

Impact Of Covid-19 (Lockdown And Unlock) To Port Industry Of Navi Mumbai From Financial Year (April 2020 To March 2021)

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Abstract

The global pandemic has had a devastating impact on seaports and their related industries, comprising the shipping and maritime industry. Based on the data UNCTAD the global Maritime trade declined by 5% in the initial quarter of 2020, which was elevated to 25% in the second quarter. The data of the entire financial year 2020 to 2021 is estimated to drop up to 20%. The motive of the research is to exclusively analyse the Navi Mumbai port industry and how covid change the perspective. The topic is related to identifying the impact of Covid-19 (Lockdown and Unlock) on the Port Industry of Navi Mumbai from Financial Year (April 2020 to March 2021); therefore, quantitative methods will be best. The outcome illustrates that the challenges that came in front of the port and marine sector include reduction in demand of freight, due to lockdown ports were shut down, the dispute in laytime arbitration, dispute between the owner and the character of vessels due to depletion of resources, bankruptcy due to diminished demand, and the mess to manage the company economics and income.

Keywords- The impact of Covid-19 (Lockdown and Unlock) to Port Industry, Port Industry of Navi Mumbai.

Chapter 1 - Introduction

Maritime transport UN defines worldwide supply connection linkage and financial interdependence with transportation and harbours expected to manage over 80% of international merchandise trade and more than 70% by volume. Due to the outburst of coronavirus pandemic conditions, the maritime sector operates as a transmission channel. Disrupted transportation systems and supply chains can significantly weaken world trade and commercial movement (Cullinane, K., & Haralambides, H., 2021). In developing countries, global marine and industry play a pivotal role in living in vulnerable economies heavily dependent on marine transportation for their livelihood, and accessibility to the worldwide marketplace has undoubtedly been affected because of the pandemic.

Though the pandemic has played the world in an extensive philanthropic trial, the dimensions of the global economy have also reached a devastating condition despite the size of the country. The virus has infected everyone. This pandemic has driven severe disturbance in supply and demand, leading to declining business, trade and inducing severe commercial distress. The global pandemic has had a devastating impact on seaports and their related industries, comprising the shipping and maritime industry (Notteboom, T. et al., 2021). The challenges in the port and marine sector include reduction in demand of freight, due to lockdown ports were shut down, the dispute in laytime arbitration, dispute between the owner and the character of vessels due to depletion of resources, bankruptcy due to diminished demand, and the mess to manage the company economics and income (Cengiz, H., & Turan, E., 2021). Moreover, long-term workers are prohibited from crossing the border, which led to shifting and repatriation of marines, other critical challenges that negatively impacted maritime industries.

Coronavirus endemic arises acknowledging continued harbour entrance to trading ships to assure that the world proceeds to function with marine trade persistently abandoning the world feed energy and raw material and manufactured goods and components explicitly focusing on medical facilities. Although the pandemic had impacted and spread enormously across the region, keeping maritime transport and its trade route disrupted and acting as a transmission channel created a challenge to control the outburst of infectious agents (March, D. et al., 2021).

Based on the data UNCTAD the global Maritime trade declined by 5% in the initial quarter of 2020, which was elevated to 25% in the second quarter. The data of the entire financial year 2020 to 2021 is estimated to drop up to 20% (UNCTAD, 2021). India has a vast coastline, and its maritime sector is the major contributor to the country's blue marketplace. The blue economy is a sustainable benefit of ocean sources for financial extension and growth, which has immense potential to enhance livelihood and empower the masses who are practising maritime functionalities while preserving the wellness of ocean ecology. Major seaports of India demonstrate adverse growth in the cargo traffic and a deterioration in vessel traffic associated with pre-pandemic scenarios. The impact of corona in marine transport and its associated dimensions has been vulnerable across the world (Xu, L. et al., 2021). Because of covid and its associated actions taken by the government like lockdown, the maritime industry accounting for 90% of the international trade, has been adversely affected. The major seaports of India, who are responsible for handling approximately 60% of the country's total cargo trade, demonstrate vulnerability impacted due to covid-19 and its preventive measures taken by the

government by locking the transportation worldwide. The supply chain and related logistics industry were also adversely affected in covid-19¹.

This infectious wave came in various segments that generate challenges like locking and unlocking affect the supply chain and economy. This caused a massive obstacle across the supply chain transportation network and port, which led to a decrease in the cargo volume and the prospect for expansion. Uncertainty was created because of locking and unlocking in the marketplace, fostering stagnant industrial recovery, and taking enormous time (Yazir, D. et al., 2020).

Ports are of great importance to any coastal country. Still, from the Indian perspective, it became a crucial and strategic matter because 95% of global business is offered out through various harbours on India's eastern and western coast. Jawaharlal Nehru Port Trust handles more than 50% of Indian total container traffic, one of the prime government-owned Indian ports (Swaminathan, B.). JNPT was commissioned as a self-governing body under the vital Port trust act 1963. It is a full-fledged custom house consisting of 30 container freight terminals and connectivity and 52 inland container terminals spread across the country. JNPT has its terminal named JNPCT, and the liquid terminal operates at close to 100% capacities (Pawar, P. R., 2017).

Indian Maritime and Port industry also witnessed an enormous decline in cargo traffic as the data of IPA proclaim that cargo traffic of 12 prominent ports accounts for a declination of 8.8 % in the month of December as the data demonstrate consecutive nine months declination². Navi Mumbai port called Jawaharlal Nehru Port (JNPT) reveals that their cargo volume capacity dropped up to 12% because of covid from April 2020 to December 2020³. Because of the pandemic outbreak, there is a sharp decline in the handling of container coal, petroleum, oil, and other commodities. As the data demonstrate that well, major ports hold 61% of the country's total cargo traffic. As the whole cargo traffic handled by the port was approximately 705 million tonnes in the last fiscal year, which was 478 million tonnes⁴.

1.1 Background

Novel CoronaVirus or Covid19 or Corona, whatever may be the name but the catastrophe it has caused is standard in every corner of the world. Originated in China, the physically insignificant virus has spread worldwide and has ended many lives along with balance in the world economy. Corona is a sort of infection that creates respiratory ailments in humans. Due to crown-like spikes on the outer covering of the sicknesses, they are called coronaviruses. This coronavirus (covid 19) arose from Bats and was conveyed by an unknown animal in the Wuhan City of China in December 2019 (Ghaderzadeh, M., & Asadi, F., 2020). People who feel high temperatures, cough, aching throat, tiredness, muscle aches, and thorax pain could be affected by this virus (Udugama, B et al., 2020). This virus belongs to SARS (severe

¹ <https://www.ibef.org/industry/ports-india-shipping.aspx>

² <https://www.businesstoday.in/latest/economy-politics/story/coronavirus-impact-cargo-traffic-falls-at-india-top-ports-for-9th-straight-month-in-dec-284034-2021-01-10>

³ https://www.business-standard.com/article/companies/covid-19-effect-jnpt-traffic-declines-26-in-apr-july-sees-recovery-ahead-120080900723_1.html

⁴ <https://www.businesstoday.in/latest/economy-politics/story/coronavirus-impact-cargo-traffic-falls-at-india-top-ports-for-9th-straight-month-in-dec-284034-2021-01-10>

acute respiratory syndrome coronavirus 2) and is termed COVID-19. The World health organisation (WHO) announced it as a worldwide pandemic.

It has halted every industry involved in the economy and made them strive to regain their previous state. As the virus spread increased, the worldwide Lockdown was imposed to stop further spread. Due to lockdown, the world has come to a standstill, leading to an abrupt economic downturn. Lockdown has created an immense side. Likewise, the Lockdown has a darker side, like it has an extreme impact on economic vulnerability; in India, millions of people are dragged into poverty, food insecurity, health, and education unavailability issues (Barua, S., 2020). Employment Loss & Mental Disorders Several studies reveal that millions of people only in India lost their job as 90% of India's population belongs to the informal sector, demonstrating a giant ratio of risk and uncertainty. Enormous Lockdown takes away a considerable number of jobs. The mental disorder also became one of the concerning issues during and post lockdown sessions from young ones to oldies (Shrestha, N., et al., 2020). Everyone has suffered from pandemic mental unbalancing. In India, the pre and lockdown unemployment rate from February to April exceptionally demonstrates the fall of income nearly up to 46%. The inflation rate of goods and services, including food and beverage products, and fuel is expected to rise later. The Lockdown resulted in immense job losses as India already served from the low economic condition (Walter, D., 2020). According to the international labor law, only within two weeks of lockdown after the announcement of the Indian government, almost 90% of the Indian labor force, which is usually employed in the informal sector, is pressurised and vulnerable to around 400 million Indians in extremely miserable situations (Walter, D., 2020).

The ports industry had faced various challenges in the last few years, such as trade regulation, shipping fleet deployment, green shipping, and green port concern and this pandemic exaggerated the hurdles. The industry is confronting new challenges because of pandemic lockdown conditions as security checkpoints convert into large waiting queues for berthing operation, inland port transshipment operation, hinterland transportation management, and so on (Mańkowska, M. et al., 2021). In the initial quarter of 2020, mini ships at the port demonstrated empty due to the influence of covid-19. The spread of viral pandemic has made the industry face vulnerability as it involves life-threatening and disease transmission sources (Michail, N. A., & Melas, K. D., 2020).

1.2 Literature Reviews

Pandemic is a global contagious disorder that produces an outburst and staggers the world marketplace since it was inducted in the last month of 2019 from China—immediately covering all over the world, demonstrating its vulnerable, helpless impact in every sphere of life (Barua, S., 2020). The outcome has negatively influenced the port and maritime industry, which encompasses multiple stakeholders like shipping operators, port workers, merchants, supervision authorities, and passengers, as well as the supply chain management. The study (Yazir, D. et al. 2020) highlights various freighting industry sectors like dry bulk, tanker, vessel, and cruiser. And try to estimate the influence of coronavirus on this sector as well as try to ascertain the strength, the perception of covid-19 and repress operational risk and how this impact brings opportunity in the maritime industry. The effect of coronavirus in Maritime transport and its related policy measures is under purview by various researchers worldwide (March, D. et al., 2021).

The paper (Shin, W., et al.,2020) evaluates the adverse impact on seaport transportation and the maritime supply chain field and its related concern from an Indian perspective. The outcome demonstrates that lack of preparedness for coronavirus and the need for developing future strategy by maritime organisations is a prerequisite and has become the need of the hour. The impact of corona in marine transport and its related measures has been vulnerable impacted across the world. Because of covid and its associated actions taken by the government like lockdown, the maritime industry accounting for 90% of the international trade, has been adversely affected (Sarkar, B. D. et al., 2021). The major seaports of India, who are responsible for handling approximately 60% of the country's total cargo trade, demonstrate vulnerability impacted due to covid-19 and its preventive measures taken by the government by locking the transportation worldwide. The supply chain and related logistics industry were also adversely affected in covid-19 (Narasimha, P. T. et al., 2021).

Another study (Mańkowska, M. et al., 2021) emphasises identifying the maritime supply chain during pandemic circumstances along with the impact on the operation of seaport terminals comprising serving bulk, general cargoes. The research focuses explicitly on Poland ports. The study revealed that infectious viruses adversely impacted the maritime industry as numerous marine supply chains ceased to exist while some worked with declining cargo volume. The research outcome illustrates that the terminal's extent of engagement and tactical decisions related to the pandemic were dependent on the type of germinal and functionality correlated with the supply chain. Another research (Cengiz, H., & Turan, E., 2021) takes appropriate and relevant data from the first pandemic wave through surveys on the global Maritime industry from 21 countries of the globe. The research intends to analyse the financial impact of a pandemic on the global maritime industry. To explore, the paper utilises 36 questionnaires for appropriately conducting the survey; these questions correlate with descriptive forms related to industry and other features. The research tries to identify the challenges that came in the form of covid over the economy worldwide, emphasising transactional strategies, the action of second wave changes of employees, and concern for the future.

The paper (Xu, L. et al., 2021) tries to analyse 14 Major ports of China, intending to determine the economy of China and the impact of the pandemic on the port industry. The data is collected from January to October in the year 2020 to explore the severity of the pandemic and the administrative and government strategies for the port industry to cope up effectively with coronavirus.

1.3 Research Gap

There is limited research concentrating on the Indian Seaport and maritime industrial sector. Along with this, there is no proper analysis which focuses on the Navi-Mumbai port and the adverse impact faced by the port and their relevant stakeholders because of covid pandemic situation over social, economical perspective in the financial year 2020-2021.

1.4 Research Question

- Q1.What are the effects of covid on the ports industry from an operational and economic perspective?
- Q2. What is the impact on employees of the port industry during covid-19?

1.5 Importance of the Study

The study focuses on the covid impact and its vulnerability faced by the navi-mumbai port industry and their related sector. The study has various significance as it compiled various stakeholders who get adversely affected in this lockdown and steadily unlocking phase of a whole year. It also comprehensively analyses the port industry and how covid change the scenario.

1.6 Research Objectives

The motive of the research is to exclusively analyse the navi mumbai port industry and how covid change the perspective.

1.7 Hypothesis

H0: There are economic and employment impacts on the port industry during covid-19.

H1: There is no economic and employment impact on the port industry during covid-19.

Chapter 2 - Research Methodology

2.1 Research Method & Design

The topic is related to identifying the impact of Covid-19 (Lockdown and Unlock) to Port Industry of Navi Mumbai from Financial Year (April 2020 to March 2021), therefore quantitative methods will be best.

2.2 Research Approach

Primary Data

Primary data is a data type that is real and authentic. Primary data is usually collected from real-time sources such as surveys, questionnaires, experiments, and interviews. These are not concentrating on exploring the existing articles that mean it is singular and peculiar. This is because specific types of theories, methodology are used in every research. In this research, the researcher implements primary data to obtain accurate results. In this research, the investigator has conducted a Google survey, including close-ended questions. The survey was conducted among the 104 participants based on numerous questions. There are several types due to which primary data is contributing a lot in achieving results. First, it is not time-consuming, and it is very reliable considering objectives. Through research, investigators examine in-depth regarding the covid impact on various stakeholders relevant to Navi Mumbai seaport.

Secondary Data

The secondary is data which many scholars use in their research. In simple terms, it has already been collected and documented by some investigators for its persistence and not for the current research challenge. It is accessible from various sources such as government publications, books, journal articles, websites, and reports. These are concentrating on exploring the existing articles. They are less reliable and less suitable. They are less reliant and less appropriate. The researcher has used secondary data to upgrade their knowledge. To conduct this study in this methodology section, secondary data is also

crucial as a primary empirical method. It assists in enhancing the knowledge and significant role in determining the hypothesis.

2.3 Sampling Technique

Researchers used Google forms to collect as a sampling method. There are two reasons to do so, first is there is a pandemic (Covid-19) going on and secondly it is an easy and efficient way to collect fast results.

Prominent Factors	Agreed & Strongly Agreed	Disagreed & Strongly Disagreed	Neutral
Supply chain collapse & Inland logistic issue	82.5%	1.9%	15.5%
Ports shut down	73.8%	9.7%	16.5%
Suffer from bankruptcy	67%	5.8%	27.2%
Negative growth in cargo traffic	73.8%	2.9%	23.3%
Declination in the number of vessel traffic	80.6%	2.9%	16.5%
Adverse impact on employment	90.3%	-	9.7%
Employment Loss	83.5%	3.9%	12.6%
Increase workload because of quarantine and lockdown issue	77.7	4.9%	17.5%

The two-tailed P-value is > 0.0001

By conservative standards, this interval is estimated to be remarkably statistically notable.

Confidence period:

The average of Agreed participant - Disagreed participant = 74.650

95% confidence period of this variation: From 66.758 to 82.542

Average range utilised in estimates:

t = 22.3663

df = 7

Standard error of difference = 3.338

When the value of P is near to 0.5, then it demonstrates that Hypothesis H0 (Null hypothesis) is correct; however, when the value of P is bending far away from the mean value, then it is assumed that Hypothesis H1 (alternative hypothesis) is correct.

The above description shows that the value of $P > 0.001$ means H0 is correct and accepted, however the value of H1 is rejected.

Hence, H0, that is, there are economic and employment impacts on the port industry during covid-19 is accepted. While H1, which proclaims that there is no economic and employment impact on the port industry during covid-19 is rejected.

This shows a significant and precise impact of the covid pandemic crisis over the Navi Mumbai port industries in the financial year 2020-2021. The survey responses showed an adverse effect on the financial condition of the Navi Mumbai port industrial market as they hardly manage themselves in pandemic and lockdown worse conditions. Moreover, there is also less pay and job loss. The survey demonstrated an immense burden on the workers as they go through various employment issues in the quarantine and lockdown duration.

Chapter 3 - Data Analysis

This section tries to comprehensively explore the question and try to retrieve the answer from the survey method, which is conducted to obtain the appropriate outcome and justify the hypothesis and fulfil the study's objective.

Q1. What are the effects of covid on the ports industry from an operational and economic perspective?

The paper utilised the empirical methodology based on several questionnaires which specifically highlight the operational and economic vulnerability suffered by the Navi Mumbai port sector during the pandemic and lockdown circumstances. These adverse conditions can be adequately discussed in the below section. Port Industries suffered adversely because of Covid-19 pandemic hardship as 53% of the participants agreed, and around 19.4% strongly agreed with the statement. However, 23.3% of the respondents showed a neutral response as they were in a dilemma situation and did not confirm whether the sector suffers or not due to lockdown and pandemic challenges.

The prominent factors which demonstrate the operational and economic hurdles face by the port sector during the lockdown, and unlocking circumstances are-

Declination in the number of vessel traffic-

Yes, there was a decline in the number of vessel traffic because of lockdown, as 80.6% of the participants agreed. In comparison, 16.5% of the participants were neutral, and about 2.9% disagreed that there is no delineation in the vessel traffic.

Port industries are facing negative growth in cargo traffic-

The port industries are facing negative cargo traffic growth during the pandemic crisis. The data reveal that approximately 73.8% of the participants agreed that the industry shows opposing cargo traffic in the lockdown. In comparison, 23.3% of the people were neutral, and 2.9% of the respondents disagreed that there is no negative impact on the cargo traffic.

The supply chain and related logistics industry are adversely affected-

The supply chain and related logistics industry were adversely affected in covid -19 as 82% of the participants illustrate that the port industry found hardship in logistics and supply chain was down to devastating conditions. 15.5% of the participants were neutral, while only 1.9% did not agree that the port industry found logistics and supply chain management difficulties.

Fail to control the company finance and revenue-

About 64% of the participants agreed that the port industries fail to control the company finance and revenue because of lockdown and unlock. Around 5.8% of the respondents disagreed, and about 30.1% of the participants were neutral regarding the question.

Bankruptcy

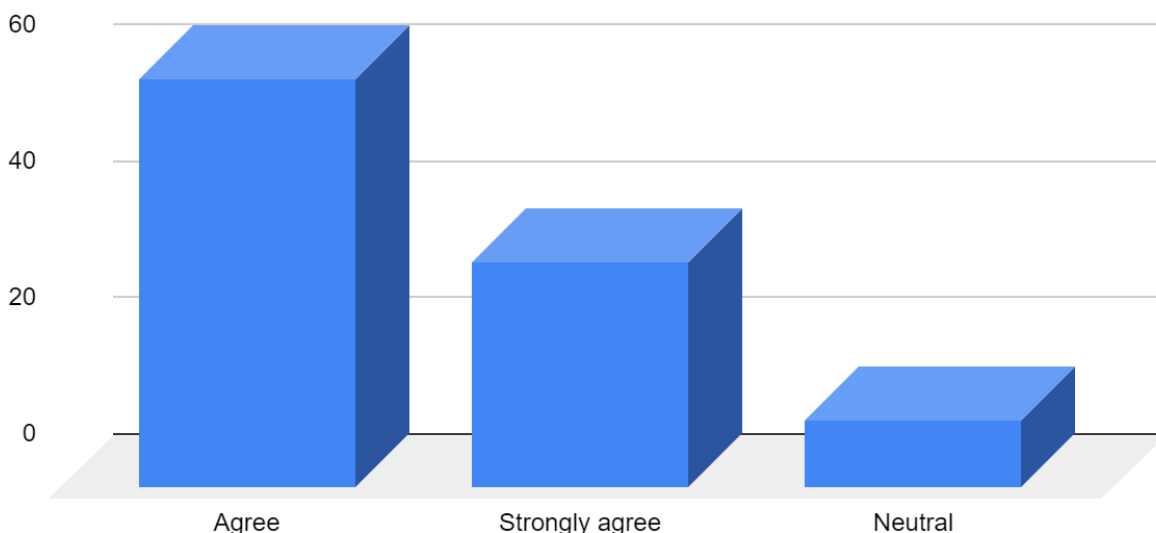
Port industrial companies suffer from bankruptcy due to covid lockdown and unlock, and around 67% of the participants favoured that they or their company became bankrupt because of lockdown. While 5.8% of the respondents disagreed and about 27.2% of the participants were neutral that they did not know whether their company became bankrupt.

Ports shut down

The survey demonstrates that around 73% of the participants show that their firm or port industry was shut down because of the covid outbreak. In contrast, about 9.7% of the respondents were not in favour, and they disagreed as the port did not go through the shutdown.

Q2. What is the impact on employees of the port industry during covid-19?

Is this lockdown and covid pandemic having an adverse impact on employment?



Is this lockdown and covid pandemic having an adverse impact on employment?

The question demonstrates that the covid has a devastating impact on the employment generation, pay scale and job loss. The data revealed that about 58.3% of the participants agreed, and 32% strongly agreed while 9.7% were neutral from the employment perspective. The people get low salary, lose their jobs and also the burden of the work are the few questions asked in the survey and the data shows that the workers were worsley impacted by the covid pandemic.

Factor	Agreed & Strongly Agreed	Disagreed
Increase workload because of quarantine and lockdown issue:	77.7%	4.9%
Do people get low salary in port industries	61.1%	4.8%
Employees get their salaries on time	58.3%	19.4%
Do people lose their jobs in port industries	83.5%	3.9%
Increase waiting time and delay crew shift	88.4%	1.0%

Chapter 4 - Results

The research shall support port industry vulnerability and the impact the industry suffers socially and economically. The adverse implications faced by the supply chain because of lockdown restrict the flexibility and ruin the sustainable business objectives and recovery procedures. At the same time, the port industry tries to prepare for post-covid-19 difficulties simultaneously. The study also highlighted that coronavirus is still a continuing concern for government, maritime supervision, port industry, as well as stakeholders, as they need to take suitable actions like proper vaccination, quarantine mechanism, social distancing, a face mask; all these measures should be implemented in a mandatory manner in order to break the outburst and save the lives.

These adverse conditions can be adequately discussed, and the data is exclusively illustrated subsequently. Port Industries suffered adversely because of Covid-19 pandemic hardship as 53% of the participants agreed, and around 19.4% strongly agreed with the statement. However, 23.3% of the respondents showed a neutral response as they were in a dilemma situation and did not confirm whether the sector suffers or not due to lockdown and pandemic challenges. The question demonstrates that the covid has a devastating impact on the employment generation, pay scale, and job loss. The data revealed that about 58.3% of the participants agreed, and 32% strongly agreed, while 9.7% were neutral from the employment perspective. The people get a low salary, lose their jobs, and the burden of the work are the few questions asked in the survey, and the data shows that the workers were worsley impacted by the covid pandemic. Port industrial companies suffer from bankruptcy due to covid lockdown and unlock, and around 67% of the participants favoured that they or their company became bankrupt because of lockdown. While 5.8% of the respondents disagreed and about 27.2% of the participants were neutral that they did not know whether their company became bankrupt.

This shows a significant and precise impact of the covid pandemic crisis over the Navi Mumbai port industries in the financial year 2020-2021. The survey responses showed an adverse effect on the financial condition of the Navi Mumbai port industrial market as they hardly manage themselves in pandemic and lockdown worse conditions. Moreover, there is also less pay and job loss. The survey demonstrated an immense burden on the workers as they go through various employment issues in the quarantine and lockdown duration.

Chapter 5 - Conclusion

The survey responses showed an adverse effect on the financial condition of the Navi Mumbai port industrial market as they hardly manage themselves in pandemic and lockdown worse conditions. Moreover, there is also less pay and job loss. The survey demonstrated an immense burden on the workers as they go through various employment issues in the quarantine and lockdown duration. Port Industries suffered adversely because of Covid-19 pandemic hardship as 53% of the participants agreed, and around 19.4% strongly agreed with the statement.

Because of covid and its associated actions taken by the government like lockdown, the maritime industry accounting for 90% of the international trade, has been adversely affected. The major seaports of India, who are responsible for handling approximately 60% of the country's total cargo trade, demonstrate vulnerability impacted due to covid-19 and its preventive measures taken by the government by locking the transportation worldwide. The supply chain and related logistics industry were also adversely affected in covid-19.

Subsequently, the port industry suffers in various manners, such as a decline in the number of vessel traffic. The port industries are facing negative growth in cargo traffic. The supply chain and related logistics industry are adversely affected and fail to control the company finance and revenue. The data also revealed that about 58.3% of the participants agreed, and 32% strongly agreed, while 9.7% were neutral from the negative impact on employment and related perspectives. The people get low salaries, lose their jobs, and the burden of the work are the few questions asked in the survey, and the data shows that the workers were Worsley impacted by the covid pandemic.

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