Colombo, by using high technology and innovation and thereby achieve the level of 'High income developed nation' status by the year 2020.

III. RESEARCH METHODOLOGY

Research Design : The study that was conducted followed a deductive research approach. The researcher developed questions from the preliminary literature review that was conducted and approached industry professionals to obtain their opinion on the impact of the pandemic on the construction and strategies that can be implemented by the industry to successfully face the post-pandemic era.

Type of Research : The study is considered a qualitative study since the researcher has conducted open discussions and interviews with selected industry professionals.

Duration of Research : The research was conducted over 3 months. Data collection and analysis were done during this period.

Choice of Subjects : The subject areas that are considered in this study are construction and economy.

Sample Collection : The researcher selected a sample of 20 industry professionals. Interviews were conducted with these industry professionals over the past three months. Due to travel restrictions being imposed in the country, certain interviews were conducted online.

Data Analysis : The researcher collected data from interview participants which were conducted as physical interviews as well as online interviews. The collected data was analyzed by using graphs and charts. Further, the researcher collected information collected from the interviews, which consisted of similar ideas and the same was used in the analysis of this research.

IV. RESULTS

Demographic profiles of the interview participants

The demographic profiles of the participants of the interview survey are presented in Figure 1 and Figure 2.

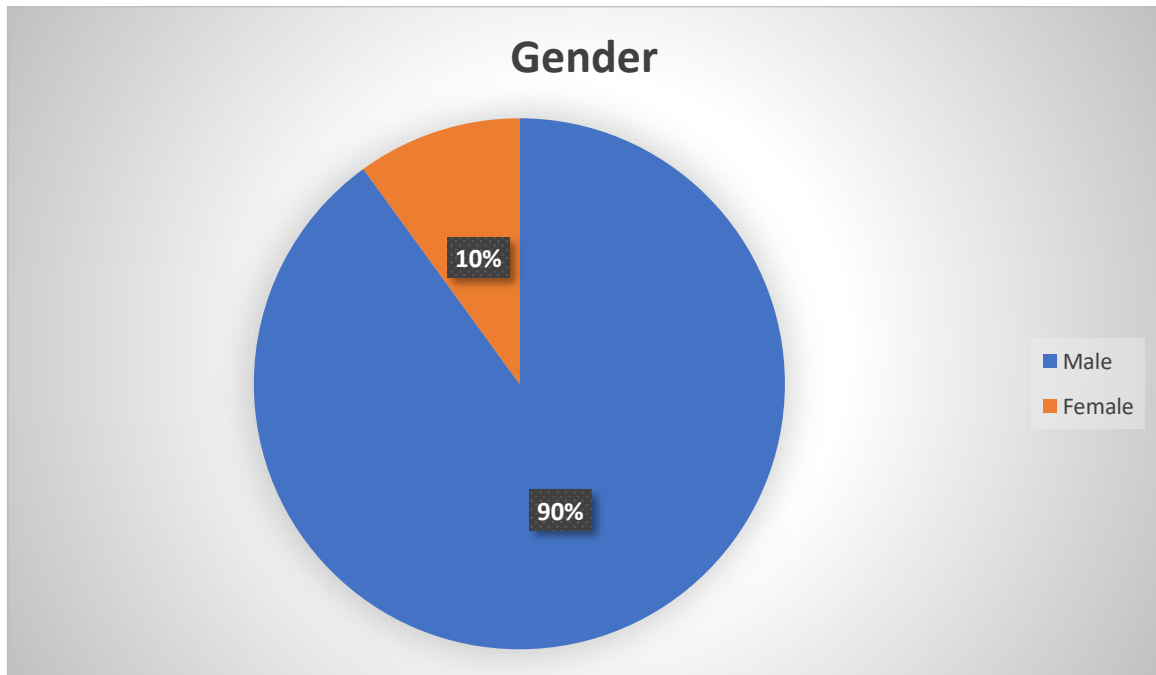


Figure 1: Gender of the respondents

As shown in the figure 1, 90% of the interview participants were male, while 10% were female participants.

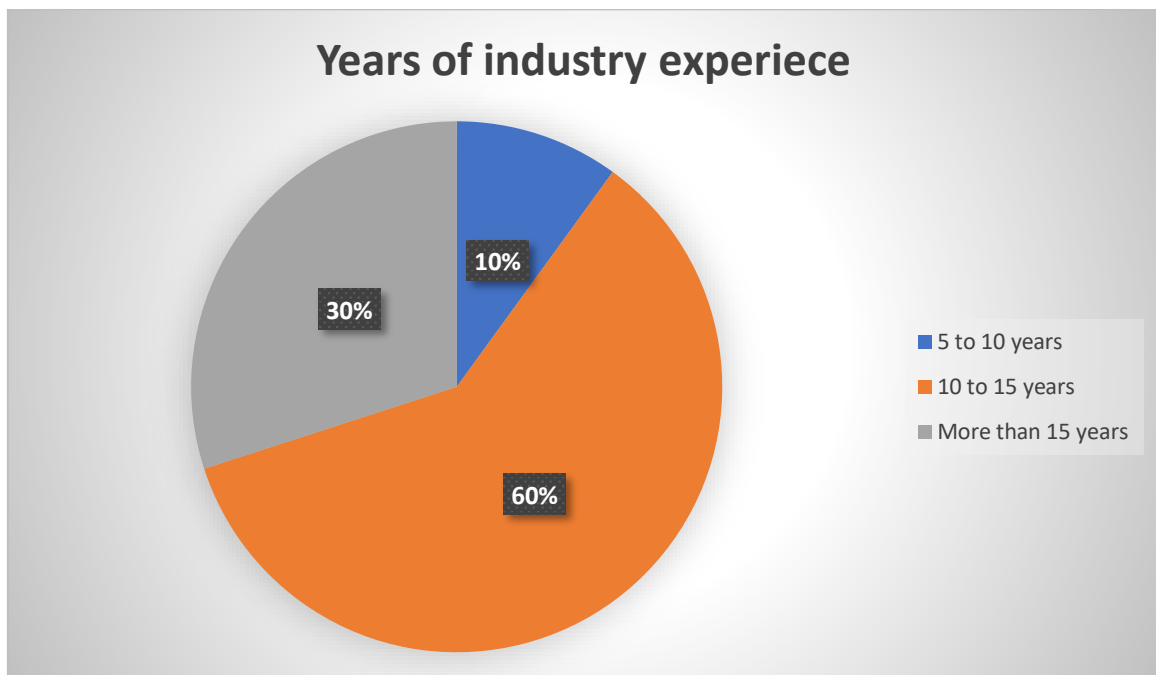


Figure 2: Years of experience of the respondents

As shown in the figure 2, 60% of the participants of the interview had years of experience between 10 to 15 years while most of the other participants had more than 5 years of experience. Hence, it can be stated that the outcomes of this research can be considered valid.

Data analysis on the impact of COVID-19 on the Construction industry in Sri Lanka : During the interview with the industry experts, the researcher aimed at understanding the impact of the pandemic on the construction industry in Sri Lanka. Accordingly, the findings of the same are represented in the figure 3.

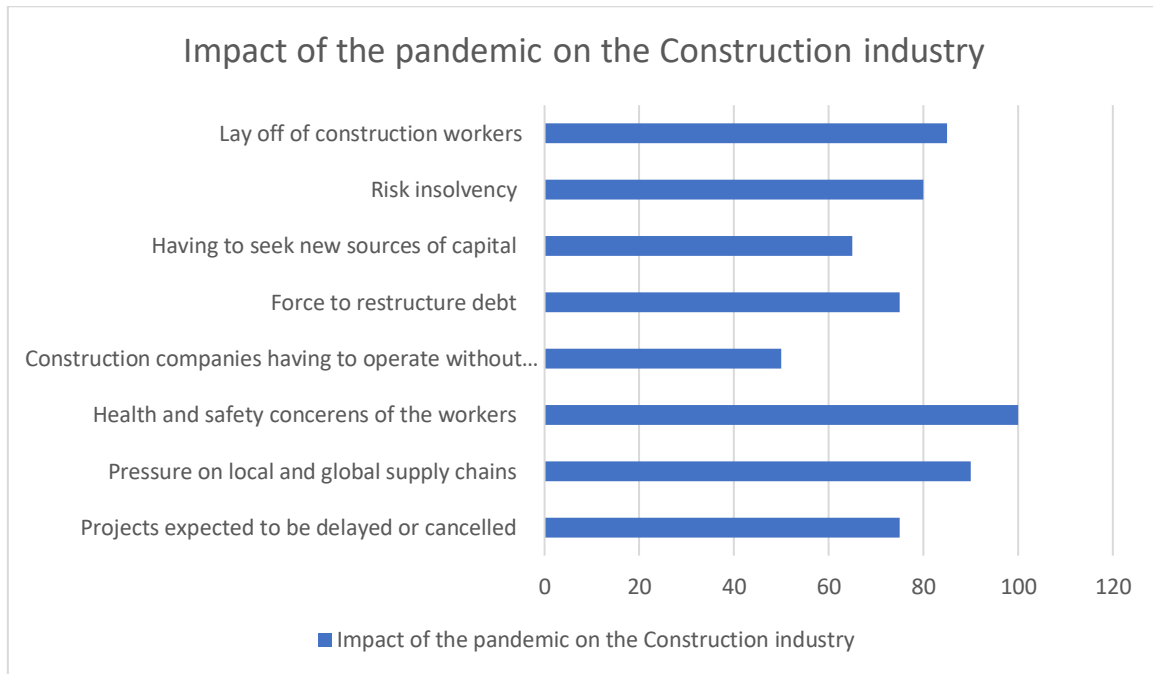


Figure 3: Impact of the pandemic on the Construction industry

The figure 3 provides a summary of the responses that were received from the interview participants when they were asked about their opinion on how the construction industry has been impacted due to the pandemic. From the analysis, it was identified that most of the construction companies had to now carefully consider the impact on the health and safety of the workers because the virus is causing many health risks and challenges to the people. This resulted in construction projects having to limit the number of employees working on-site, at a given time, thereby resulting in delays in completing the construction work on time. Another important finding from the data that was collected was that most of the construction workers have already lost their jobs due to the pandemic. Jayasinghe (2020), also states in his study, that more than 100,000 employees of the construction industry, are at risk of losing their jobs, as the entire construction industry is facing a total outstanding balance of over 100 billion Sri Lankan rupees as the country moved towards complete lockdowns. It was further discussed during the study that; this has severely impacted many families who are dependent on those in the construction industry. Therefore, creating a greater social and economic challenge in the country.

The next most important economical challenge that the construction industry was identified as facing was related to the management of the supply chain of construction projects and the unavailability of capital reserves to continue work at sites. Jayawickrama (2020), also identifies in his study that many of the small and medium scale contractors in Sri Lanka faced many challenges in commencing projects that had to be temporarily closed down due to the pandemic, due to lack of capital reserves required. Thereby, representing the economical challenge that is faced by the construction industry in Sri Lanka. The next impact on the construction industry in Sri Lanka, due to the pandemic, which can be categorized as an economical challenge is the fact that construction companies now had to seek new sources of funding and at the same time was forced to restructure their debt to ensure that they were able to face the challenges from the pandemic, successfully. Indika, et al. (2021), explains in a study that most of the construction projects that are operating in Sri Lanka obtain financial aid from financial sources, and this was identified as one of the greatest challenges that construction projects had to withstand with the outbreak of the pandemic. Construction companies did not have access to financial support and therefore, had to identify new ways of funding their projects and thereby continuing business operations.

During the study, it was identified that some of the construction projects had to forcedly restructure the debt that had already been obtained by these construction companies. Hence, impacting the overall financial situation of the project.

V. DISCUSSION AND CONCLUSION

The previous section of this study evaluated the different impacts that have been identified as having impacted the construction industry in Sri Lanka, due to the pandemic. These different impacts on the construction industry must be managed strategically, to face these challenges. Further, with vaccines being made available in Sri Lanka, it is expected that the country will face the post-pandemic era, shortly. Therefore, the challenge is related to understanding how the construction industry in Sri Lanka must change its strategies to face the post-pandemic era, successfully. The figure 4 provides a summary of the data that was collected from the interviews that were conducted with the industry professionals. The suggestions, recommendations, and strategies that were proposed by the interview participants are summarized in the figure 4.

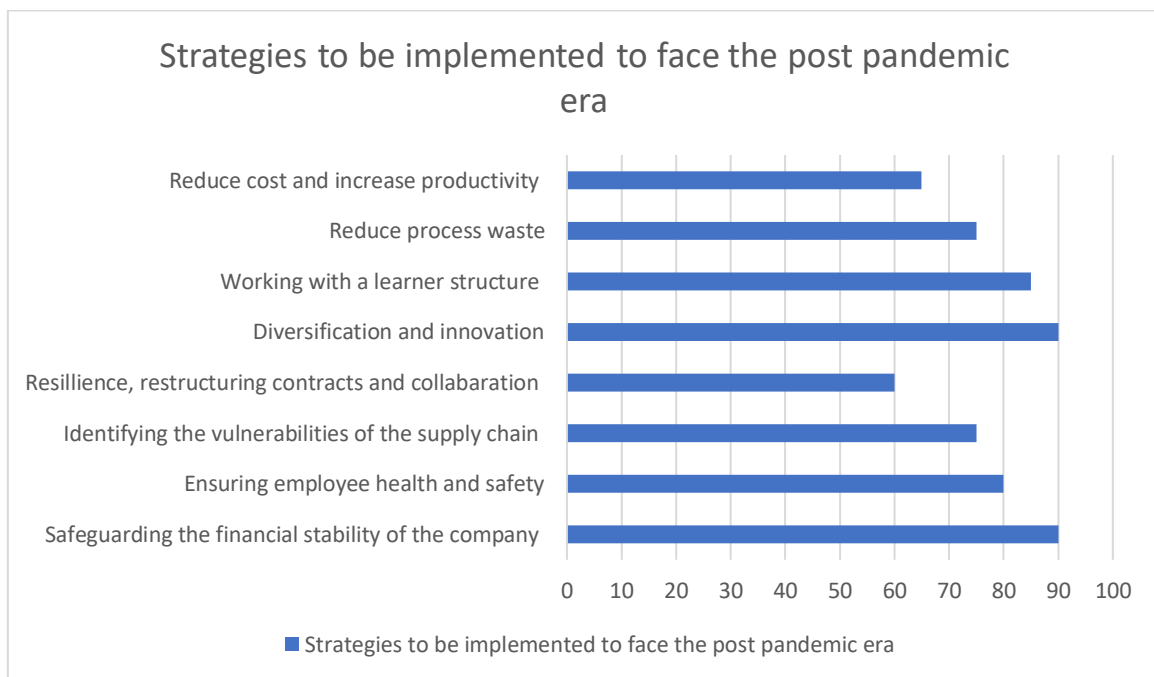


Figure 4: Strategies to be implemented to face the post-pandemic era

The study was further aimed at understanding strategies that can be followed by the construction industry to face the challenges that have been identified in the construction industry and thereby implementing strategies that would enable the construction industry to face the challenges successfully. From the study, it was revealed that one of the most important challenges faced by the construction industry was related to the management of the working capital and the liquidity of the construction projects. Majumder & Biswas (2021), also states in a study that, maintaining financial stability during such challenging and uncertain periods is considered to be requiring capital and corporate cost budgets with the aim of raising funds for the construction projects and their activities. The government of the country is said to have an important role to play in the process of ensuring that the construction companies can sustain their business functions. It is expected that payments for government-funded projects, to construction firms for the construction work that has been completed is expected to be one of the important aspects in the process of managing the financial situation of a construction firm.

ICRA Lanka (2020), states that the Sri Lankan government introduced debt moratoriums as well as concessionary working capital loans for medium and small scale construction companies during the pandemic, and if the same is extended, such construction companies will be able to face the challenges of the pandemic successfully and will thereby be able to develop strategies that would enhance business sustainability. However, our study identified that there is no perfect answer that could be given to the challenges that are faced by the construction industry. However, using models that will estimate the financial needs as well as the opportunities

that are said to be based on the situation of the pandemic shall be helpful in the process of developing sustainable strategies during the post-pandemic. It was highlighted during the discussion that accurate data and statistics are required to be maintained by construction companies in the process of implementing sustainable strategies within the industry. While many organizations do not still use such developed data analytics systems, it was highlighted that the same must be carefully considered and developed. Such tools and data will be useful in the process of construction companies navigating the crisis and thereby identifying ways in which value can be created, through better-informed decision-making processes. In the long term, as organizations navigate through the pandemic, it is considered vital to building the resources for the future of the organization as well. If construction organizations can come through challenging periods with robust balance sheets and financial situations, such companies will be able to gain a market share at the time that the economy of the country will start improving again. However, to do this, it is expected that financial teams of construction companies have reliable information and forecasts that are supported by data analytics.

Further, our study highlighted that many companies in the construction industry are facing financial impacts, especially when considering the cash flow of the organization. Therefore, construction projects must conduct extensive project-based forecasts to understand the impact on these individual construction projects. This shall also enable these construction companies to identify the amendments and changes that are required to be made on the contractual terms of projects and thereby identify ways of improving labour productivity as construction projects implement social distancing among the workers of the project. It was highlighted during the interviews that construction organizations must negotiate lending arrangements with clients intending to raise new equity for construction projects. The next important aspect that is to be considered is related to ensuring the safety of the workers. The COVID-19 pandemic has created a significant risk on the continuation of construction projects mainly because social distancing measures are expected to be taken within projects. As explained by Agyekum, et al. (2021), although working from practices may be practical for other industries, construction project activities take place on the job site and are considered as one of the labor-intensive industries. Therefore, construction companies have to now consider more than just providing the workers with personal protective equipment. Some of the suggestions that were highlighted during the study are related to helping workers to stay safe through the development of working shifts for the people, mandating the safe distances that have been introduced by the health authorities, while at the same time banning visitors to the construction sites. Although the technology used in construction projects in Sri Lanka is not yet well developed, it was suggested that the technology is developed to allow the management of the organization to track employee locations within the site, and thereby identify any potential exposures to the virus.

Management of the supply chain within the construction projects is another important aspect that is to be considered by construction companies when developing strategies within the projects to face the post-pandemic era, successfully. Construction projects that deal with both local and international suppliers are those that have been greatly impacted due to imports and exports being disrupted with lockdowns that have been imposed in the country. Accordingly, Biswas, et al. (2021), also in their study states that to understand the vulnerabilities in the supply chain and thereby identify how to respond to these challenges, the visibility of supply chains must be maximized as much as possible. It is important to reach out to the suppliers of the construction project, obtain clear and accurate information and data from these suppliers and thereafter develop a dashboard within the project, that could be updated and refined as the country slowly moves towards a post-pandemic era. Our research further identified that construction companies must have accurate data and information related to the suppliers of the project as any legal and financial implications are to be decided based on the information that is collected from these statistics. Further, it can also be useful for construction companies to obtain the financial and technical support that is offered by government agencies in their endeavours in helping the construction industry regain its capabilities. Given the uncertainty of the industry, it is expected that construction companies must be ready to work together with new suppliers as well, as and when needed because construction projects today, should not rely on only a few suppliers.

On the other hand, it can be stated that as the world moves towards the post-pandemic era, it is expected that the world will face many new dynamics in the marketplace, due to specific changes that will occur in different countries. With remote working strategies being mastered by many corporate sector organizations, it is expected that the real estate industry will see developments shortly. People will prefer to live in apartments that are much more user-friendly in terms of maintenance and security. Such changes are expected to create a positive impact in the construction industry in Sri Lanka and it is therefore expected that by 2030, the construction industry in Sri Lanka will be able to regain its markets share and shall thereby be able to contribute towards the GDP of the country.

From the study that was conducted, some of the recommendations that can be provided to companies that will emerge from the crisis are represented in the below section.

- Companies are expected to emerge from the crisis with solid financial situations and reliant supply chains. It is expected that the skilled levels of the workers of the construction industry must also be enhanced to enhance the productivity levels of the construction industry.
- Proper data analytics and statistics shall also be useful in the process of understanding the most suitable long-term development strategies are to be developed within the industry. Hence, it is recommended that construction companies develop strategies that will assist the organization to be able to gather data and statistics that shall be useful in the process of developing organizational strategies. Further, such data analytics shall also help the organization to make better, informed decisions within the organization, as decision making has become one of the core requirements for organizational success and development.
- Make reasonable estimates on the future cash flow situation of the organization, to ensure that companies do not face financial challenges due to not having sufficient funds to meet the commitments that have already been made within the projects.
- Managing the supply chain efficiently and ensuring that the company does not rely on a few suppliers is considered as the next most important recommendation that can be provided. Companies must remain profitable, by maintaining the supply chain network more effectively and also by managing the financial and legal capacity of the company effectively.
- Finally, it is also recommended that the right project controls and management processes are managed within the construction project. The right project governance processes are expected to be maintained within the construction project when handling the supply chain changes that are considered when developing sustainable long-term strategies, within the construction industry.

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