Total Quality Implementation on Marine Transportation Association Under Natural Disruption of COVID-19 Pandemic

تنفيذ الجودة الشاملة على رابطة النقل البحري في ظل الاضطراب الطبيعي لوباء كوفيد-19

by

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Abstract

The research done analyzes the impact of COVID-19 on daily public transport ridership in the total quality of the most populated regions, this is done to measure quality assurance and organization strategy in critical environments and to look into the impact of COVID-19 on Marine transport. The analysis breaks down the overall effect of Organization Strategies and Goals dealing with COVID-19 with respect to employees and operations affected during the pandemic, taking into consideration the situation in dealing with stakeholders during the COVID-19 period and how the Customer Satisfaction, Cost recovery and the Quality of Service were achieved in comparison to the previous plan were not achieved**.**

The COVID-19 pandemic emergency has extraordinarily influenced the public vehicle ridership across the entire world. The total lockdown or partial lockdown devised by countries all over the world, which means that most economic activities were postponed until the outbreak, is contained. The decisions made by authorities in different countries regarding the outbreak of the pandemic have affected different factors such as their financial stability. Alluding to the World Health Organization (WHO) rules in regards to the pandemic. This brought about quick and serious ramifications on versatility styles.

The spread of COVID-19 infections has brought about remarkable measures confining travel and action interest in all countries. Social distancing, i.e., decreasing collaborations between people to dial back the spread of the infection, has turned into the new standard. It can be expected that the demand for travel will reduce and that people will travel less by public transport. Social distancing might negatively affect subjective well-being and health status, as it might result in social isolation and limited physical activity. Thus, the main focus is to make approaches to securely utilize public transport. Explore the effect of COVID-19 on versatility

practices with extraordinary respect to public transportation clients or users, as far as their readiness to travel and their security standards insights. Decide the Total quality measures in Quality affirmation and association system during the COVID-19 pestilence in the marine field. Considering the nearby government activities, concentrating on that first case declaration, crisis affirmations. The time of this review covers financial exercises between the long stretches of January towards the last quarter of dec 2020. Additionally examined in this diary, is the investigation of the potential post-episode circumstance and the monetary upgrade bundle. This research fills in as a kind of future perspective for examination on this subject.

Keywords: Organization X, COVID-19 Pandemic, Marine Transport, business continuity, forecast, quality measures, financial sustainability.

الملخص

يحلل البحث آثار كوفيد-19 على ركاب وسائل النقل العام اليومية في المناطق الأكثر اكتظاظًا بالسكان، الجودة الإجمالية، وذلك لتدابير ضمان الجودة واستراتيجية المنظمة في البيئة الحرجة والنظر في تأثير كوفيد-19على النقل البحري. يفصل التحليل التأثير العام لاستراتيجيات المنظمة والأهداف التي تتعامل مع كوفيد-19 فيما يتعلق بالموظفين والعمليات التي تمت أثناء الوباء مع مراعاة الموقف في التعامل مع أصحاب المصلحة خلال فترة كوفيد 19 وكيفية رضا العملاء واسترداد التكلفة وجودة الخدمة التي تحققت منذ الخطة السابقة لم تتحقق. لقد أثر جائحة كوفيد-19 على ركاب المركبات العامة في جميع أنحاء العالم. تم احتواء الإغلاق الكامل أو الإغلاق الجزئي الذي وضعته البلدان في جميع أنحاء العالم، مما يعني أنه تم تأجيل معظم الأنشطة الاقتصادية حتى تفشي المرض. لقد أثرت القرارات التي اتخذتها السلطات في مختلف البلدان فيما يتعلق بتفشي الوباء على عوامل مختلفة مثل استقرارها المالي. في إشارة إلى قواعد منظمة الصحة العالمية فيما يتعلق بالوباء. وقد أدى ذلك إلى تداعيات سريعة وخطيرة على أساليب التنوع.

أدى انتشار عدوى كوفيد-19 إلى اتخاذ تدابير ملحوظة حصر السفر والعمل في جميع البلدان. تحول التباعد الاجتماعي، أي تقليل التعاون بين الناس للتراجع عن انتشار العدوى، إلى معيار جديد. يمكن توقع أن الطلب على السفر سينخفض وأن الناس سوف يسافرون أقل بوسائل النقل العام. قد يؤثر التباعد الاجتماعي سلبًا على الرفاه الشخصي والحالة الصحية، لأنه قد يؤدي إلى العزلة الاجتماعية والنشاط البدني المحدود، ويتركز حول اتخاذ نهج لاستخدام وسائل النقل العام بشكل آمن. استكشف تأثير كوفيد-19 على ممارسات تعدد الاستخدامات مع الاحترام غير العادي لعملاء أو مستخدمي وسائل النقل العام، فيما يتعلق باستعدادهم للسفر ورؤى معايير الأمان الخاصة بهم. حدد مقاييس الجودة الشاملة في نظام تأكيد الجودة والارتباط أثناء وباء كوفيد-19 في المجال البحري. بالنظر إلى الأنشطة الحكومية القريبة، والتركيز على إعلان الحالة الأولى، وتأكيدات الأزمة. يغطي وقت هذه المراجعة التدريبات المالية بين الفترات الطويلة من يناير حتى نهاية ديسمبر 2020. بالإضافة إلى ذلك، تم فحصه في هذه اليوميات، وهو التحقيق في الظروف المحتملة بعد الحلقة وحزمة الترقية النقدية. تملأ هذه الورقة كنوع من منظور للفحص المستقبلي حول هذا الموضوع.

الكلمات المفتاحية: جائحة كوفيد، والنقل البحري، واستمرارية الأعمال، والتنبؤات، ومقاييس الجودة، والاستدامة المالية

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Abbreviations

SI Severity Index

WHO World Health Organization

UITP International Association of Public Transport

DWTC Dubai World Trade Center

PT Public Transport

PMT Person miles of travel

CRR Cash Reserve Ratio

Chapter I

Introduction

This chapter will provide a comprehensive view of the research findings through an analysis of the various aspects of the project. It will also show the potential solutions that could be implemented to address the identified problems.

1.1 Research Background

Coronavirus disease, more commonly referred to as COVID-19, is an infectious respiratory disease caused by the SARS-CoV-2 virus strain . COVID-19 was firstly discovered in Wuhan, China. The Chinese government forced a lockdown for the whole area to contain the spread of this infection. China contained the highest number of COVID-19 cases, at around 80,000 daily cases toward the end of February 2020. Different nations all over the world started to notice and monitor their COVID-19 cases between the end of February and the middle of March 2020. Despite the low number of cases in the beginning, countries tried to execute strict control measures early on to contain the spread of the COVID-19, considering the tumultuous experience by the Chinese government. The flare-up spread quicker than many people anticipated. On March 11 2020, the World Health Organization (WHO), proclaimed the COVID-19 flare-up a pandemic in view of evaluations and the expanding number of cases worldwide (118,000/day) around then with 144 nations impacted. As of early April 2020, the most noteworthy cases recorded were in the United States of America (USA), adding up to 215,344 cases followed by Italy and Spain at 110,574 and 104,118 cases respectively according to (Worldometer, 2020). By then, COVID-19 had impacted almost 203 different countries which also affected global movement, this was one of the most

exceedingly terrible flare-ups on the planet since around 1990, presenting a bigger threat than the Ebola flare-up in 2014, which generally impacted West Africa (Bowles et al., 2016; Huber et al., 2018). In order to battle this dangerous disease, specialists from numerous nations forced various degrees of control approaches. Such as, forcing all out lockdowns, partial or slight lockdowns, and development control orders. These actions were not monetarily financially agreeable yet each country in succession executed alleged social separating measures influencing schools, shops, working places, public vehicles, and a lot more areas (Anderson, Heesterbeek, Klinkenberg, & Hollingsworth, 2020; Lewnard & Lo 2020). This significantly impacted the activities of public vehicle administrations by influencing ridership because of the diminishing in movement request levels, as the imposed guidelines caused an administration limit. The international association of public transport (UITP) thinks about the ramifications of significant degrees of administration regardless of the decrease in interest to guarantee safe transportation, specifically for client gatherings at high numbers, as one of the principle challenges related with continuing public vehicle tasks (UITP, 2020a).

COVID-19 pandemic has been a huge overall interference with massive financial, ecological, and social effects all through the world, the flare-up was announced as a worldwide wellbeing crisis. (De-la-Torre and Aragaw, 2021) Multi-pronged systems and methodology were improvised and improved in regards to the wellbeing of public transportation.

The COVID-19 pandemic has incited many legislatures, organizations as well as authorities all over the world were forced to adhere to limitations on transport and portability at an extraordinary scale and size. As of fall 2020, the improvement is in a dubious stage, where a few districts and nations have begun or are intending to ease up limitations on portability, while numerous areas are still experiencing the effects of the pandemic. Regardless, an evaluation of the principal months of

the pandemic is essential to direct approach during its continuation, and can be referred to for future pandemics and different emergencies. (Jenelius & Cebecauer 2020)

Portability organizations provided a service to the community by distributing information through topographical area information (e.g., Google COVID-19 Community Mobility Reports), travel organizer questions (e.g., Apple Mobility Trends2) or application use (e.g., Moovit Public Transit Index3). Reviews of portability designs have been conducted in many places, e.g,Chile (Tirachini et al., 2020).While geological settings and information fluctuates, a steady example arises that public vehicles have been hit especially hard in contrast with private vehicles and different modes. (Musselwhite, Avineri & Susilo 2020)

The decrease in public transportation ridership was a result of governmental limitations and voyagers' own decisions. Public vehicle stations and vehicles are perceived as high-hazard conditions for the transmission of COVID-19 because of the restricted actual space accessible, the wealth of surfaces that assist with spreading the infection, and the restricted testing of group and travelers who utilize the framework (Musselwhite et al., 2020; UITP, 2020).

1.2 COVID-19 Scenario in UAE

One of the busiest cities in the Gulf have taken giant strides in terms of development in the last ten years. Dubai displays a high development rate because of approaches, inventive undertakings, and innovative thoughts executed in the city. The development pace of the city is one of the greatest, which is connected with the high movement rate rather than fruitfulness rate, hence the city has turned into the Middle East’s primary business place. Dubai is also one of the most renowned vacation destinations hosting millions every year, particularly during the celebrational season. To offer suitable types of assistance for the expanding populace, new organizational ventures, and

gigantic activities were declared. A portion of these immense creative improvements can remain solitary as urban areas.

In order to maintain this and adapt to the pandemic the UAE government prompted moves in plague measures, for example, case isolation, travel limitations, shutting sporting settings, and restricting public get-togethers. These anti-epidemic measures have been demonstrated to abbreviate the time of transmission and result in the remarkable development of affirmed cases, which exhibits the compelling control of the spread of COVID-19. Public transportation is considered one of the most significant areas openly benefiting the UAE as the government intercession procedures incorporate advancing the utilization of public transportation and decrease the utilization of individual vehicles (Worku 2013)

More than 2.3 million guests referred to business as their primary motivation behind movement to Dubai in 2019, denoting a two percent increment contrasted with 2018 (Dubai Department of Tourism and Commerce Market, 2020). As indicated by the Dubai Annual Visitor Report, in 2019, Dubai held 301 gatherings, meetings and impetuses coordinated by Dubai Business Events, subsequently offering 595 occasions of the same nature in 2020. In the year 2019, Dubai World Trade Center (DWTC) invited a record 3.57 million agents, which is a development of up to four percent up from the earlier year. The interference of street transportation and carriers saw overpowering decongestion in metropolitan habitats and traffic level prompting a decrease in anthropogenic emanations (Verisk 2020). It is accounted for that the social removing measures prompted a decrease of energy interest and modern yield, consequently, influencing natural quality. (Sarkodie and Owusu 2020).

Today, many organizations endured due to the COVID-19 pandemic measures in the UAE. One of the biggest organizations in Dubai, Organization X, is one of the biggest government entities

and the sole planner and executor of all transport, road, and traffic projects in Dubai, witnessed an increase in the number of unsatisfied customers during the pandemic. Most of their services were stopped because of lockdown due to the emergency plan that occurred to minimize the cases of the COVID-19 cases in the country. Individuals couldn't leave their houses. Occupations, schools, everything were shut down all at a moment's notice, nobody anticipated such a sudden stop. Transportation in specific was affected on an incredible level.

The main point to look at and comprehend is the impact of COVID-19 on the transportation in the marine in Dubai. Moving toward smaller gatherings in an authoritative setting through the fundamental ideas and beginning stages of situating hypotheses, this review provides new points of view to public opinion and to the approach of gathering considers. All the while, it tries to prompt the pragmatic utilization of situating hypotheses.

Figure 1 Structure Definition in Strategic Context

(Cieland, 1998, Field Guide to Project Management)

Marine Public Transportation is one of the most significant modes of travel individuals use in Dubai for tourism because of its well-known traditional values. Organization X maintained the appearance and the quality of service to enhance marine transportation. Tourism is highly prevalent in this mode of transport, hosting an estimated 14 million users on its own. In any

business climate, rapid adjustment and acclimation is essential to ensure a smooth experience for the users. A crucial trademark for enormous business flexibility and versatility is the manner in which undertaking information development based systems are coordinated and passed on.

1.3 Research Problem Statement

The outbreak of COVID-19 pandemic led to a drastic decline in public transportation services. The extreme decrease in open transportation interest because of COVID-19 with expanded expenses because of new cleanliness and cleaning guidelines (Tirachini and Cats, 2020). The pandemic was irresistible and pathogenic, particularly in the exceptional climate of public transportation. As well as controlling the infection spreading, numerous successful countermeasures should be embraced, for example, the executive's measures, sanitizations, ecological cleanliness, individual assurance and wellbeing advancement. Since public transportation is an overlooked component of society, its protection is often neglected. The coordination of various transportation departments and agencies is very important in preventing the spread of the pandemic. In addition, changing the structure of a business is a habit that most people must learn to respond to.

1.4 Research Questions

In order to look into the impact of COVID-19 on Marine Transportation under natural disruption the following questions should be answered:

Table 1 Questions followed in this Research

No.	Research Question	Ways to Address
1	How the pandemic affects the PT in the world?	Through Literature Review
2	How are the cities' PT response to the pandemic?	Through Literature Review
3	How did dynamic business change in the crises?	-Technical Investigation

		-Asset Management tools
4	How is the organizational structure affected?	-Technical Investigation -Asset Management tools
5	How were the organization strategies followed?	Technical Investigation
6	How can Organization X be effective & efficient?	Through Literature Review

1.5 Research Aim and Objectives

This research will cover the effect of COVID-19 on marine areas, explicitly, marine public transportation to recognize the need to change, arranging measures, and the current techniques for public transportation. Arranging these ideas at a strategic and functional level. The intercession estimates that can uphold public transportation services will be distinguished, this will aid providers in planning their services in the post-shutdown phase and their respective modeling development requirements. This can support the transition from the initial ad-hoc planning practices to a more evidence-based decision making.

- To provide a clear understanding of the adaptation to the crises in the marine Transportation in Organization X.
- To review how the strategic objectives will impact the system of governance during the pandemic.
- To develop the best business practices to achieve continuity for the operation, assets and the stakeholder of an organization.
- To measure the effect of the organization on customers financially and the statistics.

1.6 Research Conceptual Framework

The following figures will introduce the conceptual framework for the current research, and the main input and outputs conducted. The significance of any research is to demonstrate through the linkages made between research questions and larger theoretical concepts, demonstrating how the particulars of the research serve to illuminate larger issues, therefore, portraying its significance. An assumption of this framework is the issues of: the objective of the reporting model; the standards which support utilization of the model; announcing systems; and the subjective characteristics of the data delivered, are basic issues which should be addressed during the formative stage to add thoroughness and design to the detailing of information. (Lamberton 2005).

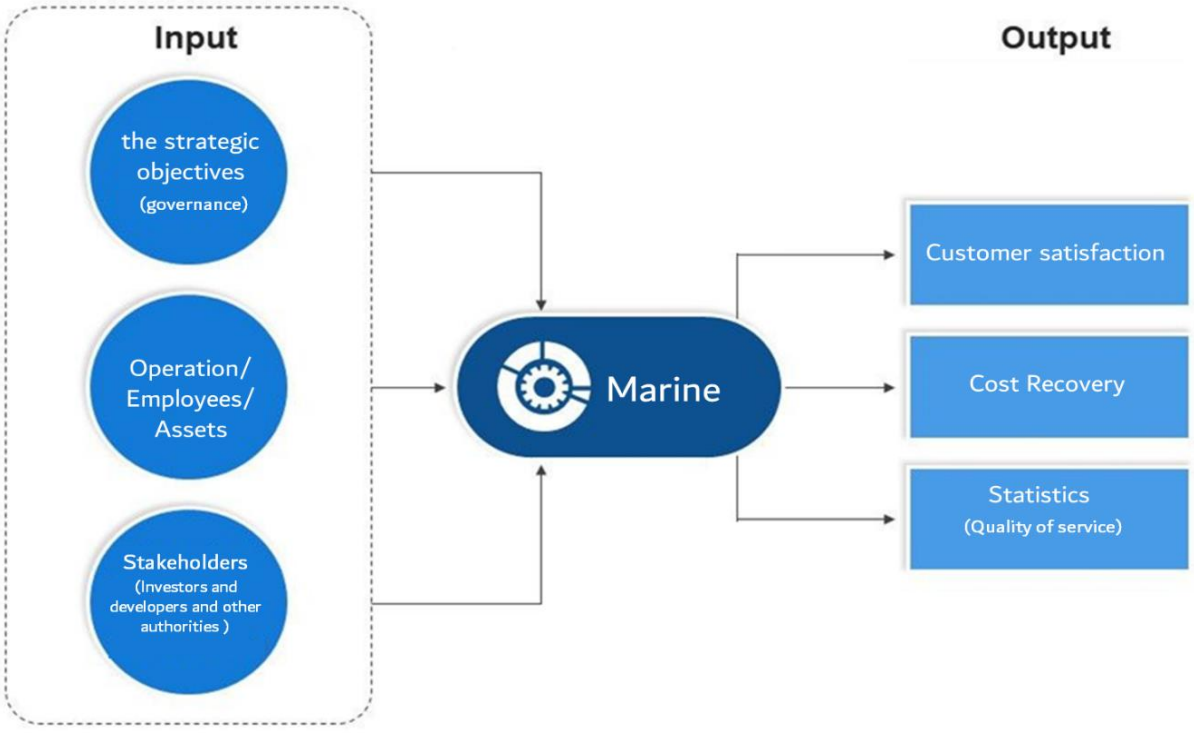

Figure 2 Input and output on simple measure

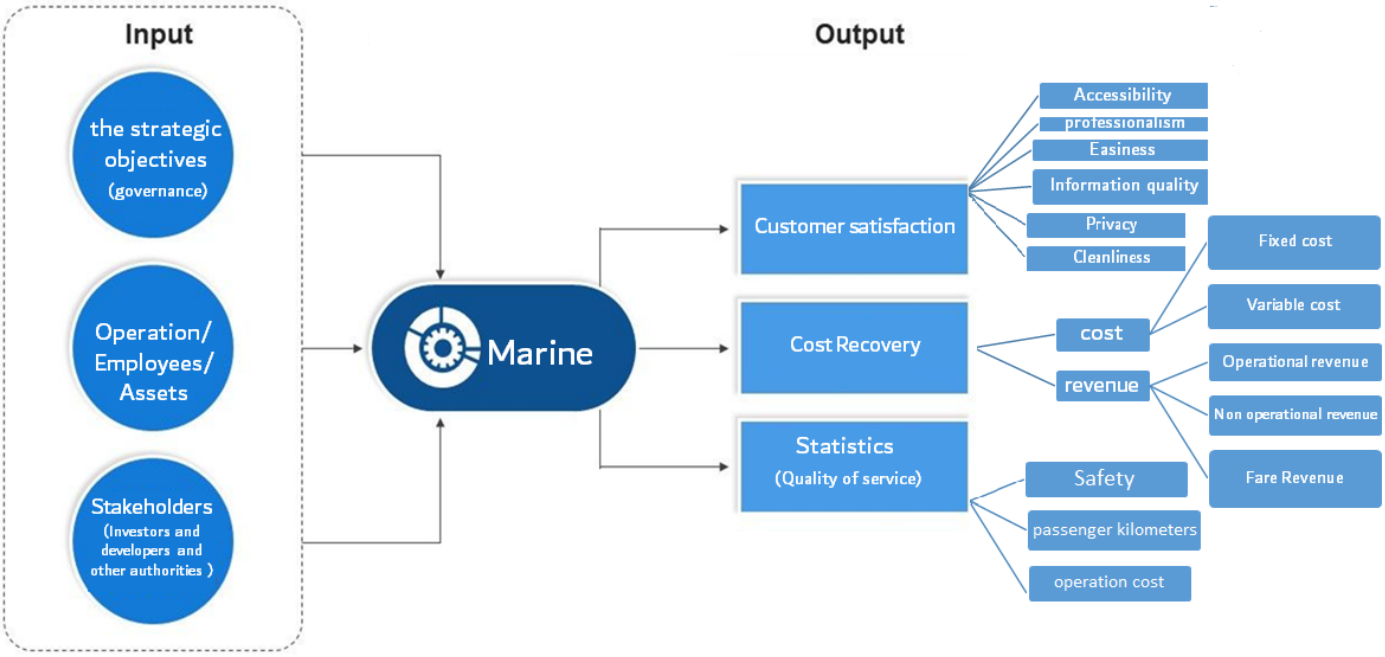

Figure 3 Inputs and Outputs on detailed factors

1.7 Expected Outcomes

1.7.1 Research Expected Outcomes (scientific Input)

This research will be looking into the lesson-learned from the COVID-19 pandemic on the Marine Transport Service and how it can support any future sudden crisis. It will also focus on improving failure rates if available through the proposed framework which will be adapted .

1.7.2 Practical Expected Impact

The research will look on the practices that were performed in Organization X - Marine Transport division and it will be looking through the following factors:

- KPI's results on Safety factors.
- KPI's results on Customer satisfaction.
- KPI's results on Cost Recovery (CRR).
- Achieving Organization X's Goals and Strategic objectives.

1.8 Report Layout Report Summary

This report will go through five phases, which will give a comprehensive view of the entire research; wherein Chapter 1 is the introductory chapter which will give a comprehensive view of the entire research. Chapter 2 will review the literature to introduce the research objective and then explains how the outbreak occurred globally affecting worldwide. Chapter 3 will give the major information related to the study conducted, and the methodology used. It will mainly focus on analysis and obtaining the results. Chapter 4 discusses situation analysis and the correction actions that were done to adapt, the effects on marine transport, and how the COVID-19 pandemic was dealt with. Chapter 5 provides the Conclusion and recommendations to consider in the future.

Chapter II

Literature Review

This chapter provides an overview about the COVID-19 pandemic and how it developed rapidly. During literature review, more than 60 papers were utilized and reviewed, the sources of the selected studies varied between British universities present in the Dubai online library, University of Sharjah Library and many journals on google scholar's search engine. The main purpose of the literature review is to achieve basic knowledge and to upgrade the existing information in different related topics to form the background for this Dissertation.

COVID-19 overturned travel across the world, disturbing drive designs in different modes of transport, in specific the public transportation framework. This produced an unusual behavior from the community from the governmental entities, which was not supporting public transportation. This is due to fear of getting the disease, it led to individuals utilizing their vehicles more frequently during the pandemic. This reaction occurred despite safety measures taken, such as time limit, social distancing, and others to limit the infection's spread. During the pandemic, the whole world confronted the challenge related with individual normal travel, requiring the requalification of current travel framework, the flighty plan of streets and the upgrade of passerby and bike paths methods of support versatility post-pandemic. Moreover, the COVID-19 pandemic has raised a few worries about framework vision, causing everybody's point of view to move.(Alkharabsheh & Duleba 2021).Financial framework system and the public transportation system can be improved and extended through short and long term planning, the obtaining of public financing, and work with public-private associations. Also, the drawn out impacts of the COVID-19 pandemic might empower more long-lasting changes in shrewd working and other day by day

exercises. Thus, bringing down versatility necessities and generally speaking fossil fuel usage. These advancements speed up manageability changes by advancing examination and new works coming about because of the COVID-19 pandemic (Alkharabsheh & Duleba 2021).

2.1 COVID-19 Globally Effects

The fast spread of COVID-19, transforming it into an overall pandemic very quickly, has been ascribed to the hypermobility of our present way of life, globalization, and the network and openness of Wuhan, the main focal point (Musselwhite, Avineri & Susilo 2020).From that point forward, the COVID-19 pandemic quickly developed into a circumstance with significant consequences for our way of life and travel around the world, going from a significant decline in air travel to a remarkable expansion in teleworking. These effects came about due to administrative measures (e.g., travel limitations and closures of entire areas in the economy) just as individual decisions to shun heading out to diminish openness to others and the danger of tainting (Tirachini & Cats 2020). The emergence of the coronavirus COVID-19 as a global pandemic has targeted the importance of the states of environment and health as well as the economy. Yet the outbreak of COVID-19 pandemic is a public health concern with dire health, environmental, natural and financial outcomes (Wang et al. 2020). On March 11, 2020, WHO announced COVID-19 as a worldwide pandemic after the irresistible illness spread across 114 nations with 118,000 affirmed cases and 4291 passing's (WHO 2020e). As of April 25, 2020, there were 2,896,746 (~ 377 for each million individuals) revealed cases all throughout the planet—of which 202,846 (~ 26 for every million individuals) passing were recorded close by 1,993,780 (~ 260 for each million individuals) dynamic cases and 816,685 (~ 106 for each million individuals) recuperated cases (Lauren, 2020).

COVID-19 effects on transportation can be materialized by inspecting the portability impacts of the different modes. Person miles of travel (PMT) is the most comprehensive and multimodal metric used for comparing the overall commitments in moving individuals given by different modes. During this time of the worldwide pandemic, a few measures have been set up to contain the spread of COVID-19 (Gautam and Hens 2020). Such regulation measures incorporate quarantine, travel boycott and limitations, social distance requirement and lockdown of public spots and abrogation of public occasions. These regulation estimates were set up to decrease negative effects on wellbeing of the worldwide pandemic that have impacted ecological maintainability and monetary turn of events. While certain investigations have revealed the natural effect of COVID-19 (Gautam and Trivedi 2020), In the diagram underneath it presents the wellbeing and monetary effects of COVID-19 across nations.

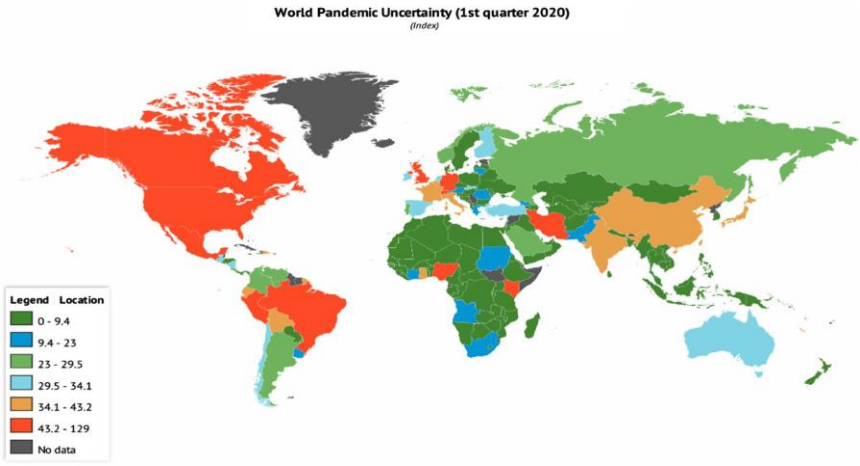

Figure 4 Global Uncertainty Index of COVID-19 pandemic
(Sarkodie & Owusu 2020)

Social distancing strategies were established across the world for yielded climate maintainability. Complete lockdown in numerous countries saw an end in carbon and energy intensive financial areas like assembling and transportation. The interference of street transportation and carriers saw overpowering decongestion in metropolitan habitats and traffic level prompting a decrease in

anthropogenic outflows (Verisk 2020). It is accounted for that the social removing measures prompted a decay of energy interest and modern result, henceforth, influencing natural quality. Coal-terminated power age is accounted for to have declined by half in China though oil utilization declined by 20-30% (Brief 2020). The decrease in coal and oil utilization prompted a decrease in carbon dioxide discharges by 25% (100MtCO2), compared to a 6% decrease in worldwide emissions (Brief 2020). NASA satellite pictures showed a decrease in nitrogen oxide discharges by 70% because of a decrease in the utilization of petroleum products during the lockdown time frame (Sarkodie & Owusu 2020) in the following (Fig.5) the time of lockdown occurred globally between the countries due to the COVID-19 pandemic can be seen.

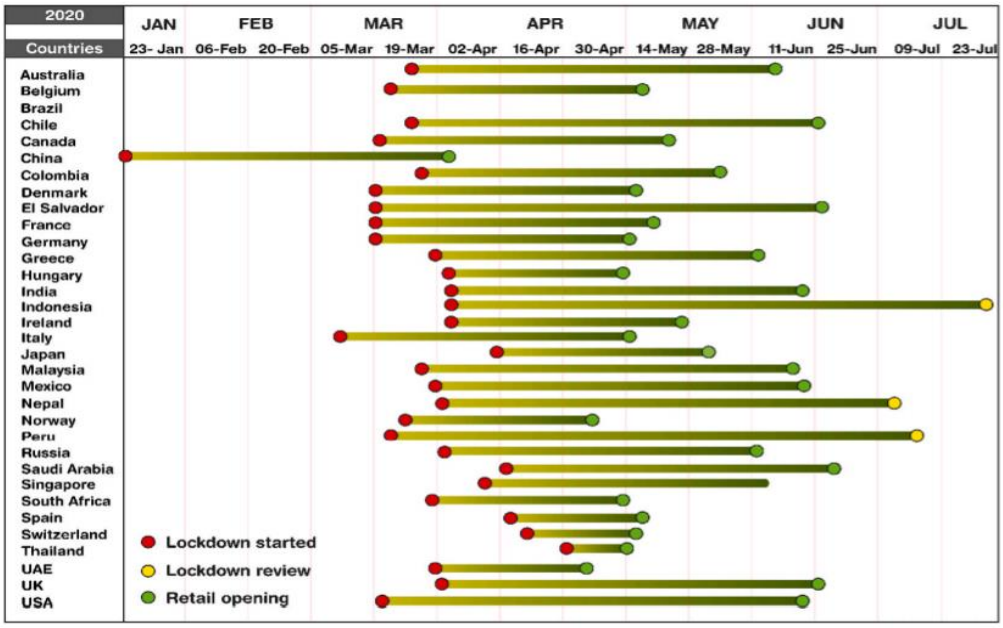

Figure 5 Lockdown time globally for different countries for COVID-19 pandemic (Nundy et al. 2021)

The COVID-19 pandemic internationally affects human versatility. In the sea, transport based exercises are thought to have been affected because of serious limitations on human developments and changes in utilization. Global marine traffic decreased in the first half of 2020. (March et al.

2021). There were decreases in 70.2% of Exclusive Economic Zones but changes varied spatially and temporally in alignment with confinement measures. Global declines peaked in April, with a reduction in traffic occupancy of 1.4% and decreases found across 54.8% of the sampling units. Passenger vessels presented more marked and longer lasting decreases. (March et al. 2021)

According to the World Tourism Organization, as of May 2020, all major destinations worldwide had imposed travel restrictions due to COVID-19. This affected every aspect of the tourism industry, from airlines to hotels to attractions. The impact of COVID-19 on the tourism supply chain will have a far-reaching effect on various industries such as agriculture, fisheries, and creative industries. (Twining Ward and McComb, 2020). The World Tourism Organization recorded the decline in international tourist arrivals in 2019. As of June 2020, the organization's data showed that the global decline in tourist arrivals was 44%.(Fig. 6).

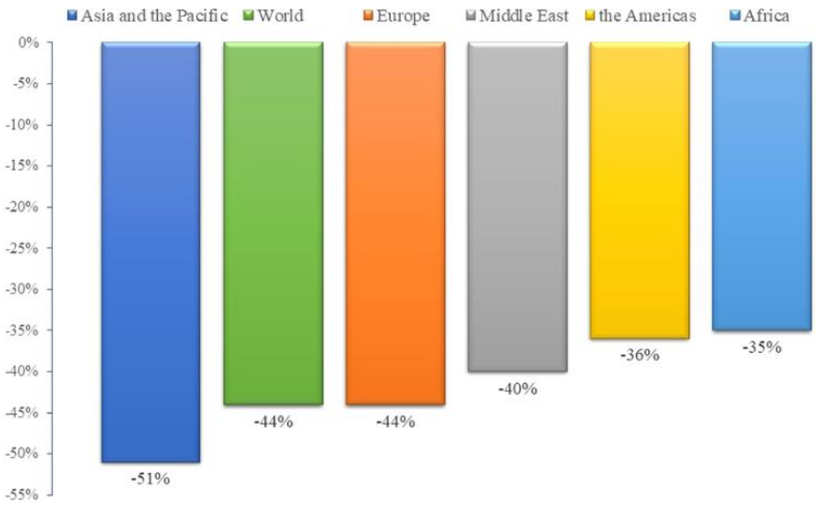

Figure 6 developed by the authors based on data adapted from the World Tourism Organization (2020).

Airline transport is one of the most intensely affected sectors, as it was one of the most highly demanded transport modes. It should be noted that it would be costly for any air transport organizations to provide compelling and effective measures to guarantee social distance and

wellbeing without a heavy effect on turnover. This means it is very challenging to keep up with public wellbeing demands and provide profound cleaning and sterilization to airplanes. The financial model of carriers was forced to adjust to the new wellbeing prerequisites. The restricted financial versatility of the air transport area will probably be the principal factor in the abatement of offer for the eventual fate of the sector. The quantity of travelers permitted on board is relied upon to be much lower than the pre-emergency level, to work with social separating measures. In that capacity, the forceful yield the executives at the foundation of aircrafts business activity will probably be discounted, raising the cost of plane tickets reliably (Tardivo, Carrillo Zanuy & Sánchez Martín 2021).

Urban travel has declined all around the world, but not uniformly, according to data collected by Molloy et al. 2020. Public transportation has taken the biggest hit. (Molloy et al. 2020; Astroza et al. 2020). The increasing number of people using public transportation, especially since it is considered safer than private or personal transport reinforced this perception. The figure attached below shows the variation in the number of public transportation hubs used in a given week. The data is based on the five-week period from January 3 to February 6, 2020. (Google 2020).

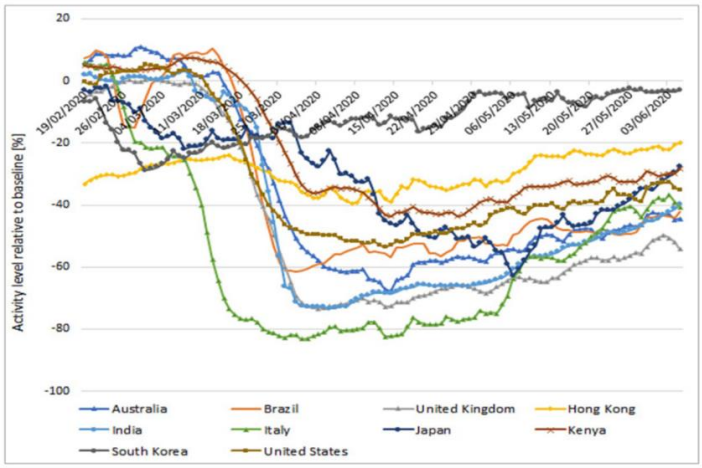

Figure 7 Change in use of public transportation hubs such as subway, bus, and train stations; five day moving average between February 15 and June 5, 2020 (Tirachini & Cats 2020)

Coronavirus' impact on travelers forced the conduction of measures to control the spread of the pandemic, restricting completing specific exercises outside the home. Nonetheless, the effect might vary by method of transport. In Budapest, the public vehicle has seen the best decay of excursions by a long shot, while cycling encountered the most reduced diminishing because of pandemic limitations. Comparative examples were seen in the Netherlands, where the utilization of public vehicles was affected the most with a decline of more than 90% of excursions. Also, 88% of individuals now favor individual modes contrasted with public or shared methods of transport. Likewise, the examination led in Santander (Spain) uncovered a general portability decline of 76%, with public vehicle being the most affected as their clients came around up to 93% (Arellana, Márquez & Cantillo 2020).Social distancing, compels people to travel less, leading to a lower usage of modes of public transportation, and a higher demand to travel more via personal vehicle. A singular's prosperity and wellbeing status may be impacted as it would bring about friendly disengagement and restricted work. Dynamic modes may assume a significant part in keeping up with prosperity levels as well as in keeping up with actual work levels diminishing the danger of expanded obesity and emotional wellness issues (Arellana, Márquez & Cantillo 2020).

The coronavirus disease has emerged as a global health crisis and an economic epidemic. Many countries have implemented unprecedented mobility restrictions to prevent its spread. COVID-19 has altered the way humans interact with marine activities during the pandemic where it caused significant changes in consumption patterns and port restrictions. As with previous recessions, the effects of COVID-19 on vessel movement can have long-term and short-term impacts on the environment such as air pollution, the spread of invasive alien species to ecosystems, or collisions with marine animals. Studies have shown a drop in water turbidity, underwater noise, and fishing effort in response to the COVID-19 outbreak. However, the effects of the outbreak on ship-based activities are still unclear at global and regional scales. (March et al. 2021). To analyze the effects of the global pandemic on marine traffic density, the Stringency Index was used to measure the number of government measures that restrict marine traffic. (Fig. 8). (March et al. 2021)

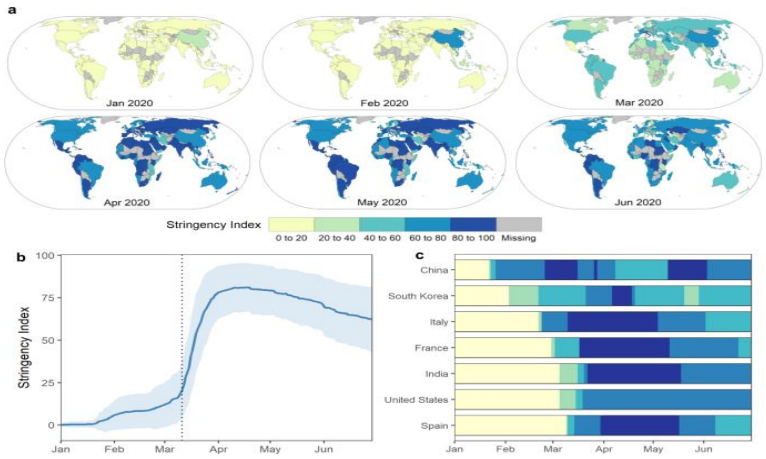

Figure 8 Spatial and temporal variation of the confinement measures in coastal countries during the first half of 2020.

The continuous effect of the COVID-19 pandemic on wellbeing, social, and financial emergencies provides numerous illustrations at various levels. To begin with, at a wellbeing level, the pandemic underlines the significance of independence as far as fundamental food and wellbeing hardware

such as defensive veils, respirators, and ventilators, which were among the most questionable themes at the beginning of the pandemic. The quantity of passes and diseases would have been diminished significantly assuming that nations had adequate supplies of these materials, and in the event that individuals utilized defensive covers at a beginning phase of the principal contaminations. No matter what every one of the obscure issues on its starting point, first flare-up, and medicines that are as yet inaccessible, COVID-19 opens another window in the logical history of infectious diseases. Wellbeing and the study of disease transmission focuses for the most part to heighten their endeavors under such conditions, and experts endeavor to study and comprehend the pandemic in the entirety of its perspectives from the beginning to the final phases of treatment.

Public transportation facilities should be made more effective at controlling and preventing this illness. The implementation of effective measures to prevent and control the spread of diseases during the use of public transportation is an important step in achieving this goal. Public agencies were charged with regulating at all levels of government various aspects of the marine transportation system. These regulations affect the operations of various marine vessels, including tugboats, cargo ships, and offshore oil and gas platforms operations, workforce, supply chains, and the traveling public. Organization charts are very important to the company. They help in defining the current structure and needs of the organization. There are many tasks that can be done in this cycle, such as recruiting a new administrator, transferring a faculty member, or retaking a position within the organization.

2.2 COVID-19 Impact On Transportation Passengers

The movement of passengers was affected by the pandemic more than the movement of non-riders, as estimated by the normal week by week number of excursions and distance traveled at the

beginning of the pandemic. Lots of studies were analyzed to measure the effects of the pandemic on travel ridership at a bigger number, using travel ridership. Some researchers have estimated that interest for travel might decrease not exactly for private modes, because of the various populaces depending on different modes of public transport. For instance, Colombian urban areas observed a higher decrease in general blockage levels than decreases in public transport passengers (Arellana, Márquez & Cantillo 2020). Interestingly, a study reviewed in three regions of Sweden, a decrease in public transportation modes, where it was tracked down the ridership decreases about 40-60 percent (Jenelius and Cebecauer, 2020). In Japan, a strong decrease in public transportation was observed, people would rather walk than use public transport in three of the four urban cities (Morita, Nakamura & Hayashi 2020). In Turkey, a shift from public transportation to individual cars to avoid the interaction with other people was noticed (Ozaydin & Ulengin 2020). In Spain, it was observed that the effects of the lockdown on public transport ridership were huger than those on broad traffic, however impacts were not uniform over the network (Orro et al., 2020). An analysis was conducted in ten of the U.S. cities both public transport ridership levels and service levels observed that assistance changes didn't have a huge relationship with ridership, however there were ridership decreases in all cities around the U.S. from March to April 2020 (Azimian & Jiao 2021). In China it was observed that individuals preferred to walk, bike, or use private cars to travel due to the pandemic. Research directed across 131 nations demonstrated that the end of public travel strongly affects conduct change (Morita, Nakamura & Hayashi 2020).It was found that changes in movement were conducted by mode of travel. A huge scope study directed with individual members in Japan tracked down the best revealed change as a decrease in the utilization of public transportation (36%), with a subsequent expansion in the use of private cars (29%) and walking as well as cycling of around (27%) (Zhang 2021). These numbers provided new

information, there was an enormous modular shift to private cars, and the additional use of walking and bike, scooters and motorcycles (Parker et al. 2021). In China, almost 40% of public transport users switched to using motorcycles, and almost half of the people who didn't own private cars had plans to buy cars after the pandemic (Zhou, Wang & Huscroft 2020).

A lot of papers conducted display the shift in movement by public transportation riders. For instance in China it was observed that transportation riders believed there is a high possibility to be infected using public modes of transportation and due to this mentality it made transportation riders have a lower chance of using it (Tan & Ma 2021). It was observed that the people decided to not take rail and buses, or tram during the pandemic and switched to private vehicles, walking, or bikes, rather than public transportation modes (Tan & Ma 2021). This concern of being infected was also found in Korea between groups of people after the beginning of the pandemic where spread was a high risk in closed areas such as public transportation modes (Cho & Park 2021). Leading to the various decreases in transportation riders, which might vary topographically around the world.

Public transportation vehicles (transports, cable cars, rails and metros, marine vessels) are utilized day by day by many individuals, particularly suburbanites in morning and evening peak hours. which supports the fear of the spread of infections among public transportation users. The impact of the COVID-19 coronavirus on public transport depends on the stage of the pandemic. Early estimates suggest that the drop in ridership has been as much as 80%–90% in major cities in China, Iran and the United States, and as much as 70% for some operators in the United Kingdom (UITP, 2020). Ridership reductions vary from 60% and 67% in Philadelphia and Detroit, respectively (Hughes, 2020), 80% for Singapore mass rapid transit (Chong, 2020) and between 85% and 95% for Toronto (Jeffords, 2020), New York City subway (Teixeira & Lopes, 2020), Budapest (Bucsky,

2020), the Netherlands (de Haas, Faber, & Hamersma, 2020), Lyon and Nice (Chivers, 2020), San Francisco and Washington DC (Hughes, 2020). Following government guidelines, people have reduced their demand for public transport. This has also affected all forms of travel (Gray, 2020; Nicola et al., 2020). Although the number of people reluctant to use public transport has partially been alleviated, concerns about the outbreak remain elevated. This uncertainty could have major implications for the demand forecasts for the following months. (Beck & Hensher, 2020). The perception of risk can affect both immediate and long-term travel decisions. (Shelat, Cats, & van Cranenburgh, 2020), The level of uncertainty related to the demand for public transportation during the post-lockdown period and even after the pandemic has significant implications for the level of public transport patronage.

However it was found that the transmission rates were low in the public transportation giving it a low chance of infection when the riders used to wear a face mask, face covers, and use proper sanitization techniques. An overall master overview found that physical removing measures had been taken in broad daylight travel in most of cases (62%), with higher offers in the U.S., Canada, and Europe, and the utilization of cutting edge to help with separating messages in India and other Asian nations (Zhou, Wang & Huscroft 2020).

2.3 COVID-19 Strategy In Organization X

The Marine Transportation Department in Organization X worked on a plan to adhere to the conditions and achieve their vision and mission. COVID-19 has gone through three basic stages:1) Appearance of pandemic, 2) Peak period of pandemic, 3)Decline of pandemic.

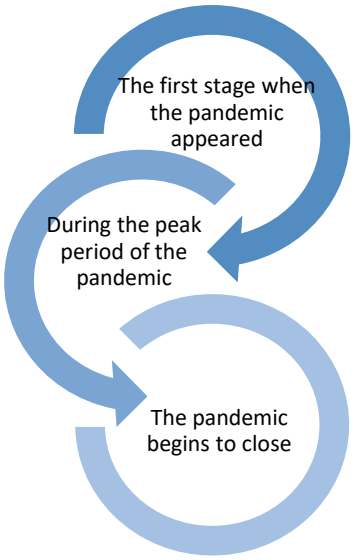

Figure 9 Stages Organization X Marine followed to face the pandemic

Figure 10 Goals & Objectives In RTA 2020-2040 (RTA Website)

When the first began the operation of the Marine Transport was suspended from 30th of March 2020 until 15th of May 2020, during that period All Routes were being studied and plans were drawn up to change the operating plan for the damaged Routes. Application of safety standards by the Maritime Authorities was implemented on marine transport vehicles as well as the crew. Developing a plan to deal with the pandemic for the operating staff, according to the rate of spread for each stage. It was also important to set a development plan for the operating system that includes initiatives, projects and tasks during the suspension period (quarantine), and create an online safety training plan. It was also important to continue communication with the crews during the period of quarantine.

As Soon as the outbreak of the pandemic began all the approved reboot plans were being applied, all precautionary initiatives, security and safety requirements as well as the operation were being implemented as per demand. This was done to achieve the reduction of the operational cost and to meet the customer satisfaction.

Organization X Marine Department has 16 routes as shown in (Fig11), as per the studies and the plans it was important to choose the routes which will operate as per the population density and to meet the demand required, 8 routes were operated CR1, CR2 serving the old heritage abras;(CR3, CR4, CR5, CR6) serving the Creek area which is one of the most high populated shown in (Fig12), BM1 serving the marina area shown in (Fig13) and BM2 serving Al Jaddaf- DFC Dubai festival city Area shown in (Fig14).

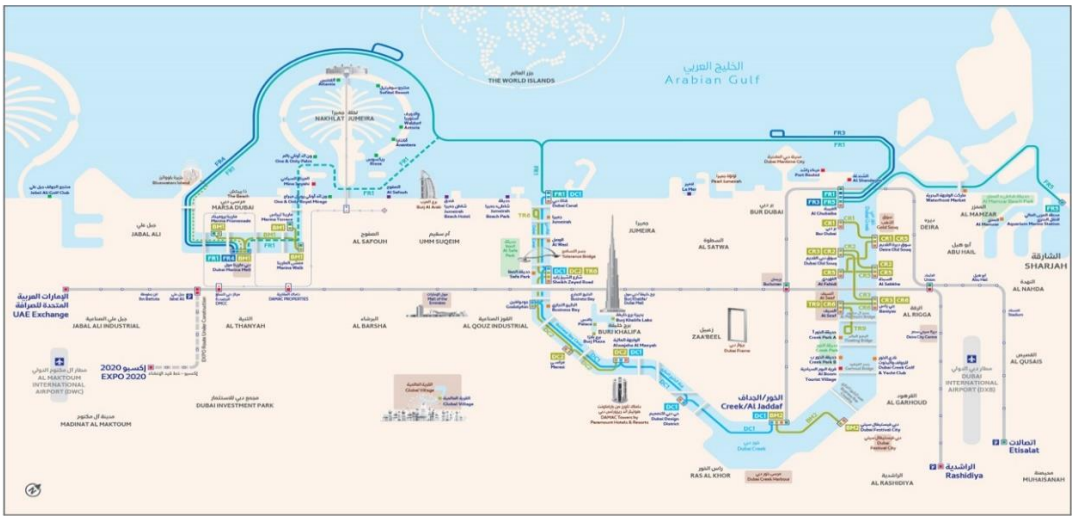

Figure 11 Marine Transport Service Full Routes for RTA(https://www.rta.ae/wps/portal/rta/ae/public-transport/marine/dubai-ferry)

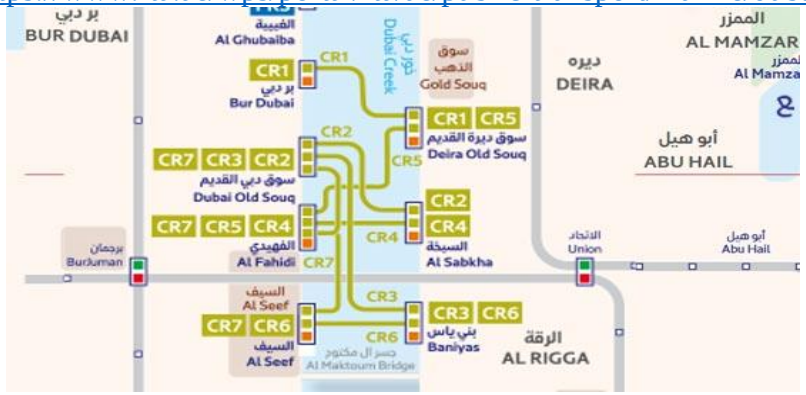

Figure 12 Creek Route for RTA Marine Transport Service(https://www.rta.ae/wps/portal/rta/ae/public-transport/marine/dubai-abra)

Figure 13 Marina Route for RTA Marine transport Service (https://www.rta.ae/wps/portal/rta/ae/public-transport/marine/dubai-abra)

Figure 14 Al Jaddaf - DFC Route for RTA Marine Transport Service (https://www.rta.ae/wps/portal/rta/ae/public-transport/marine/dubai-abra)

On the 1st of July 2020 three coastal lines were operated as per His Highness Sheikh Mohammed Bin Rashid Al Maktom's vision and recommendation. To increase the internal tourism, round trips started operating in the following routes FR1, FR3,FR4 shown in(Fig15).

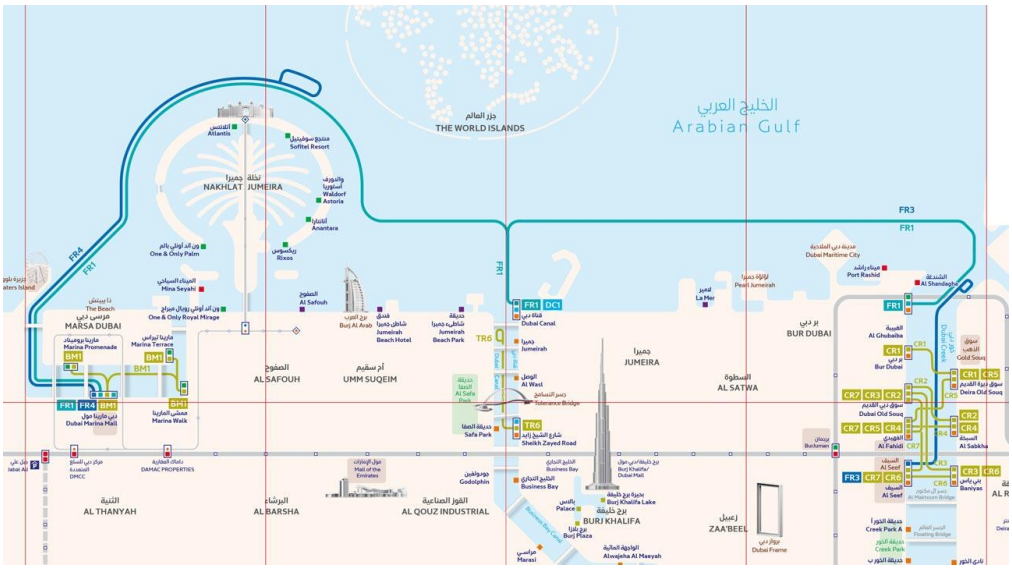

Figure 15 Costal Route for RTA Marine Transport Service(https://www.rta.ae/wps/portal/rta/ae/public-transport/marine/dubai-ferry)

Organization X was successful in handling the challenges provided by the pandemic as they led the way to how organizations should deal with such situations being one of the first administrations

to create pandemic regulations. They assigned a working group to follow up the security and safety of the Authority's properties, including boats and stations, during the ban period. Conducting remote training courses for customer service workers during the service interruption period. Evaluating the risk ratio related to the epidemic periodically since the announcement of the epidemic to ensure the effect of the precautionary measures taken and to stay in line with developments in conditions. Providing sterilization materials and instructional panels and training passers-by to support and educate them to limit the spread of the epidemic.

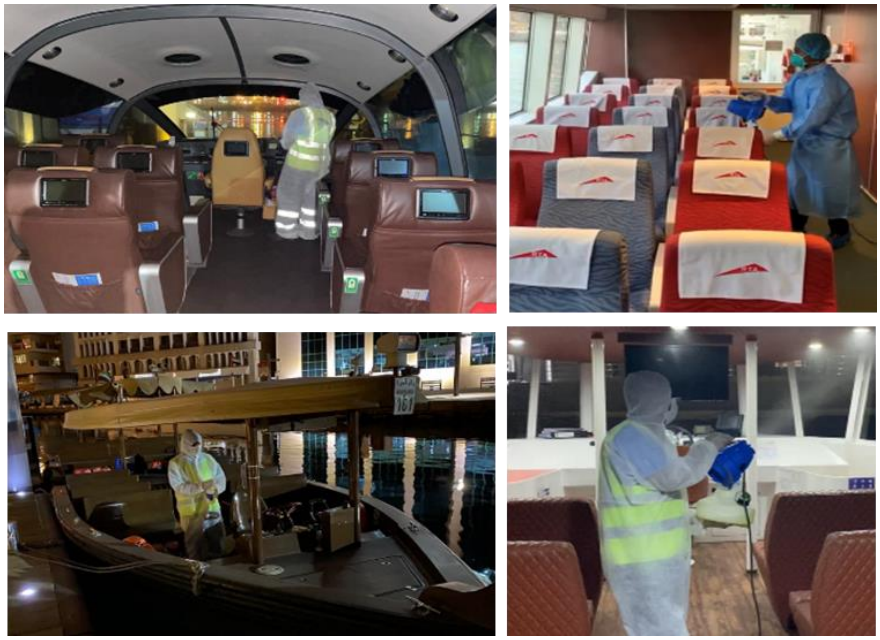

Figure 16 Sanitization of Vessels, precautions taken by Organization X Marine Transport Department

2.4 Investors And Organization X

The Marine Transport Department had to deal with the emerging coronavirus (COVID-19) with their investors, which was very important. This was mainly done through discussing the ways to cooperate with developers and companies to achieve the Authority's strategic goals related to the facilitation of assets to maintain safety precautions and the increase in revenues. When the pandemic occurred a lockdown was requested, causing the limitation of marine service operation

leading to a decrease in visitors to marine stations where kiosk shops are located; reaching a level of zero passengers in the stations. Investors requested a wave or suspension of the contracts. Organization X's Marine Transport Department holds 62 Investment Contracts in 2020, the effects of the pandemic led to almost 25% percent of loss in the revenue yet it maintained the customer loyalty, as soon as the Marine Service was back on the market all contracts resumed operation.

Table 2 How Organization X -Marine Transport Department Faced the COVID-19 pandemic

	Confronting COVID-19: Results in Organization X Marine Transport Department
1	The application of all security and safety measures and shutdown of operation during the peak period contributed to the existence of only one case in the Marine Transport Department.
2	The application of the operating plan on demand, which contributed to saving operating expenses and fuel, approximately (350,000) per month.
3	High-efficiency restarting, where 99% of operational reliability has been achieved and 100% adherence to operating dates.
4	Contingency plan aims to confront the spread of the epidemic among the crews operating the marine facilities.
5	Supporting the Public Transport Agency's operating crews during the suspension period to monitor bus stations.

2.5 Organization X Precautionary Measures

All protocols for precautionary, preventive and proactive measures have been applied against the newly developed Coronavirus in all Marine transport Department, for example:

1) The decision to suspend all Marine transport services trips for a month (the month of April 2020). Resuming marine transport activity only with the application of a series of precautionary measures necessary to ensure the health and safety of maritime transport users, especially in compliance with social divergence procedures within maritime means and in maritime transport stations.
2) Daily sterilization of all vessels according to the highest standards.
3) Training the operational staff on the precautionary measures that must be followed to ensure the health and safety of Marine transport operators.
4) Undertakes inspection campaigns to ensure compliance with all approved procedures.

2.6 Organization X Operational Costs

The pandemic has produced a significant decrease in the number of users of the mass transport sector by a rate ranging between 50% to 90%, and since the Marine transport system in the emirate mainly depends on the movement of individuals, especially tourists, the effects of this crisis are significant on the Marine transport sector, especially passenger numbers decreasing by 41.4% in March compared to April in 2019 before the application of precautionary measures. Taking social distancing measures and consolidating the emirate's tourism movement led to a decrease in the number of passengers Maritime transportation and a decrease in revenues estimated by 41%, A decrease in the cost coverage ratio, in turn, with an increase in operational costs.

Consider the necessary measures of corporate rationalizing expenditures without affecting the application of the principles of institutional flexibility, ensuring the quality and continuity of services and the level of both operating and general expenses of the Marine Department Transport, projects and capital expenditures management. Shown through the following axes:-

Table 3 Axis built in Organization X Marine to decrease the losses from the Pandemic COVID-19

No.	Axis built to decrease the losses	
1	Planning Axis	- Update the comprehensive plan for Marine Transport 2020-2030 And the program to implement them in proportion to the impact of the pandemic according to the outputs of the communication plan with partners and owners of projects. - Implementation of the Maritime Transport Network Development Initiative using Big Data (Seasonal Flexible Network).
2	Operational Axis	- Maritime transportation services suspended 30th of March 2020 until 15th of May 2020 - Re-operating the Marine transport network gradually and according to the areas of demand to achieve the highest revenues possible, while exceeding the number of targeted Passengers after the pandemic, with an increase of approximately 13%.
3	Human Resources Axis	- Applying the concept of institutional flexibility through flexible contracts that enabled the authority to reduce labor costs The Ministry of Foreign Affairs to reduce the number of employee's contracts outsourcing companies for the personnel of operating and maintaining maritime transport.
4	Maintenance Axis	- Postponing some development works for marine facilities as well as postponement of the development work of two marine stations.

All these initiatives supported the recovery of the Marine department to reach 30% of CRR and this was a major achievement as shown in the (Fig17) below, the actual CRR before the COVID-

19 was 52% yet only 30% was recovered by end of the year 2020. The Marine Transport Department coordinated with departments of high authority with the aim of reconsidering the leasing values of marine transportation to make them more attractive and flexible according to the operational season and to become more competitive; which was a major factor in helping them reaching this level of recovery.

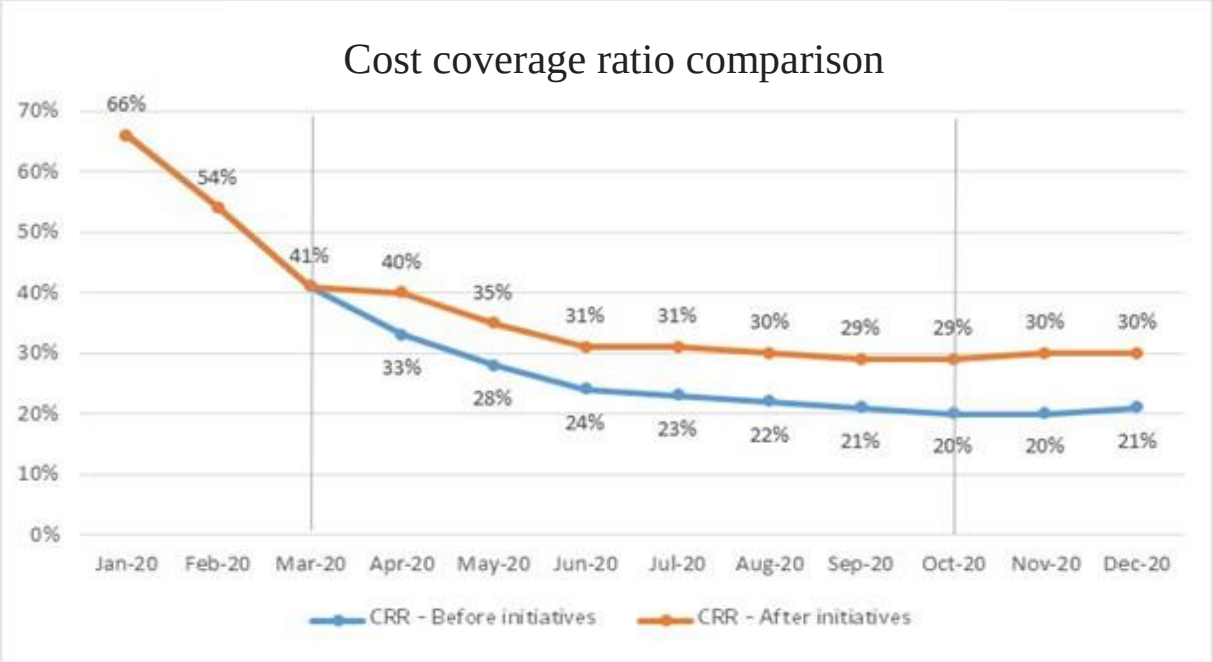

Figure 17 Comparison CRR Before and After the Initiates (Organization X Data)

Chapter III

Research Methodology

A research methodology is a set of basic principles or guidelines from which specific processes for solving various problems within a given scope can be derived (Kothari, 2004). Methodology is a term used to allude to the research plan, strategies, approaches and methodology utilized in an examination that is very much wanted to discover something (Kivunja & Kuyini 2017). For instance, information gathering, members, instruments utilized, and information examination, are generally parts of the expansive area of approach. In aggregate, the methodology strategy explains the rationale of the methodical cycles continued in leading an exploration project, in order to acquire information about an examination issue. It incorporates suppositions made, impediments experienced and how they were moderated or limited. It centers on how we come to know the world or gain information about a piece of it (Kivunja & Kuyini 2017). This chapter will go through the methods that will be used to achieve the research goals.

3.1Research Paradigm

This research utilizes "activity research technique" in light of its particular benefits of supporting and empowering conduct changes during the exploration interaction. This technique has been picked as it empowers the advancement of cooperative information assortment and miniature level effects of drives that target countering the impacts of COVID-19. The advantage of this strategy lies in its inclination of applied exploration, utilizes profoundly assorted sources with explicit spotlights on various subjects connected with COVID-19's impacts on transport, assumes a subjectivist epistemology, a relativist ontology, a naturalist methodology, and a balanced axiology.

The research conducted will facilitate two types of approaches: Severity Index (SI) and Interviews; this is done mainly to answer the research question, and to achieve the objectives and the marine aim of the research. The impacts of COVID-19 on the Organization X how it affected the level of service and the adaptation to the recovery. Thus, this research will look into the effects that this emergency may pose to the Marine Transportation area with regards to level of service provided, what is the effect of any natural distribution on Organization X.

3.2 Research Techniques

The research carried out two different types of methodological approaches, which look into a qualitative method of research. This will support in providing a clear understanding of the study aspects to look into the total quality implementation on Marine Transportation due to the natural disruption of the COVID-19 Pandemic. Data collection in the research is conducted from Organization X, then used to measure the Severity Index (SI) then thematic analysis was performed through an interview conducted from Organization X, then codes and themes are formed which will analyze the conditions that occurred, the following graph will simplify the steps used in the research:

Figure 18 Steps followed in Research Techniques

1. Define the problem that occurred suddenly, improvement actions, and ability to adapt to the pandemic to achieve the goals and strategic objectives of Marine Transports Department in Organization X.

2. Measure overall the procedure that was followed using KPI to measure the performance.

3. Analyze the KPIs that measure the Severity Index, conduct interviews and perform thematic analysis.

4. Improve process performance that followed the action plan done and reflect if it was the best option for the conditions that occurred.

5. Control to improve the future performance in case of any sudden occurrence

3.3 Research Approach

The research approach will cover two different parts, several resources were used to monitor and create a data set of the condition. The first part will be performed through the investigation of the data and results provided by the KPIs which will support in analyzing the Severity index number of Safety, customer satisfaction, the cost recovery, risk management development. It will be followed through Numerical analysis and producing a Severity index. This determines the results to propose new strategies to handle such crises. Severity Index is supposed to be an approximation to tolerance limit data as it will analyze the effect of the COVID-19 on the dynamic of the marine transport in Organization X and the effect on the operation. Then looking into the safety plan and how did Organization X's implementation plan and strategic objectives adapt to the condition. The changes in mobility in the marine public transportation in Organization X Dubai, due to COVID-

19 pandemic. The expected key factors affecting changes in mobility in Marine public transport during the COVID-19 pandemic and the pandemic status in the country and following the government restriction policy to tackle coronavirus.

To start with, the SI approach is especially fit to examine the cross-sectional elucidating information displaying a simpler way to detect irregularities in the data. Second, one of the benefits of the SI approach is that scientists' understandings of members' encounters are straightforward (Ritchie & Lewis 2003). Third, for amateur analysts moving from information the board to fostering the investigation adequately to respond to the examination questions presented can be an overwhelming and stupefying assignment.

The Second approach used in the research is generating themes from information or data is a typical component of qualitative techniques and a broadly utilized scientific analytical technique. Thematic analysis is an interpretive interaction, by which information is efficiently looked at to distinguish designs inside the information to give an enlightening depiction of the peculiarity. The interaction brings about the improvement of significant subjects without expressly creating hypotheses (Beaudry 1991).

3.4Data Collection Method

This research has various strategies for processing information from Organization X for informatics purposes. For every method used, a few investigations using it are audited, and benefits and weaknesses of every procedure are talked about. The research stresses that information assortment should be completed with incredible consideration. The data produces experimental conditions allowing for reviews and illustrations. Data collection is required in order to properly describe the problem, apply the methodology with analysis, and determine whether the desired

results were obtained. The first stage was to determine what data was required to complete the study, which was accomplished with the help of the research literature review in Chapter 2, which provided a clear picture of the data required for the project. Marine master plan, marine implementation plan, COVID-19 effects on marine transport, initiatives that were conducted in 2020, operation distribution during and after the pandemic, all the communication plans that were done with strategic partners and schedules.

3.5 Data Analysis Method

In order to achieve the main aim of the study, subjective and quantitative information can be incorporated during examination, changing one information type into the other to consider measurable or topical investigation of the two information types together. This integrative information examination procedure in their execution assessment study in which various strategies were utilized to survey various parts of program execution. The main data will support in measuring the marine safety, risks, customer satisfaction and the CRR, how did it reflect on the ridership of the marine number and the customer satisfaction. The relationship between the changes in strategy and the effect on cost recovery. There is a significant difference in safety that focuses on Quality of service in mobility in public transport regarding “low”, “medium” and “high” of Organization X during the COVID-19 pandemic and how it is applied on the KPIs used. Thematic analysis in the underlying stages while repeating and critical subjects are recognized. In any case, the thematic analysis approach seems to have a more prominent accentuation on making the course of information examination straightforward and showing the linkage between the phases of the examination. Vital to the scientific cycles inside the structure approach is a progression of interconnected stages that empowers the analyst to move to and fro across the information until an intelligible record arises (Ritchie & Lewis 2003). These outcomes might prompt the improvement

of a calculated structure. The main ways to deal with data analysis is classified into three main points. Where the first it will look into a socio-linguistic techniques that investigate the utilization and significance of language, for example, discourse a conversation discussion; Strategies that focus on creating hypothesis, embodied by grounded theory; finally strategies that depict and decipher members' perspectives which is covered in the thematic analysis. (Smith & Firth 2011)

3.6 Severity Index

Severity Index is a form of analysis that characterizes the ability of the information to identify contrasts which might be judged and gives a way to testing severity indexes in terms of their contribution to expanded gathering variety. Manages of humanitarian crises are progressively founded on quantitative data about their severity. Expanded and better utilization of this data can possibly make it more effective, efficient and principled. In recent years, rapid progress has been made in the assortment of data about helpful emergencies and in the coordination of analytical processes. Severity Index is characterized as "a proportion of the results created by the effect of an emergency condition, which can be exacerbated by the intricacy of the functional climate". Severity Index can be utilized to help choose the required agreement or decision of an emergency action taken all around the world or to comprehend changes in emergency severity over the long run. (Anon 2021)

3.7 Thematic Analysis

Thematic analysis is a method of analyzing qualitative data. It is most commonly used to refer to a collection of texts, such as interview transcripts. The researcher meticulously examines the data in order to find repeating themes - subjects, ideas, and meaning patterns.

The most prevalent method for thematic analysis consists of six steps: familiarization, coding, generating themes, reviewing themes, defining and labeling themes, and writing up. Thematic analysis is a valuable tool to apply when trying to find out something about people's ideas, opinions, knowledge, experiences, or beliefs from a set of qualitative data, such as interview transcripts, social media profiles, or survey responses. When it comes to analyzing data, thematic analysis allows you a lot of flexibility, and it makes it easier to approach large data sets by dividing them into broad themes. Thematic analysis can give rich and quick understandings of perplexing peculiarities, be applied across a scope of hypothetical and epistemological methodologies, and develop or test existing hypotheses. Nonetheless, thematic analysis has been criticized for lacking profundity, dividing the peculiarities being considered, being abstract and lacking straightforwardness according to the improvement of subjects, which can bring about troubles when passing judgment on the meticulousness of the discoveries

Figure 19 Steps followed in thematic Analysis

3.8 Key Performance Indicator Measuring Methods (KPI)

The Performance indicators are mainly used to measure the efficiency and effectiveness of an organization to see if they are adhering to the targets and maintaining the quality they are following. Especially service provider organizations that operate their assets in delivering their services.

Key Performance Indicators have major benefits which help identify if the KPI is low-performing areas and propose improvement potential. They can also be used to measure and improve processes. In addition, KPIs can provide information about the performance in different areas such as energy, raw material, control & operation, maintenance, planning & scheduling, product quality, inventory, and safety (Lindberg et.al, 2015). Based on a study conducted on COVID-19 in Organization X's Marine Department, a list of KPIs is being measured to find out the effect of the COVID-19 pandemic on the main factors as per table 5 shown below.

Table 4 List of KPIs will be used to measure the difference effected on the Marine Department

	Controlling Measure
1	Marine Collision Rate
2	Marine Fatality Rate
3	Marine Injury Rate
4	Adherence to risk management development
5	Marine cost recovery

Table 5 Controlling Measures Categories in Marine Transport Department

	Controlling Measure	**Categories**	**Weight**
1	Marine Collision Rate	Low	1
2	Marine Fatality Rate	Low	1
3	Marine Injury Rate	Low	1
4	Adherence to risk management development	Med	2
5	Marine cost recovery	High	3

In the table 5, it showed all the six controlling measures that I will be using and they are classified on three categories as per the High, Medium & low.

Table 6 6 KPIs Results on Annual and Quarterly Basis- Organization X Marine Transport Department

	KPIs on Quarter Basis Actual Results												
	KPI	2019				2020				2021- Q2			
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
1	Marine Collision Rate	0	0	0	0		0	0	0	0	0	0	0
2	Marine Fatality Rate	0	0	0	0	0	0	0	0	0	0	0	0
3	Marine Injury Rate	0	0	0	0	0	0	0	0	0	0	0	0
4	% Adherence to risk management development	100	100	98	100	100	100	100	100	100	100	100	
5	Marine cost recovery		49		41		31		30		36		

Table 7 KPIs Measured in the Marine Transport Department Organization X Quarter basis

	Key Performance Indicators Organization X Index							
	KPI	2018		2019		2020		2021- Q2	
		T	A	T	A	T	A	T	A
1	Marine Collision Rate	0	0	0	0	0	0	0	0
2	Marine Fatality Rate	0	0	0	0	0	0	0	0
3	Marine Injury Rate	0	0	0	0	0	0	0	0
4	Adherence to risk management development	95	99.75	95	99.5	95	100	95	100
5	Marine cost recovery	54	47	43	41	32	30	36	36

A Severity Index was conducted for all the 6 KPIs mentioned in the table above and this is mainly to measure the strengths and weaknesses of severity rate

Chapter IV

Results and Discussions

This chapter will provide the analysis of the various aspects. It will also show the potential outcomes of how the Severity Index was conducted and the thematic analysis outcomes that could support the identified problems looking into the objectives of the research and complying to it.

5.1Severity Index

The following equation mentioned below show how the measurement was conducted:

$$SI = \sum_{i=1}^{4} \frac{CRR_i}{WF_i}$$

1- Marine Collision Rate

Table 8 Marine Collision Rate SI

Actual

Seq	Year	Collision Rate	WF	Severity index
4	2018	100	16	6.25
3	2019	100	9	11.11111111
2	2020	100	4	25
1	2021	100	1	100
			Total	142.3611111

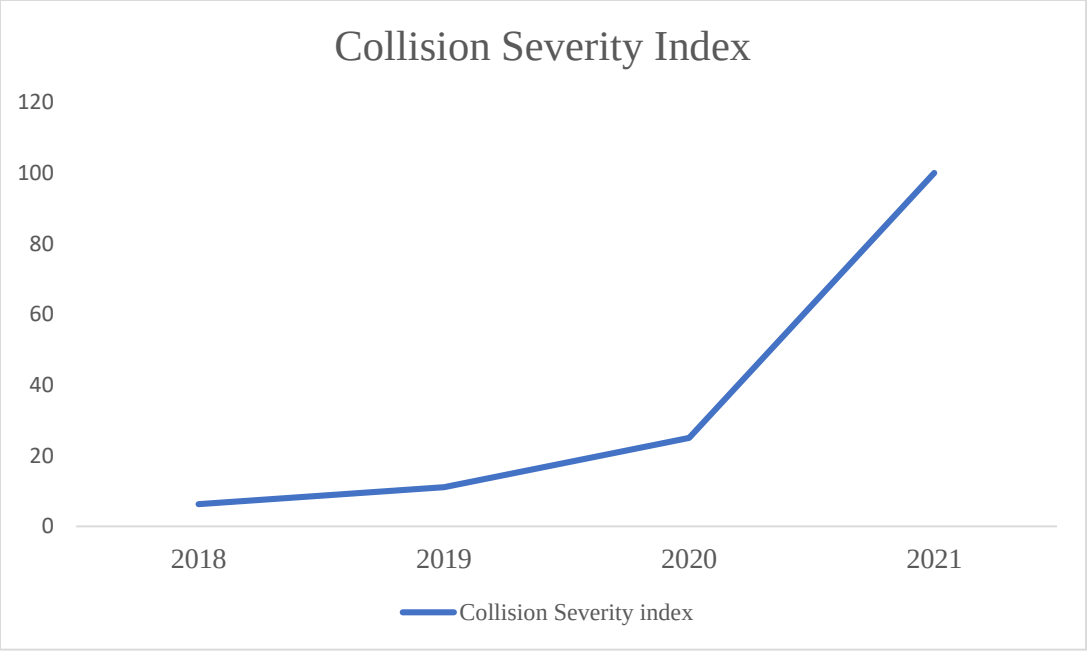

Figure 20 Collision Severity Index Graph

The SI is being measured by dividing the actual collision rate by the weight, the weight is being set as the years, as its shown the lower the WF is the higher the rate of severity index and as its shown the Organization X had a high in severity index in the collision rate in the marine transportation, it was maintained even after and during the pandemic this proves that the level of quality in the safety of marine transportation is maintained.

2- Marine Fatality Rate

Table 9 Marine Fatality Rate SI

		Actual		
Seq	Year	Fatality Rate	WF	Severity index
4	2018	100	16	6.25
3	2019	100	9	11.11111111
2	2020	100	4	25
1	2021	100	1	100
			Total	142.3611111

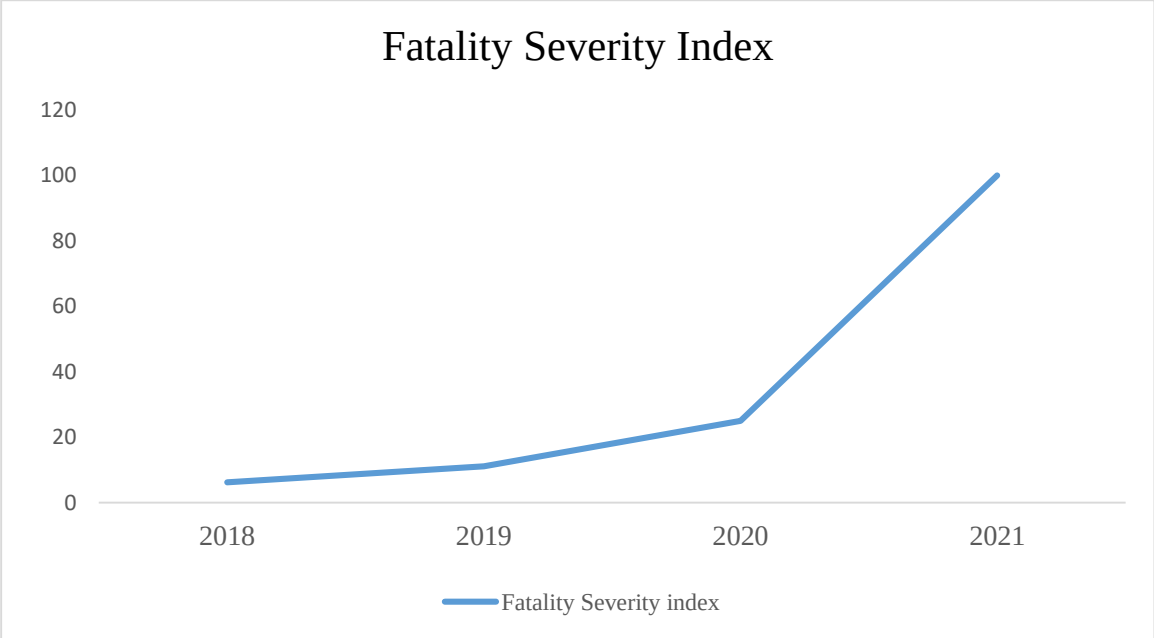

Figure 21 Fatality Severity Index Graph

The SI is being measured by dividing the actual Fatality rate by the weight, the weight is being set as the years, as its shown the lower the WF is the higher the rate of severity index and as its shown Organization X had a high in severity index in the fatality rate in marine transportation, and it was maintained even after and during the pandemic this shows that the level of quality in the safety of marine transportation is maintained.

3- Marine Injury Rate

Table 10 Marine Injury Rate SI

		Actual		
Seq	Year	Injury Rate	WF	Severity index
4	2018	100	16	6.25
3	2019	100	9	11.11111111
2	2020	100	4	25
1	2021	100	1	100
			Total	142.3611111

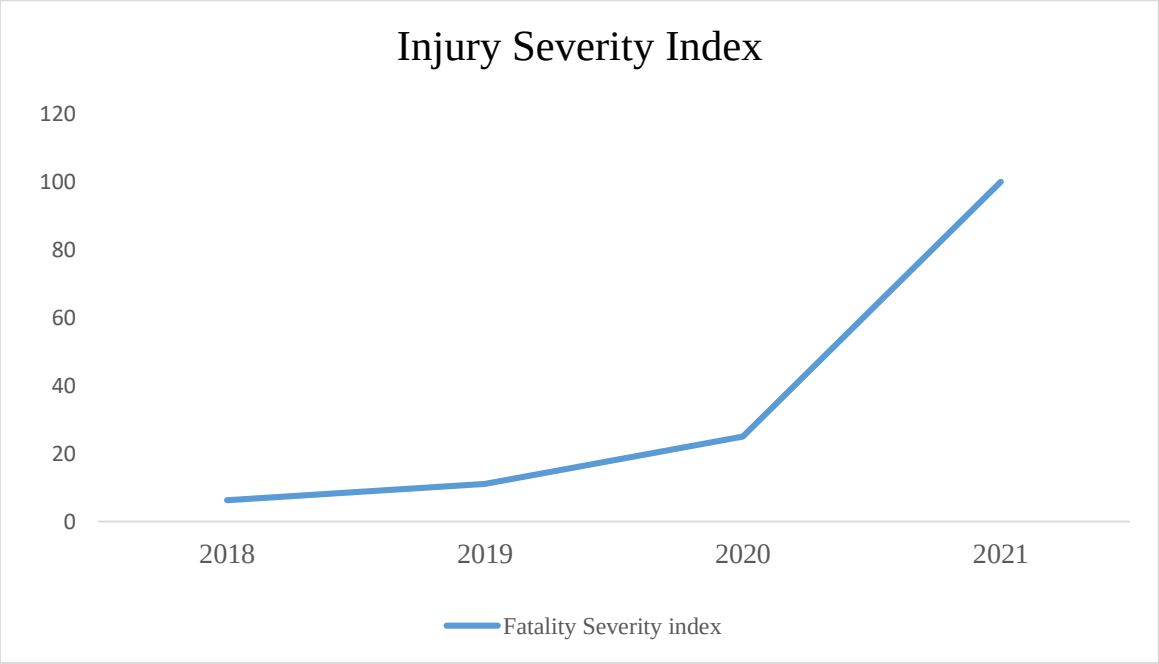

Figure 22 Injury Severity Index Graph

The SI is being measured by dividing the actual Injury rate by the weight, the weight is being set as the years, as its shown the lower the WF is the higher the rate of severity index and as its shown Organization X had a high in severity index in the injury rate in the marine transportation, and it was maintained even after and during the pandemic this shows that the level of quality in the safety of marine transportation is maintained.

4- % Adherence to risk management development

Table 11 % Adherence to risk management development SI

		Actual		
Seq	Year	Risk Rate	WF	Severity index
4	2018	99.75	16	6.234375
3	2019	99.5	9	11.05555556
2	2020	100	4	25
1	2021	100	1	100
			Total	142.2899306

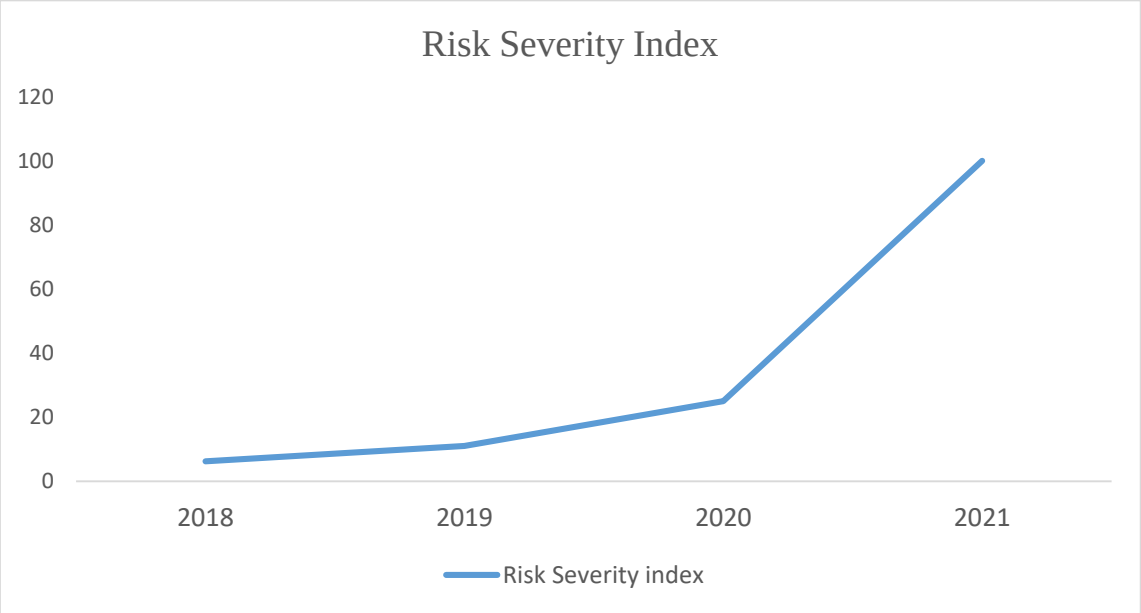

Figure 23 Risk Severity Index Graph

The SI is being measured by dividing the actual Risk Management Index rate by the weight, the weight is being set as the years, as its shown the lower the WF is the higher the rate of severity index and as its shown Organization X had a high in severity index in the risk management Index rate in marine transportation, and it was maintained even after and during the pandemic this shows that the level of quality in the risk of marine transportation is maintained.

5- Marine Cost Recovery

Table 12 Marine Cost Recovery SI

		Actual		
Seq	Year	CRR	WF	Severity index
4	2018	47	16	2.9375
3	2019	41	9	4.555555556
2	2020	30	4	7.5
1	2021	36	1	36
			Total	50.99305556

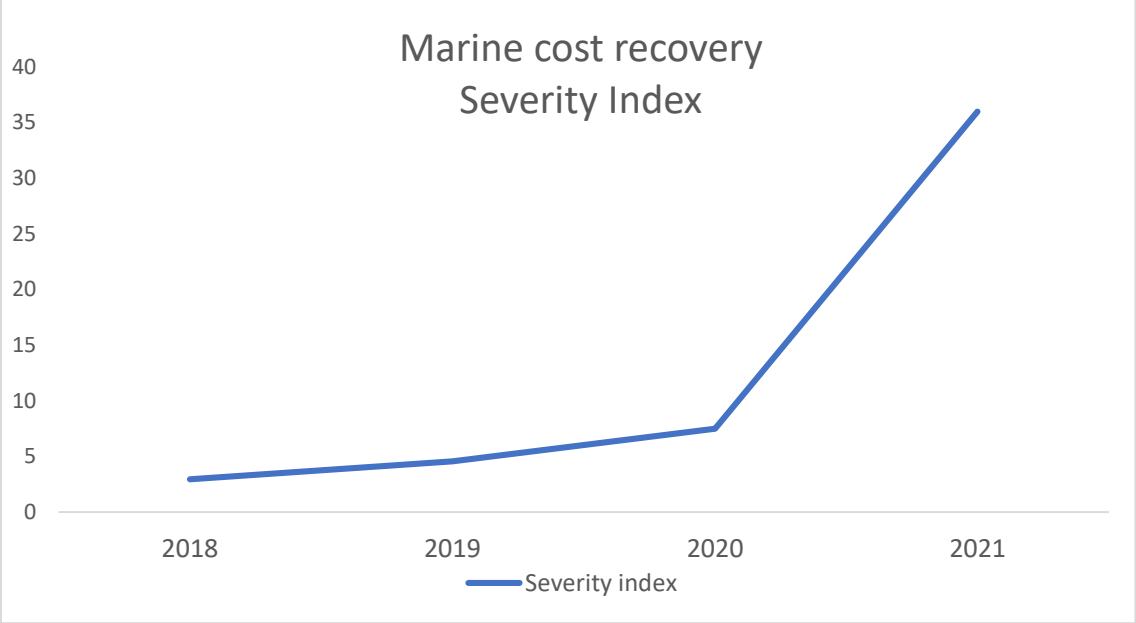

Figure 24 Marine cost recovery Severity Index Graph

In the case of CRR it is also being measured by dividing the actual Cost Recovery rate by the weight, the weight is being set as the years, yet it's clear that the lower the WF has less CRR in the marine Transportation Organization X, in this case its going negatively which means by the years they are not doing enough in High CRR to maintain so in 2018 they had the highest CRR and the least SI yet in 2020 they had the lowest CRR and in this case, it means they weren't able

to cover the CRR as its supposed to be and this is due to the COVID-19 and how the pandemic affected on the marine transport department in Organization X and the number of ridership is lower than the past years.

5.2Thematic Analysis Conducted

Thematic Analysis is thought of as the most proper for any review that tries to find utilizing understandings of interpretations. It gives an efficient component to data analysis. Researcher to associate an analysis of the frequency of a theme with one of the entire content.(Alhojailan 2012). This will present precision and multifaceted design and upgrade the examination's entirety meaning. Subjective examination requires comprehension and gathering assorted viewpoints and information. Thematic Analysis gives a chance to comprehend the capability of any issue all the more broadly (Alhojailan 2012).

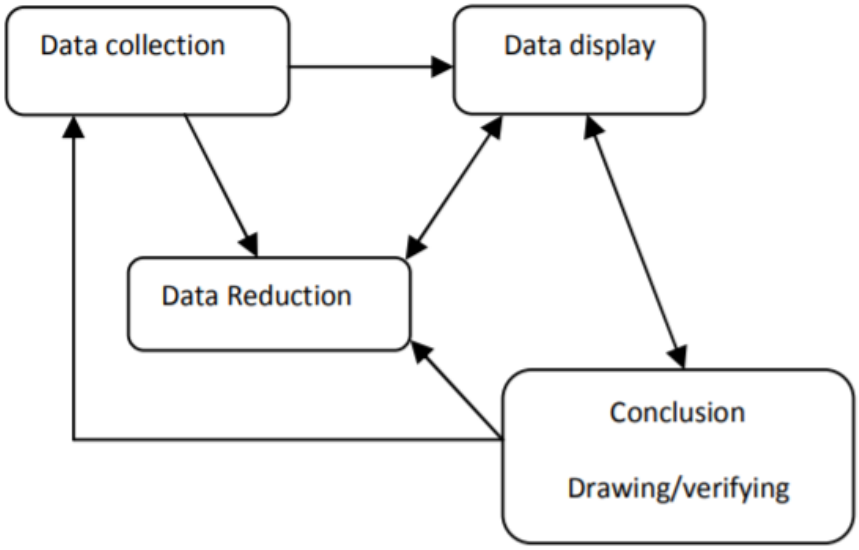

Figure 25 THEMATIC ANALYSIS MODEL (Alhojailan 2012)

- **First Interview**

	Extracts of data from the interviews	Codes
Interview 1	**Question 1: How has the pandemic affected Organization X Strategies and Goals? Was the strategy for dealing with COVID-19 right?** **Answer 1:** Organization X strategic goals and objectives were not changed yet the Organization X focused on the Safety of the employees and the safety of riders, All digital systems have been exploited, remote work has been transformed from meetings, decisions, everything related to operations management, and financial sustainability has been suspended due to the current conditions at that time, **Business continuity was one of the main aspects when** COVID-19 **hit, financial sustainability and safety.**	Stability Continuity Rehabilitative
	Question 2: How were the employees and operations affected during the pandemic? **Answer 2:** Because of the situation, the operation was completely stopped, but it was gradually restored. This helped in financial sustainability. All Employees office based were working remotely and as I mentioned this was one of the most important factors used to maintain the business, yet the operation faculty were on hold at that period and this is due to the complete stop of operations.	Stability disappointed

	Question 3: What was the situation in dealing with stakeholders during the COVID-19 **period?** **Answer 3:** Stakeholders were contacted through social media platforms and digital virtual meetings were held, and this is because of the complete Stopping of service of Marine operations, which occurred due to the conditions. It was important to communicate the information and procedures that were taken by Organization X, as they understood them.	Continuity Changing terminology
	Question 4: Was the Customer Satisfaction, Cost recovery and the Quality of Service achieved? **Answer 4:** The services were stopped and gradually returned, which led to some customers being dissatisfied with the service and understanding by them despite the communication with customers, but there was a policy of operating in the Organization X and this contributes to achieving the service policy on demand and achieving financial sustainability so some of these customers lost. The quality of the service was not reduced or different, but the presence of the service was not achieved as previously and that is due to the limited of Availability of the vessels. In addition, due to operating on demand, we had dealt with	Continuity Rehabilitative

	this issue due to communication with customers to be before 5 min and it solved it at that point. **-cost recovery** Marine transport mainly dependent on tourism to a large extent, and during the crisis, tourism was stopped, and therefore most of the cost recovery was lost, and therefore a number of initiatives were presented with the aim of survival and an attempt not to take additional support from the government as did the rest of the other countries that operate maritime transport Among the neglected of these initiatives is not to operate the vessels when it is empty without the influence of customers, reducing the expenses of lost miles of fuel and moving to internal maintenance and dispensing with the maintenance companies	
	Question 5 : Give me an Advantage and disadvantage? **Answer:5** - **Advantage** 1- in-house operation 2- sustain most resources regardless economic crisis 3- some employees were sent for a month leave - **Disadvantage**	

	1- We did not have to stop the Dubai-Sharjah line for a long time, which led to the accumulation of sand, and we have not been able to restore this line until today	
	Question 6: How far are you from achieving previous plan goals? **Answer 6:** The expectation is to recover 80% from the ridership of 2019 and by 2022, to reach more ridership or at least reaching the recovery rate of 100%. The Marine Master Plan was being updated as per the new conditions and the expected results in the near future.	

As per the first interview conducted codes were generated as it shows the analysis of the thematic analysis and to make it more clear the codes supported the outcomes from the interview such as the following: Stability, Continuity, Rehabilitative, disappointed, Changing terminology.

- **Second Interview**

Interview 2	**Question 1: How the pandemic affected Organization X Strategies and Goals? Was the strategy for dealing with** COVID-19 **right?** **Answer 1:** There was an impact of the pandemic on the authority strategy in terms of affecting services, operating lines, and the area served by Marine Transport Services, this was affecting achieving the goal of Organization X which is "safe and smooth transport for all", yet the Organization X	Stability Continuity

	focused on maintaining the stability of achieving their goals and objectives, the authority had to take the necessary measures to achieve benefit Maximizing and reducing the impact of COVID-19 on marine transport in particular and public transport in general.	Rehabilitative
	Question 2: How were the employees and operations affected during the pandemic? **Answer 2:** Measures were taken according to the events, as follows: All tourist services were stopped as they are the most attractive to tourists and who have a great impact on the refugees, especially in the maritime transport service, where they depend on them, then gradually stopped services from Sharjah, Al Khor and other areas, and this According to the sequence of events, the maritime transport helped to study and know the elements for the development and re-achievement of the objectives of the authority. When the service was stopped, it wasn't expected to restart the service quickly, as it was expected that the suspension of the service would be stopped for two to three months. There was great coordination between the Marine Transport Department and the Disaster Management in the Emirates and at the level of Dubai and the support services.	Stability Rehabilitative Suggestion

	The service was gradually restored, and it was returned to operation after a month from suspension.	Changing terminology
	Question 3: What was the situation in dealing with stakeholders during the COVID-19 **period?** **Answer 3:** All stakeholders were contacted, whether developers, owners of Kiosks or investors, and they were informed of the updates first and foremost, and the services were closed and returned. Of course, the marine transport service was gradually restored. It was returned according to the database in the authority in terms of preparing passengers and users of the marine transport service and starting to return the service in Al Khor and moved to the Festival City and Marina area, and the ferry service was operated then the tourism trips.	Continuity
	Question 4: Was the Customer Satisfaction, Cost recovery and the Quality of Service achieved? **Answer 4:** There were no complaints directly, but there were requests regarding the activation of some lines in certain places at certain hours and some recommendations. The quality of service was maintained as good as before COVID-19**.** Where precautionary measures were taken until the operation and maintenance team was working on placing posters and taking into account the spacing and safety**.**	Continuity

	One of the strategies to return the service was to return it in the form of customized services, and the number of passengers in the service was reduced, and this is due to the spacing to maintain the safety of customers. Of course, the cost recovery was effected and it was clear between the plan and actual result, the Organization X Marine Department did initiatives to try to recap the gap that occurred. And because of these initiatives it supported the recovery looking forward to covering it in a very positive way. It depended on the database and studies that were done between the Dubai situations and worldwide.	
	Question 5: Give me an Advantage and disadvantage? **Answer 5:** - **Advantage** 1- The work done by the administration was wonderful in terms of operation, planning, our relationship with partners and the development of the seasonal plan 2- Gradually restore services 3- Management has grown skills wonderfully - **Disadvantage** 1- Should have had a guide to deal with this kind of situation yet now understanding such force measures occurs it's easy to know what to do.	

	Question 6: How far are you from achieving previous plan goals? **Answer 6:** In 2019, reached a significant increase in the number of passengers, as well as an increase in the number of maritime transport lines, and the restructuring plan for maritime transport approved by the Director General and the concerned authorities was continuous and what was being implemented was consistent, but in 2020 there was an impact on developers and the implementation of projects There was a delay, and contacted these developers to find out the situation, and accordingly, these matters were kept up to date. These things have been kept pace with in terms of planning and development. Develop plans that are commensurate with the current situation and have contributed to opening new lines, developing skills and preserving assets.	

As per the second interview conducted codes were generated as it shows the analysis of the thematic analysis and to make it more clearly the codes supported the outcomes from the interview such as the following: Stability, Continuity, Rehabilitative, Suggestion, and Changing terminology.

- **Third Interview**

Interview 3	**Question 1: How the pandemic affected Organization X Strategies and Goals? Was the strategy for dealing with** COVID-19 **right?** **Answer 1:** The pandemic affects the lifestyle of people who are using the public transport or the service of Organization X. This effect also changed the way of leadership in Organization X in order to make sure their organization is agile and resilient to any disturbance events coming in the future. Organization X has an advantage of having a roll up strategic plan that's being updated annually, taking into consideration the global trends, climate changes or the economic situation and adopt the strategy, develop a mitigation risk assessment plan in order to reduce the cost and effect that could happen or any disturbing event to their service or their projects. The pandemic showed in real life an example of how we should deal from the strategic planning perspective that our goals should be more flexible, proactive our processes also should be more flexible has quick basis or fast track basis in order to observe any shock that could happen, adopt any changes required this is to achieve the sustainability. This is exactly what happened in Organization X. Since the pandemic occurred, Organization X created a committee to deal with the pandemic situation.	Stability Continuity Changing terminology

	Organization X became a member of the extreme committee in crisis. Different approaches were taken to deal with the situations for example 1) exploring the best practice of dealing with the pandemic. 2) Having transparency from any action that needed to be taken. A strategy was developed in Organization X to deal with pandemic it has many Pillars such as determine the cost and effect of the pandemic, explore and focus on the benchmark happened in similar cities and look into the action they took, develop a tailor made strategy in order to reduce the effects of this pandemic and keep monitoring the action take to modify and correct any action needed to observe. In my opinion the strategic plan should not be changed because of any sudden event. The strategic plan is an objective that should be agile in principle and flexible but most importantly is the way of how it deals and the processes that should be adopted in decision making.	
	Question 2: How were the employees and operations affected during the pandemic? **Answer 2:** Definitely the pandemic affected the way of the operation and effected the targets that were set for the government of the transportation of the marine sector which were supposed to be achieved by end of the year of 2020 the	Stability

	main challenge was to maintain the ridership and also to have a sustainable cost recovery in order to reduce the subsidy of the government beside to that the customer satisfaction that need to deal with.	
	Question 3: What was the situation in dealing with stakeholders during the COVID-19 **period?** **Answer 3:** The marine operation depends heavily on the developers masterplans, because all of the developers in the region and cities they are developing districts near to the water canal and providing the accessibility to the marine transport services these projects has been effected and delayed due to the funds, since their plans got affected our plans got affected too so rescheduled our operations as per their requirements also our stakeholder of the contracts the ones who provide the supply and manpower are in sever negotiation to decrease the impact on the operation.	Continuity Delight fulfilment
	Question 4: Was the Customer Satisfaction, Cost recovery and the Quality of Service achieved? **Answer 4 :** The pandemic affected our operations by number of people that were being transferred in the marine services and that's due to the shutdown of the whole city which occurred and also because of the constraints of the movement the government this affect our financial	Rehabilitative

	sustainability and cost recovery as reduced to more that 30-40% this gave us a lot of pressure to find a solution of how its needed to react, the first action taken was taken is to stop the operation because there was no feasibility to operate and it was no sufficient to operate with low number of riders/low demand, taking an initiative of reviewing all our contracts in order to suspend it reduce any unnecessary cost this was in coordination with our strategic partners, the communication and strategic plan has been deployed to make sure that the correct information about the safety and hygiene which will be taken in our vessels in order to develop and sustain the trust to our ridership to re-join our service when the situation gets better close to the normal.	Rehabilitative Continuity
	Question 5: Give me an Advantage and disadvantage? **Answer 5:** - **Advantage** 1- Giving us a clear thought made us look into the crisis as a challenge and opportunity gave us a new method of thinking and focus on developing the operation plan. 2- On Demand Service providing it to customers, gave us less operational cost 3- The pandemic did a shift to change the purpose of transporting and finding new opportunities.	Delight fulfilment

	4- Diversity for our fleet gave us flexibility to deal with the service and demand required also the flexibility of our contracts was an advantage during the pandemic few contracts were suspended to reduce the unbearding cost on us - **Disadvantage** 1- Laying off some employees and reducing some of the salaries, this contributed negatively to employment and employees satisfaction	
	Question 6: How far are you from achieving previous plan goals? **Answer 6:** The Organization X is going into a strong remarkable activities and this it to achieve the outdoing goals and objectives reaching the level of 100% of recovery and outcomes are being anticipated in the near future	Rehabilitative

As per the third interview conducted codes were generated as it shows the analysis of the thematic analysis and to make it more clearly the codes supported the outcomes from the interview such as the following: Stability, Continuity, Rehabilitative, Delight fulfillment,and changing terminology.

- **Fourth Interview**

Interview 4	**Question 1: How the pandemic affected Organization X Strategies and Goals? Was the strategy for dealing with** COVID-19 **right?** **Answer 1 :** The Organization X and strategic goal is a very high level to be affected during the pandemic as the strategic goal itself, in RTA there is a proper risk registered this is what they call it ERM enterprise risk management and the system is always updated and I think the pandemic was one of the identified risk maybe not to the level of what happened with COVID-19 but I think that was planned the response plan and Organization X has up to some extent they have some perpetration procedure to deal with such kind of events or emergencies so the strategic goals were not changed as goals, maybe the targets because at the end the strategic goals is dropped down into to operation plans and the operation plans consists of plans time as well as targets of KPIs Key performance indicators so the goal will never change maybe the targets to so it will be achieved some of the timeframes were changed due to the COVID-19, so only on the operation level is changed.	dependability Changing terminology
	Question 2: How were the employees and operations affected during the pandemic?	

	Answer 2 : definitely since providing the public transport the lockdown that occurred it ofcourse affected us because in stopping the operation of the service the marine service it's not like busses in the garage it's really important to do continuous preventive maintenance for the vessels because they are critical asset since they birthing on the water, due to that the employees has to go to the workshop of maintenance facility in Organization X to carry on the maintenance job and since the marine service was stopped the employees in field side were on hold for operating the service such as the seaman skippers and divers, yet the employees in the office side continued to carry the job online.	Rehabilitative
	Question 3: What was the situation in dealing with stakeholders during the COVID-19 **period?** **Answer 3:** so basically the Organization X marine department informed the contractor that only corrective maintenance work will be carried for any such breakdowns and that was due to the stop of the service and the restriction in budget to sustain the financial sustainability, all required permit were issued to the contractors from the Organization X side to insure the continuity of job there was an effective communication between Organization X and stakeholder,	Stability Continuity

	such as have a regular online meetings, WhatsApp groups were made to make easy to contact this helped in the situation that were faced.	
	Question 4: Was the Customer Satisfaction, Cost recovery and the Quality of Service achieved? **Answer 4 :** since the operation of the marine services was suspended during the COVID-19 and the return of the routs was gradually it was being operated depending on the location where we found there is high demand for customers and the Organization X marine focused on maintaining the quality of the service taking into consideration the safety measure to gain our customers yet some customers were unsatisfied with not having the service back in all locations and the service was operating on a strategy of on demand service.	Rehabilitative disappointed
	Question 5: Give me an Advantage and disadvantage? **Answer 5:** - **Advantage** 1- Maintaining the marine infrastructure suspended the washing activity and stopped all the new construction works.	Changing terminology

	2- Inspection for the service quality was done internally by Organization X employees staff and by having this strategy sustain the financial flow - **Disadvantage** 1- Since all the construction works were suspended in 2020 Organization X couldn't implement any new projects or republish existing marine stations which affect the asset life.	Rehabilitatively
	Question 6: How far are you from achieving previous plan goals? **Answer 6:** The recovery from this sudden crisis was quick due to the advanced actions being taken by Organization X marine department and by 2021 all new projects to be implemented as per the revised execution plan.	

As per the fourth interview conducted codes were generated as it shows the analysis of the thematic analysis and to make it more clearly the codes supported the outcomes from the interview such as the following: Dependability, Stability, Continuity, Rehabilitative, Disappointed, and changing terminology.

3.7.2 Generating themes

Thematic Analysis gives the valuable chance to code and classify information into themes. For instance, how issues impact the view of members. On account of Thematic Analysis, handled information can be shown also characterized by its likenesses and contrasts. To accomplish the above mentioned, the cycle should incorporate coding, categorisation and taking note of examples, for example a unique level of themes could be given (Braun & Clarke 2006), likewise to give a connection between the variables and factors to make a sensible and consistent chain of proof (Braun & Clarke 2006). By conducting all the information utilizing various instruments, (e.g. observation, questionnaires with interviews on one study) with members in various conditions, Thematic Analysis will deliver and introduce the information all the more adequately and mirror the truth of the information assortment (Alhojailan 2012).

After conducting the Thematic Analysis for four interviews done, we will identify the different patterns summing them up into themes, usually the themes helps in clarifying the variety in the codes:

	Codes	**Themes**
1	• Stability • dependability	Strength
2	• disappointed • Suggestion	dissatisfied
3	• Continuity • Rehabilitative	Progression of work

4	• Changing terminology • Delight fulfilment	alternate

5.2.1 Reviewing Themes

Thematic Analysis provides rich, detailed and complex data (Braun & Clarke 2006). A rich thematic description of the whole information would assist to get a sense of "the prevalent and significant themes" from the information. A thematic analysis process analyzes the data without engaging pre-existing themes, which means that it can be adapted to any research that relies -only on- upon participants' explanations. At the end, every assertion or thought contributes towards understanding the issues, which prompts an enthusiasm for the entire picture. The 'themes' should be assessed to guarantee they address the entire of the text. Validating themes in the early and late stages of data analysis is fundamental. This will enable us to compare the two sets of feedback (Alhojailan 2012). The main purpose of this procedure is to "build reliability in theme analysis coding". The better informed of any conflicting results (if there are any) with respect to any subjects that were added or eliminated by the outside and autonomous commentators (Alhojailan 2012). In this stage reviewing the themes in according to the codes where it's supposed make sure the themes set are accurately representing and useful so in the first theme strength it represents the stability and dependability and its accurate where the theme represents the code perfectly, the second theme is dissatisfied it represents the code disappointed and suggestion and the third theme progression of work where it gives the exact meaning to the codes of continuity and Rehabilitative the fourth theme is alternate and it's the meaning of Changing terminology and Delight fulfillment.

5.2.2 Writing up

As an outcome of the thematic analysis it showed that the Organization X worked on maintaining the strength of the organization during the COVID-19 by having stability and dependency in the organization. This is shown in the interviews, also, they worked on the dissatisfaction received from the customers and the action plan taken for their suggestions. It is clearly shown how it was important to keep the progression of work for business continuity, yet they had alternatives for changing the terminology and maintaining the delight of the business.

Chapter V

Conclusion and Recommendation

5.1 Research limitation and Strength

This report summarizes the work done in the Marine Transport Department in Organization X, How the Effect of COVID-19 was being managed, how to maintain the losses and gain the customers' satisfaction, and the recovery was a very important part in achieving the goals and strategic objectives of the Organization X. Measuring the severity index and thematic analysis as well as the effect on it through the key performance indicators.

Although the Corona pandemic affected the number of passengers and maritime transport revenues significantly for the year 2020 and the beginning of 2021, the maritime transport activity began to recover significantly this was by the beginning of the 2nd quarter of the year 2021 a an outcome it's expected to reach a recovery of ridership up to 80% by end of 2021 comparing it to the same period in year 2019.

The rate of recovery and government support for maritime transport services was discussed at the meeting for the maritime transport platform (UITP Waterborne Platform) on the 25th of October it was a virtual meeting and a summary was produced as a comparison to be used between other countries in the recovery, as can be seen in the following table attached below:

City	Recovery percent for 2021	Cost recovery percent for 2021	Receiving additional government support during the pandemic
New York	65%	11%	Yes
London	80%	Not given	Yes

Hamburg	60%	Not given	Yes
Dubai	80%	37%	NO

As it's shown from the table, Organization X had the highest Recovery percentage reaching 80% of recovery, this is equivalent to London yet Organization X Dubai has the highest in cost recovery percentage. Comparing it to New York it's also clearly shown that Organization X did not receive additional government support during the pandemic while most of the other countries mentioned in the table received governmental support. Overall Organization X's marine department displayed a great effort in sustaining marine transport and facing COVID-19 conditions and the adaptation to recovery.

An outcome of this research is providing a clear understanding of the adaptation to crises in marine transportation, in Organization X this was clearly shown and processed from the data analysis of the severity index and the thematic analysis. The details of the strategic objectives of the organization were also looked into, and how it impacts the system of governance during the pandemic, while considering adaptation and the action taken to minimize the losses. I believe Organization X contributed a valuable lesson to look into the best business practices to achieve continuity for the operation, assets and the stakeholder of an organization, as well as focusing on the satisfaction of their riders and maintaining their trust. This also assisted in measuring the effect of the organization on customers financially and the statistics involved.

There are several limitations related to the analysis, wherein it has a relatively small number of KPIs in subgroups, such as various safety categories and cost recovery, which limits the ability to analyze the effects of these potential covariates; it has an even higher proportion of lower-income respondents than the population at large. Due to these constraints, it was not possible to control the build at a better severity. It didn't show the exact details required, that is why the thematic

analysis supported the outcome of this research. An over sampling of transit riders. However, there is an underrepresentation of choice riders. Finally, the interview response rate is high, where it clearly shows all the details and scenarios as needed to understand the adaptation of the organization to the crisis.

5.2 Future research

This research opens the way for a few areas of future work in regard to marine transportation. First of all, systemically it is helpful to have the methodological option to look at both rider qualities such as their portability information. There is also the chance for further opportunity research using a combination of passive data in combination with survey data. Secondly, the critical populace of public marine transport riders who were reluctant to get back to travel through the service, as well as the organizational effort in gaining the trust of their customers regardless of confronting less portability, this features the requirement for understanding compelling procedures, both in tasks and informing, to take riders back to travel. Finally, this research paper focuses on the general practices of the organization as a product of the sudden changes implemented due to the pandemic, and how it was important to maintain the business workability as well as achieving the goals and objectives with minimal losses. More itemized, subjective or ethnographic work would be valuable to assist with understanding the examples we are seeing among maritime services in the UAE and know the best practices taken in order to achieve those.

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Appendix

No.	KPI Name	18 H1	18-19 H2	19 H1	19-20 H2	20 H1	20-21 H2	21 H1
	inputs							
1	Marine Collision Rate	0	0	0	0	0	0	0
2	Marine Fatality Rate	0	0	0	0	0	0	0
3	Marine Injury Rate	0	0	0	0	0	0	0
4	% Adherence to risk management development	99	100	100	100	100	100	100
5	% Overall Customer Satisfaction index-Marine	90.4	90.2	93.1	92.2	89.7	90.9	91.5
6	% Customer Perceptions at RTA Level (Surveys)-Marine	89.8	88.7	89.2	89.7	96.2	90	92.7
7	% Mystery Shopper Visits-Marine	91	93.3	97	97.5	81.5	93	88.8
8	% Adherence to implementation of customer satisfaction reports recommendations	92	100	100	100	100	100	100
9	Marine cost recovery	55	54	40	41	31	30	36
10	Marine Load Factor	104	102	101	103	26	18	34.1
	Output							
11	Marine Transport Operation Reliability	100.8	99.6	99.6	100.31	99.9	100	100
12	Marine Maintenance Availability	97	95	96	96	97	97	96.89
13	Percentage of Abras Maintained per Year	100	100	100	100	100	100	100
	Percentage of Adherence to the Preventive Maintenance Plan	100	100	100	97.8	100	100	100
14	Percentage of Unavailable Vessels for Operations	3	5	4	2	2	3	4
	Partners satisfaction survey							
15	Federal Authority for Land and Maritime Transport	79.40%		92.00%		96.40%		
16	Municipality	76.40%		88.70%		83.30%		