

**An ethical committee approval and/or legal/special permission has not been required within the scope of this study.*

**BUSINESS IMPACT OF COVID-19 PANDEMIC ON GLOBAL
MARITIME INDUSTRY***

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ABSTRACT

Coronavirus (COVID-19) pandemic has affected whole world in terms of health and global economics. As in all sectors, global maritime industry which comprises many work expertise and provides international work space for the employees, has also been stressed. For this importance, COVID-19 business impact survey on global maritime industry has been conducted during the first wave of the pandemic. Respondents of the research survey were working in a wide range of position and job alignments in the sector that are located in 21 countries all over the World. The purpose of this study is to determine the business effect of pandemic on global maritime industry. For this aim, a survey that consists of 36 questions has been conducted. These questions were initially related with descriptive ones that are firm characteristics and expertise. Then, ability of the companies while executing business operations under these situation has been investigated and the problems about financial structure as of liquidity, government & institutions assistance, transaction strategies, the actions of second wave, changes of employee, concern about future for company has been determined.

Keywords: *Coronavirus, Maritime, Pandemic, Business Impact.*

COVID-19'UN KÜRESEL DENİZCİLİK SEKTÖRÜNE TİCARİ ETKİSİNİN İNCELENMESİ

ÖZ

Koronavirüs (COVID-19) salgını, sağlık ve küresel ekonomi açısından tüm dünyayı etkisi altına almıştır. Tüm sektörlerde olduğu gibi, birçok iş uzmanlığını içeren ve uluslararası işgücü imkânı sağlayan küresel denizcilik sektörünü de sıkıntıya sokmuştur. Sektörün önemi göz önüne alınarak, COVID-19'un küresel denizcilik endüstrisi üzerindeki ticari etkisini belirlemek amacıyla salgının ilk dalgasında bir anket çalışması yapılmıştır. Araştırma anketine 21 ülkeden, sektörde çeşitli pozisyonlardaki ve farklı iş uzmanlığı bulunan sektör çalışanları katılmıştır. Bu çalışmanın amacı, pandeminin küresel denizcilik sektörü üzerindeki ticari etkisini belirlemektir. Bu amaçla 36 sorudan oluşan bir anket düzenlenmiştir. Anketin ilk bölümünde, firma özelliklerini ve uzmanlığını belirlemeye yönelik sorular yöneltilmiştir. Daha sonra şirketlerin pandemide faaliyetlerini devam ettirebilme becerileri araştırılmış; likidite, devlet ve kurum yardımları, işlem stratejileri, ikinci dalga için eylemler, istihdam, geleceğe yönelik beklentiler gibi finansal yapı ile ilgili sorunlar belirlenmiştir.

Anahtar Kelimeler: *Koronavirüs, Denizcilik, Salgın, Ticari Etki.*

1. INTRODUCTION

Coronavirus disease, which is also called as COVID-19, has firstly appeared in Wuhan, China and spread all over the world rapidly. By 28 December 2020, there have been 79.673.754 confirmed cases of COVID-19, including 1.761.381 deaths, reported to WHO (WHO, 2020).

COVID-19 has not only breached the circle of the worldwide economy but also stopped transportation throughout the world. International and local transportation has been reduced, which lessens oil consumption and energy utilization (Shehzad, Sarfraz, & Shah, 2020). As in all sectors, the transportation sector has suffered from the Covid-19 pandemic. Sea transport, which undertakes more than 80% of freight transport on an international scale, was also affected. The most striking change in terms of the decrease in the number of ships calling at the ports was observed in container ships at the beginning of the pandemic (Ozturk & Turan, 2020). Cruise shipping has also effected negatively from the results of coronavirus. Holidays in a cruise ship was an unforgettable experience before, however with the infection; it became a source of stress.

The COVID-19 has a far-reaching effect on the lives of people around the world. It showed a dramatic impression on international and local transportation. On the other hand, lock-down slowed the economic circle in the world, which results in shut down of production units and international trading. The pandemic has a significant influence in a worldwide basis (Shehzad, Sarfraz, & Shah, 2020).

Apart from this, pandemic has significantly influenced societies, global economic activities due to the transmission of the sickness. Countries adopted some solutions in order to cope with this unplanned situation in many ways. Some of them reorganized working hours while others were totally locked down and stopped activities excluding essential ones. Business transportation systems, especially airway transportation have been postponed, suspended or almost stopped. Tourism incomes of the countries have also declined dramatically. Moreover, commercial, educational, sportive and social facilities have also been cut down on. Decrease in

production level have also caused a threat for the economies of many countries and become a risk for high inflation rates and increase of unemployment numbers.

The paper is structured as follows: the literature review section summarizes the studies on epidemic outbreaks and highlights the effects of the pandemic on business. Then, the Methodology section describes the design of the survey and information about the respondents. The results and Discussions part of the paper presents the results of the research and evaluates the responses. As a consequence, conclusions and an outlook on future predictions are submitted.

2. LITERATURE REVIEW

In literature regarding coronavirus studies are mainly related with the effects of COVID-19 on the health and behavior of the people. Effects of the pandemic have mainly been considered to the environment and transportation systems especially for airway transport and public transport. To the best knowledge of the authors, studies on the effects of coronavirus on maritime cargo transport are not heavily investigated. The examinations on maritime transportation in the literature are mainly related with cruise shipping.

Ozturk and Turan (2020) investigated the effects of the pandemic on maritime cargo transportation summarized the exposure level of several ship types. It is observed that the most significant change was in container shipping and the number of ships calling at the ports decreased dramatically.

Ito et al. (2020) studied whether the movement of cruise ships effect the spread of coronavirus or not by tracking all ocean cruise ships around the World using automatic identification system data from January to March 2020 and declared that countries went on to accept cruise ships until March have faced with a higher COVID-19 infection rates compared to other countries. Moreover, they have analyzed the infection ratio subject to the ship size and operation schedules. They have pointed out that the risk of infection on board increases in large cruise ships and majority of these

cruise ships that have an infection, were sailing from the same home port to the same port of call in a week's time.

Loske (2020) showed a framework in order to reflect the impact of COVID-19 with a case study for German food logistics services and stated that purchasing style has been changed due to spending more time at home and stocking food in panic. He has evaluated transport volume growth rate with food demand, number of new infection cases and pointed out that the volume of the food logistics services increases with the new coronavirus cases. In addition to this study, Budd and Ison (2020) have also focused on individual behaviors in pandemic situations while taking into consideration community health and wellbeing. They mentioned the necessity of reorganization of the transport policy according to the mobility and economic situation during post-COVID-19.

European Maritime Safety Agency (EMSA) published a report on 27th November 2020 regarding the effects of coronavirus on shipping by examining several aspects such as ports, cruise shipping, port calls both in European Union (EU) and Far Eastern countries, vessel movements and also congestion at anchorage. According to the report, the shipping industry has been impacted both directly and indirectly from the outbreak of COVID-19. The maritime traffic was observed to decline especially between Europe and China and there is a severe decline in maritime passenger transportation.

Roy (2020) investigated the economic slowdown due to pandemic in main industries as aviation, oil, tourism, financial and healthcare sectors and indicated that the pandemic has spread rapidly all over the World and affected these industries negatively in terms of trade volume, interest rates, market volatility and demand and supply ratios. Ozili and Arun (2020) studied how a health crisis turned into a financial crisis and in this respect they collected marketing data for price and social data as lockdown days, restrictions from the continents of North America, Africa, Asia and Europe in one month period. They showed that these restrictions severely affect the global economy and decrease the level of economic activities.

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Tanca et al. (2020) prepared a report regarding the political and economic impacts of coronavirus and measures taken in order to prevent sharp effects in Turkey. According to their report of EDAM (Dersu, Efe, Anna, & Öykü, 2020) Turkish economic institutions were forced to respond to an unprecedented and unpredictable transformation in its own fiscal status, as well as in global financial strategies and some financial adjustments have been implemented in Turkey.

Choquet and Sam-Lefebvre (2021) evaluated decisions of port authorities for cruise ships in the legal framework and presented that many ports have applied some precautions. Some of them refused access while others disembark or quarantine passengers onboard. It is understood that states have different applications in order to slow down the speed of the outbreak.

Chen and Pan (2020) mentioned the control strategy of China against the coronavirus epidemic in order to be a role model to other countries. They also compared the cases with other countries faced with this epidemic intensely. The most important factor for stopping the spread of the outbreak is seen as preventing flow of people. The other precautions were strict rules, following-up the cases efficiently, limiting the transportation movements.

Zhou et al. (2020) aimed to present the challenges and opportunities in travel health mainly concentrating on cruise ships since cruise ships have high risk in terms of pathogens and sickness. Therefore, they studied the situation of big cruise ships and reached that there were several cases in these ships and suggested that prevention of diseases is of great importance for global health in the cruise industry as economic growth and the ability for public health quick reactions in case of an epidemic should be enhanced.

3. METHODOLOGY

The analysis in this study is based on the data from an online research survey that was applied to the global maritime industry to measure the impact of COVID-19 in the World. Our questionnaire consists of 36 questions measuring the business impact of COVID-19 on the global maritime industry. The questionnaire has multiple choices, multiple choices

with multi select and open – ended questions. Firstly the respondents were asked descriptive questions regarding firm characteristics including country of company based in, work expertise in company, company business alignments, the departments in company, the positions in company, type of vessel(s) to company activities, and the number of employees in the company. Secondly, the respondents were asked how business operations of the companies , the ability to purchase inputs /sell outputs, challenges of company experience, demand of products/services, strategies have been affected by the coronavirus (COVID-19) pandemic. Finally, the respondents were asked to reveal problems about financial structure such as liquidity problems, support or benefits from the government, support of business or institutions, transaction strategies, the actions of the second wave, changes of employee, concern about the future for the company. Responses have been analyzed by IBM Statistic SPSS 22.

3.1. Survey Design and Details

A web-based survey has been designed in order to reach the employees in the global maritime industry during pandemic period. Built on our previous studies and experience in the industry, our mailing list delivers content tailored for its core audience of ship owners, managers, operators, charterers and others in the industry taking the decisions which drive global maritime industry. Questionnaires have been replied by 84 respondents in 21 countries all over the world.

58% of the respondents are located in Turkey, remaining are from USA, EU and Far Eastern countries. Opinion of the all partners of the global maritime industry is aimed to receive and therefore Q-questionnaires have been sent to ship owners, managers, operators, shipyards, charter firms, marine equipment and engine builders, ship brokers, ship chandlers, maritime lawyers, ship finance companies, maritime schools, maritime organization and classification societies, ship breakers, consultants and surveyors, port operators, port authorities and port agents. Half of the respondents are recorded as ship owner, manager, operator, shipbuilder or repairers as a work expertise and company business alignment. When the positions of the respondents were analyzed, it is seen that owners, managing directors or

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boards who are decision makers in the companies, have participated in our questionnaire with a 27.5% ratio in all respondents. Other major departments are observed as business development, production, marketing and corporate communications that forms around 35% of the respondents. The rest of the respondents are working in other significant departments such as sales, purchasing, planning, design, research and development, human resources, class survey, education.

As a position basis, 21.4% of the respondents were seen as working as a managing director, board member or public administrator position in a company, 20.2% were division manager, factory operations/ branch manager or chief officer and 14.3% were self-employed business person, co-owner or freelancer. The rest of the respondents have been recorded as department supervisor, section leader, engineer, master and chief engineers onboard, academic personnel.

The concentration of the respondents or their companies on types of vessels and activities are given in Table 1. According to the Table 1, the professionalism of the respondents is mainly on the operation of tanker, bulk carrier, general cargo and specialized vessels.

Table 1. Types of vessels and activities that respondents concentrate on.

Types of Vessels and Activities	Percent (%)
Tanker*	14.9
Bulk Carrier	12.8
General Cargo	10.7
Specialized Vessels***	10.1
Passenger Ships (Ferries, Cruise Ships)	8.3
Container	8.3
Offshore Vessels**	8
Roll-on Roll-Off Ship	7.4
Fishing Vessels	5.4
Naval Ships	4.8
Yachts	4.2
Reefer	3.9
Other****	1.2
Total	100%

*Oil Tankers, Liquefied Gas Carriers, Chemical and Product Carriers

**Supply Ship, Pipe Layers, Crane Barges or Floating Cranes, Semi-Submersible Drill Rigs Drill Ships, Accommodation Barges, Production Platforms, Floating Storage Unit (FSU), Floating Production and Storage Unit (FPSO), Anchor handling vessels, Diving vessels)

***Tugs, Tenders, Pilot Crafts, Dredgers, Cable Layers, Research Vessels, Salvage Vessels, Barges, Timber Carriers, Livestock Carriers, Ice breaker ships

****Floating Dry-docks, SAR Boats, Workboats, Research Vessels.

Ultimately, the number of full-time employees and percentage were 37companies (44%) with 250 and above employees, 18 companies (21%) having 10-49 employees, 16 companies (19%) having 50-249 employees and 13 companies (15%) having 0-9 employees.

4. RESULTS AND DISCUSSIONS

We have categorized our main results into three groups. Firstly, we have pointed out the effects of COVID-19 on business operations toward the beginning of the outbreak. Secondly support measures and strategies taken by the companies itself or governments against outbreak have been

investigated. Thirdly, we have focused on the expectations about the duration of the crisis and their own economic survival, in order to reflect the effects of future policies.

4.1. Effects of COVID-19 on Business Operations

The initial survey question asked owners was “*How have your business operations been affected by the coronavirus (COVID-19) pandemic?*” and three options have been allowed for them to answer. 29 companies (34.5%) stated that they were moderately affected, 26 companies (31%) were slightly affected, 20 companies (24%) were strongly affected and by contrast, 9 companies (11%) reported that they were not affected.

Respondents were also asked about how the coronavirus (COVID-19) pandemic affected their enterprise and their replies regarding the effects of the pandemic are listed in Table 2. This question has a multi-select option so respondents were allowed to answer more than one option. Other effects were difficulty in bringing onboard, reduced freight rates, lack of superintendents as well as service men due to the closure of the borders, modification of operating procedures, cancelled requests, dividing employees into groups for time and location separation, clients not paying their bills, reduction in the number of ship repair customers, more business, contract postponements/cancellations.

Table 2. Effects of the pandemic on maritime companies.

Effects	Percent (%)
Reduced logistics services	16.8
Reduced investment	16.8
Temporary shutdown	16.2
Clients not paying their bills	10.1
Reduced certification services	10.1
Employee absences due to sickness or childcare	8.9
None of the above	6.7
New problems with infrastructure, e.g. internet or roads	5
Other	5
Increased administrative bottlenecks	4.5
Total	100%

Top three effects of coronavirus on maritime companies were reported as reduced investment, reduces logistics services and temporary shutdown as presented in Table 2.

The effect of coronavirus pandemic to the ability to purchase inputs for enterprise and/or sell outputs was listed in Table 3. These results showed that difficulty in importing inputs from abroad highly affected the companies with a ratio of 30.6%. In the meantime, companies have mainly come across with difficulty in exporting their products and lower domestic sales to businesses accordingly.

Table 3. Ability to purchase inputs for the enterprise and/or sell outputs.

Ability to Purchase/Sell	Percent (%)
Difficulty in importing inputs from abroad	30.6
Don't know	21
Difficulty in exporting	16.9
Lower domestic sales to businesses	12.1
Lower domestic sales to consumers	8.1
Difficulty in accessing inputs domestically	7.3
Improved exporting	2.4
Increased domestic sales	1.6
Total	100%

Another question was about witnessing a change in demand of the products or services. Demand of products or services to be decreased was replied by the 54% of the respondents, 33% of them observed no change and 13% of them declared that there was an increase in demand.

4.2. Supportive Measures and Strategies Taken by the Companies itself or Governments against the Outbreak

In this part of the research, respondents were initially asked “*Which of the following challenges has your company experienced when trying to support employees?*” and responses were given in Table 4. The most challenging factor has been reported as difficulty in maintaining social distancing in the

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workplace which is suggested between one and two meters by the experts. Employees not coming to work due to fear of getting sick and unable to test employees for virus/antibodies due to lack of test kits were seen as the significant challenges by the companies. 5.6% of the respondents selected others option and some of these challenges were submitted as difficulty in crew change, remote working conditions, employees not able to travel and most of the workers were being lockup in their dormitory by government agency, thus companies could not be able to have direct control to movement of the workers and in contrast some companies declared that they have tested all their employees regularly.

Table 4. Challenges companies experienced while trying to support employees.

Challenges Companies Experienced	Percent (%)
Difficulty in maintaining social distancing in the workplace	28.5
Unable to test employees for virus/antibodies due to lack of test kits	18.8
Employees not coming to work due to fear of getting sick	18.8
Unable to find masks to purchase	12.5
No challenges encountered to date	11.8
Other	5.6
Unable to find thermometers to use	2.1
Unable to test employees for virus/antibodies because employees do not want to be tested	2.1
Total	100%

In order to measure the strategies of the companies, respondents were asked whether they have adopted any strategies to cope with the crisis or not and their replies are given in Table 5. Development of prompt strategies during unexpected situations is fundamental to run a business in crisis and achieve the goals and to make stable the motivation of the personnel. This question has a multi-select option so respondents were allowed to answer more than one option. Teleworking (15.7%), temporarily reduced employment (12%)

and suspension of investments (10.6%) were mainly responded by the actors in the global maritime industry. Replies of respondents were also compared as Turkey and other countries. Strategies of the companies were mostly on adopting teleworking, temporarily reduced employment and suspension of investments in the Turkish companies and other foreign countries. Additionally, other countries were replied that they have increased marketing efforts.

Table 5. Strategies of the companies against pandemic.

Strategies	Percent (%)	Turkey (%)	Other Countries (%)
Teleworking	15.7	15.4	16.1
Temporarily reduced employment	12	12.2	11.8
Suspension of investments	10.6	10.6	10.8
Class extension	8.8	9.8	7.5
Increase marketing efforts	7.9	4.9	11.8
Reorganization	6.5	8.1	4.3
Postponement of planned dockings	5.1	4.9	5.4
Lay-up vessels	4.2	4.1	4.3
Customized/new products	4.2	3.3	5.4
Rescheduling of bank loans/refinance its existing loan with the bank	3.7	5.7	1.1
Laid off employees	3.2	3.3	3.2
Loaned employees to other enterprises	3.2	3.3	3.2

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Continuation of the Table 5.

Online sales	3.2	4.1	2.2
Filed for bankruptcy	2.8	4.9	0.0
Other*	2.8	0.8	5.4
Postponement of BWTS retrofits	1.4	1.6	1.1
Started sourcing from new suppliers	1.4	0.0	3.2
Postponement of Scrubber retrofits	0.9	0.0	2.2
New Fleet or vessel purchase	0.9	0.8	1.1
Ownership and partnership change	0.9	1.6	0.0
Fleet or vessel sale	0.5	0.8	0.0
Total	100%	100%	100%

* Recruiting more workers with higher skill and focus for more high value jobs, increases in remote survey, increasing market offering with special price, recognizing seafarers as “key workers” and distance/online inspection on vessels, moving to online or digital platforms.

Measures provided by national/regional/local governments(s) for immediate liquidity problems, by segments have also been analyzed and measures provided by national/regional/local governments(s) for immediate liquidity problems have been reported as in place but not applicable for their company. On the other hand, measures provided by banks for immediate liquidity problems have mostly been indicated as no measures in place and measures not needed.

Support of the government to companies during the coronavirus pandemic have been examined and 47.6% of the respondents have declared that there was no support, 12.4% of them mentioned deferred tax payments, 11.4% healthcare resources. The other reports were unemployment resources (9.5%), finding low-interest loans (7.6%), public guarantee schemes (5.7%), more business loan opportunities (4.8%) and others such as special days off for parents (1%). Thereon, *government* measures that would be most helpful as the companies cope with the COVID crisis have also been inquired and expectations of the companies have been understood mainly for monetary issues such as employment programs (e.g. temporary unemployment programs or social security waivers) and financial programs (e.g. low

interest credit line or credit guarantees) which have the equal ratios as 25%. Moreover, tax waivers or temporary tax breaks (22.5%), reduction of tariffs on imported inputs (7%), cash transfers (7%), rent subsidies (2.5%) and no suitable reply (1%). This result also reflects that the economic impact of the pandemic is crucial for the companies and companies may need some financial support in the following months of the crisis in order to survive in the health crisis period that began to turn into an economic crisis.

In parallel to below evaluation, respondents were asked how easy it was to access information and benefits from government COVID related assistance programs and 48% of the respondents commented as standard, 20% of the respondents reported as difficult, 16% of the respondents replied as very easy, 11% of the respondents replied as easy and 5% of the respondents replied as very difficult.

When the respondents were asked “*What are the support measures urgently needed by the industry or your company itself?*” the replies have been listed in Table 6. Problems/delays on Crew sign on/off shore leave and Seafarer repatriation (18.4%), financial issues (14.3%) and challenges on ship attendance for certification and statutory purposes (11.1%) and around 32% due to the postponements or delays regarding regular operations. Also replies of respondents were compared as Turkey and other countries. The replies in the sector were observed as approximately similar in the industry regardless of countries.

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Table 6. Support measures required by the companies and global maritime industry.

Support Measures	Percent (%)	Turkey (%)	Other Countries (%)
Problems/delays on crew sign on/off shore leave and seafarer repatriation	18.4	21.4	14.3
Financial issues	14.3	12.7	16.5
Challenges on ship attendance for certification and statutory purposes	11.1	11.9	9.9
Delays/difficulties on cargo operations	8.8	9.5	7.7
Restrictions on stores, supplies, spares	8.3	7.9	8.8
Delays/problems due to work restrictions (Repairs/Retrofits/ Recycling)	8.3	8.7	7.7
Validity of certificates	7.8	7.9	7.7
Postponement of deadline or extension for BWTS (Ballast Water Treatment System) and Scrubbers	6	5.6	6.6
Difficulties on medical handling of suspect cases on board	5.5	4.8	6.6
Support on employment	4.6	4.8	4.4
Bunkering/de bunkering	2.8	3.2	2.2
Questions/uncertainty on insurance covers and claims due to delay	1.8	0.8	3.3
Other*	1.4	0.0	3.3
Delays due to Pilot shortage/refusal to board	0.9	0.8	1.1
Total	100%		

* Low fuel costs start with the maintenance programs, extension of financial package for further period due to prolonged COVID-19 disruption.

The responses on the question of “Which of the following business or institutions supported your company during coronavirus (COVID-19) pandemic?” respondents’ reply have been listed in Table 7. Half of the respondents declared that there were no supports from any business or institutions. Half of them stated that they had some supports from the

partners of the industry as classification societies, flag authorities, chambers of shipping, IMO (International Maritime Organization), BIMCO (Baltic and International Maritime Council), shipowners associations, INTERTANKO (International Association of Independent Tanker Owners), governments and chambers of commerce. When compared the replies of respondents as Turkey and other countries, the ratio of the support by Shipowners' Associations, BIMCO, government and Chamber of Commerce to other countries are seen more than in Turkey. In the meantime, Turkish companies had support mainly from Class Societies, Flag Authorities, Chamber of Shipping and IMO.

Table 7. Business and institutions supported maritime companies during coronavirus pandemic.

Types of Support	Percent (%)	Turkey (%)	Other Countries (%)
No support from any business or institutions	50.9	46.3	57.8
Class Societies	14.3	16.4	11.1
Flag Authorities	10.7	13.4	6.7
Chamber of Shipping	8.9	11.9	4.4
IMO	7.1	9.0	4.4
Shipowners' Associations	2.7	1.5	4.4
BIMCO	2.7	0.0	6.7
Other (Government, Chamber of Commerce)	1.8	0.0	4.4
INTERTANKO	0.9	1.5	0.0
Total	100%	100%	100%

How above mentioned business or institutions given in Table 7 could support the companies have also been enquired and deferred tax payments (13.1%), healthcare sources (13.1%), more business loan opportunities (9%) and unemployment resources (8.2%) were responded mostly.

When the respondents were asked "*How is COVID-19 affecting your transaction strategy (i.e., mergers, acquisitions, divestitures, joint ventures*

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& partnerships) for the next 12 months?” replies have been listed in Table 8. Due to the unknown and unexpected era, most of the respondents has declared that they were not sure and just monitoring the situation nowadays. The ratio of the companies indicated that will not perform any strategy is 19% shows that it was not possible to change of transaction strategy depending on the sector structure.

Table 8. Transaction strategies due to the pandemic.

Transaction Strategies	Percent (%)
Not sure, monitoring the situation	28.6
No change to strategy	27.4
Not applicable, company does not have a transaction strategy, nor does it perform such types of transactions	19
Decreasing appetite for transactions	16.7
Increasing appetite for transactions	8.3
Total	100%

In line with the above question on the transaction strategies, the question of *“Which of the following transaction actions is your company considering as a result of COVID-19?”* has also been asked to the respondents and Table 9 was put forward. Majority of the respondents have answered as they did not consider any of the mentioned actions so far. 15.1% of the respondents have reported that they have evaluated new opportunities through joint ventures or partnerships to continue their activities.

Table 9. Transaction actions as a result of COVID-19.

Transaction Actions	Percent (%)
Not considering any of these actions at this time	42.5
Evaluating new opportunities through joint ventures or partnerships	15.1
Considering divesting some parts of our business	9.4
Pursuing opportunistic transactions focused on scope	9.4
Pursuing opportunistic transactions focused on scale	8.5
Accelerating delayed integration of acquired businesses to unlock synergies	7.5
Pursuing opportunistic transactions focused on talent	5.7
Defining turnaround strategies for distressed company business units	1.9
Total	100%

Opinion on the measures that the companies take to protect the health of their employees has also been received by the respondents and results have been detailed in Table 10. This question had also a multi-select option so respondents were allowed to answer more than one option.

Table 10. Measures taken by the companies for health of the employees.

Measures	Percent (%)
Providing facemasks	18.9
Enhanced cleaning and disinfection of the workplace	16.3
Providing personal protective equipment including gloves and gowns	11.9
Changing shifts and workgroups to improve social distancing	11.9
Implementing other measures to improve social distancing	11

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Continuation of the Table 10.

Improving facility ventilation rates	8.1
Conducting employee COVID-19 screenings and assessments	7.8
Implementing physical or structural changes to the workplace (e.g., sneeze guards, barriers)	7.6
Working toward improving facility ventilation rates	4.7
None of the above	1.7
Total	100%

The risk of the businesses to be permanently shut down because of the crisis has also been searched and according to the respondents, 73% of them have given opinion that business closure is not envisaged. In the meantime, 80% of the respondents have indicated that they would not consider or implement workforce sharing (e.g., loaning employees to other companies in need of resources).

The results for the question of “*In which functions their company was anticipating a need to increase headcount in the next 12 months?*” have been listed in Table 11. This question had also multi-select option since respondents may have several anticipations. 18.7% of the respondents have reported that they did not anticipate requiring an increase headcount in the next 12 months while others have mainly indicated that engineering, environmental health and sustainability, human resources, digital and cyber security would be their priority for the headcount in line with the changes in the pandemic era.

Table 11. Expectations regarding headcount in the near future.

Expectations	Percent (%)
Not applicable, we do not anticipate needing to increase headcount in the next 12 months	18.7
Engineering	9.6
Environmental health and sustainability	7
Human resources	6.4
Cyber security	5.9
Digital	5.9
Manufacturing / production	5.3
Facilities and maintenance	4.3
Finance and accounting	4.3
Audit	3.7
Information technology	3.7
Marketing and communications	3.7
Sales	3.2
Administration	2.7
Research and development	2.7
Risk	2.7
Treasury and liquidity management	2.7
Legal	2.1
Supply chain, purchasing	2.1
Compliance	1.1
Product	1.1
Quality assurance	1.1
Total	100%

What extent the actions have been taken by the possible waves of the (COVID-19) pandemic issue has also been asked to the respondents and 45% of them have replied that all actions had been taken solely on the basis of government requirement while 31% of them indicated that no action had been taken and 24% of them have reported that all actions have been taken solely on the initiative.

4.3. Expectations on Post-crisis Period and Future Policies

The world after COVID-19 will not return to the World that was and many habits and trends are expected to be changed in the global business being accelerated by the impact of the pandemic. Rise of digital environment, behaviors in the new normal and other changes may affect companies in near future. This alteration is not only sourced by technological advances but also by the new thoughts regarding health issues, global economy, financial markets. In this context, respondents have been asked to analyze “*what skills they think that would be in the highest demand in a post-COVID-19 world*” and reports of the respondents have been listed in Table 12. This question also had a multi-select option. When the replies of respondents were compared as Turkey and other countries expectations were close as ratio in the industry.

In our study, around half of the executives from maritime companies said that the pandemic is likely to accelerate the pace of their digital transformation and communication skills. The current crisis has forced organizations to adapt rapidly to new realities, opening everyone’s eyes to new, faster ways of working with customers, suppliers, ship crew and colleagues such as digital marketing, communication skills and business intelligence.

Furthermore, cyber security (8.3%) is shifting priorities to support current needs: business continuity, remote work, and planning for transition to the next normal.

Table 12. Expected skills to be demanded in a post COVID-19 period.

Expected Skills	Percent (%)	Turkey (%)	Other Countries (%)
Communication	13.9	13.6	14.4
Business intelligence	9.1	8.9	9.6
Digital marketing	9.1	9.8	8
Cyber Security	8.3	7.9	8.8
Cloud computing	6.8	5.6	8.8
Collaboration	6.8	5.1	9.6
Data analysis or statistics	5.9	5.6	6.4
Emotional intelligence	5.9	7.0	4
Project management	5.9	5.1	7.2
Software engineering	5.9	7.5	3.2
Analytical reasoning	5.3	5.6	4.8
Machine learning	2.9	3.3	2.4
Not sure	2.9	1.9	4.8
Persuasion or influence	2.7	3.3	1.6
Solution architecture	2.7	3.7	0.8
Customer service	2.4	2.8	1.6
SEO (Search Engine Optimization) or growth hacking	1.2	1.9	0
DevOps (Developers and Operations)	0.9	0.5	1.6
UX (User Experience) design	0.9	0.5	1.6
Hardware design	0.6	0.5	0.8
Total	100%	100%	100%

The predictions of respondents regarding how their companies would change as a result of COVID-19 have been given in Table 13. This question was a multi-select option and it is seen that some of the respondents had several expectations. According to the results of the study, it was clearly seen that more remote working, more stocking in-house and utilization from the domestic suppliers would highly be preferred.

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Table 13. The predictions on the change of the companies during post COVID-19 period.

Predictions	Percent (%)
We will offer more remote working in the future	33.3
It will not change	24.8
None of the above	14.3
We will hold more stock in-house rather than JIT (just-in-time)	11.4
We are now considering using more domestic suppliers	10.5
We are now considering using more offshore suppliers	4.8
Other*	1
Total	100%

* Some social distancing precautions such as barriers between seats on kitchen tables will stay.

The COVID-19 pandemic has reminded previous outbreaks and it is understood that future may bring new pandemics and the results of these unexpected periods had several impacts on the businesses due to the restrictions and postponements in the business cycles. Although the pandemic started as a health crisis, it has severe consequences in the World and it is impossible to say that any country would be unaffected and returning to the times before the pandemic will take some time. Thereafter, the respondents have been asked the question of “How soon do you expect your company will bounce back after movement restrictions are lifted?” and their replies have shown in Table 14. 25% of the respondents have reported that they were not experiencing a dip in sales/activity and 23.8% of them have expected within 0-3 months after the restrictions. Only 2.4% of the respondents have replied to this question as they did not expect any bounce back and they were in difficulty.

Table 14. Expectations of companies bounce back after restrictions.

Expectations	Percent (%)
0-3 Months	23.8
3-6 Months	14.3
6-12 Months	15.5
12-18 Months	14.3
18-24 Months	4.8
We are not experiencing a dip in sales/activity	25
Never	2.4
Total	100%

The respondents have also been asked whether there were changes in turnover after Coronavirus in the first half of 2020 compared to the first half of 2019” and their turnover expectations for the second half of 2020 compared to the second half of 2019. Responses have been illustrated in Fig.1 & 2. Many of the respondents have remarked that their current and expectations on turnovers were in a falling tendency.

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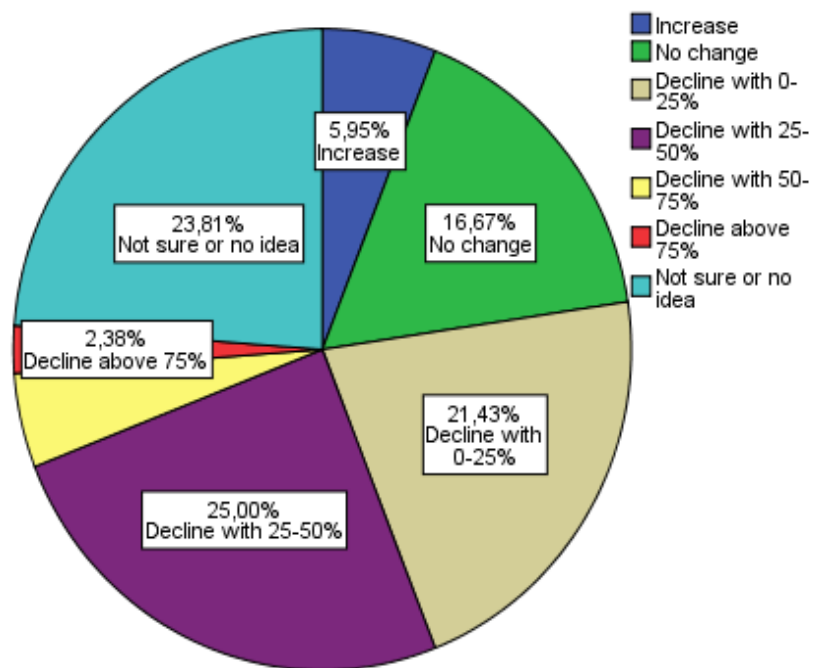


Figure 1. Change in turnover after coronavirus in the first half of 2020 compared to first half of 2019.

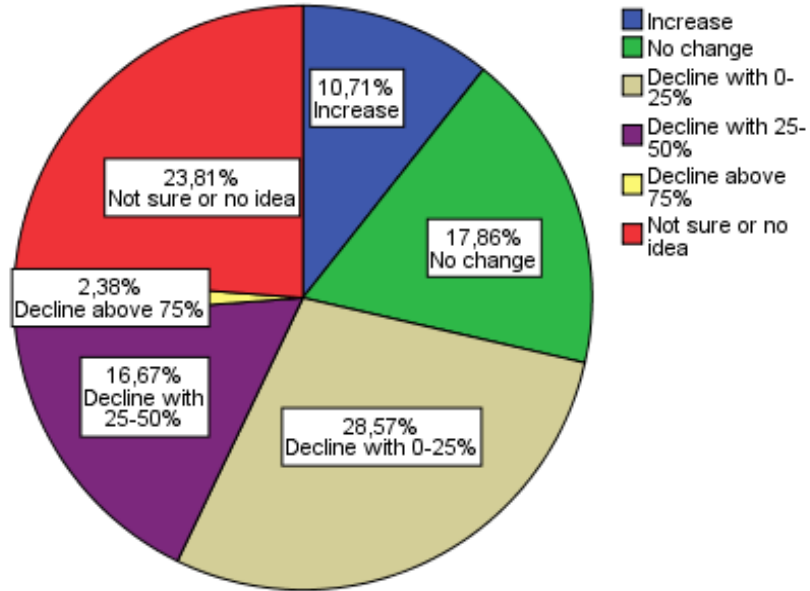


Figure 2. Turnover expectations for the second half of 2020 compared to the second half of 2019.

Acting on the above question, the expectations about the development of employment in 2020 compared to 2019 have also been examined for seafarers and office/yard/field personnel separately. The replies of the Respondents are listed in Table 15. Respondents working in both of these fields have declared that there would be no change on recruitment and remain stable as in 2019.

Table 15. Expectations on recruitment in 2020.

Expected development of the employment of seafarers for 2020, compared to 2019		Expected development of the employment of office and yard/field personnel for 2020, compared to 2019	
	Percent (%)		Percent (%)
Not relevant to our business	45.2		
Increase	8.3	Increase	10.7
No change	22.6	No change	54.8
Decline with 0-25%	15.5	Decline with 0-25%	22.6
Decline with 25-50%	6	Decline with 25-50%	6
Decline with 50-75%	0	Decline with 50-75%	3.6
Decline above 75%	2.4	Decline above 75%	2.4

In final, expectations of the respondents regarding returning to investments in fleet renewal as planned prior to COVID-19 have been listed in Table 16 and majority of the respondents relevant to their business have filled in that they have a lesser extent expectation as planned prior to COVID-19.

Table 16. Investments in fleet renewal.

Investments in fleet renewal	Percent (%)
Not relevant to our business	54.8
Lesser extent as planned prior to COVID-19	17.9
Same extent as planned prior to COVID-19	14.3
No return as planned prior to COVID-19	9.5
Greater extent as planned prior to COVID-19	3.6
Total	100

5. CONCLUSION

COVID-19 pandemic that has appeared suddenly in China in the end of 2019, overspread all around the world very fast, in a three months period. All sectors and countries have been affected more or less and it is obviously understood that companies must scale their initiatives in accordance with the requirements of the new normal and new future accordingly.

In our study, we have executed a survey in the global maritime industry in order to present the business challenges due to the coronavirus, precautions to keep the business running and protect the health of the employees from the illness and expected developments in the post-COVID period. This study contributes the literature since to the best knowledge of the authors, the studies on maritime proficiency were low and also it provides an insight to the employees about current situation of the maritime industry. Moreover, it is significant that the respondents are not located only in a single region and research has been applied to companies located in several geographical regions. Other crucial point of the study is that authors have reached especially the decision makers in the companies since the situation was uncommon and required urgent disaster and crisis management. The situation reflects that coronavirus pandemic will exist in our lives more months even though developments in the medical sector are extremely fast. The results and the developments on pandemic show that companies used to live with this situation and act quickly in accordance with the new normal conditions, will survive successfully and take advantages of this period.

Our study has some limitations. The main limitation of this research paper is the mutation of the coronavirus rapidly, adding or losing the restrictions by the countries subject to the advances in the health sector especially for vaccines. On the other hand, in addition to the evaluation of the companies in the global maritime industry, the policies of governments and regulatory bodies during coronavirus crisis may also be examined in the future studies.

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REFERENCES

Budd, L., and Ison, S. (2020). “Responsible Transport: A post-COVID Agenda for Transport Policy and Practice”. *Transportation Research Interdisciplinary Perspectives*, Vol. 6, 100151. doi:10.1016/j.trip.2020.100151.

Chen, Q., and Pan, S. (2020). “Transport-Related Experiences in China in Response to the Coronavirus (COVID-19)”. *Transportation Research Interdisciplinary Perspectives*, Vol. 8, 100246. doi:10.1016/j.trip.2020.100246.

Choquet, A., and Sam-Lefebvre, A. (2021). “Ports Closed to Cruise Ships in the Context of COVID-19: What Choices are There for Coastal States?”. *Annals of Tourism Research*, Vol. 86, 103066. doi:10.1016/j.annals.2020.103066.

Dersu, T., Efe, A., Anna, M., and Öykü, Z. (2020). “The Political and Economic Impact of the Coronavirus Pandemic in Turkey”. Centre for Economics and Foreign Policy Studies (EDAM). Retrieved from <https://edam.org.tr/wp-content/uploads/2020/11/The-Political-and-Economic-Impact-of-the-Corona-Virus-in-Turkey.pdf>

European Maritime Safety Agency (EMSA). (2020). “COVID-19 Impact on Shipping”. In *EMSA Newsroom*. Retrieved from <http://emsa.europa.eu/newsroom/covid19-impact.html>

Ito, H., Hanaoka, S., and Kawasaki, T. (2020). “The Cruise Industry and the COVID-19 Outbreak”. *Transportation Research Interdisciplinary Perspectives*, 100136. doi:10.1016/j.trip.2020.100136.

Loske, D. (2020). “The Impact of COVID-19 on Transport Volume and Freight Capacity Dynamics: An Empirical Analysis in German Food Retail Logistics”. *Transportation Research Interdisciplinary Perspectives*, Vol. 6, 100165. doi:10.1016/j.trip.2020.100165.

Business Impact of COVID-19 Pandemic on Global Maritime Industry

Ozili, P. K., and Arun, T. (2020). “Spillover of COVID-19: Impact on the Global Economy”. Retrieved from SSRN: <https://ssrn.com/abstract=3562570>

Ozturk, O., and Turan, E. (2020). “Examination of the Impact of the Covid-19 Outbreak on Sea Freight Transportation”. *2nd International Symposium of Engineering Applications on Civil Engineering and Earth Sciences (IEACES)*, pp. 40-47.

Roy, S. (2020). “Economic Impact of COVID-19 Pandemic”. *Technical Report*.

Shehzad, K., Sarfraz, M., and Shah, S. G. M. (2020). “The Impact of COVID-19 as a Necessary Evil on Air Pollution in India During the Lockdown”. *Environmental Pollution*. Vol. 266 Part 1, 115080. doi:10.1016/j.envpol.2020.115080.

WHO (n.d.). (2021) “WHO Coronavirus Disease (COVID-19) Dashboard”. Retrieved from <https://covid19.who.int/>

Zhou, S., Lu H. L., Liu, P., and Zheng, Z. (2020). “Global Health Governance for Travel Health: Lessons Learned from the Coronavirus Disease 2019 (COVID-19) Outbreaks in Large Cruise Ships”. *Global Health Journal*, Vol. 4 (4), pp. 133-138. doi:10.1016/j.glohj.2020.11.006.