

Comparison of pre and post covid-19 impacts in logistics industry of Pakistan



By

Huzeafa Shahzeb

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Supervisor

Dr Adnan Waseem

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NUST Business School

**National University of Sciences and Technology (NUST),
Islamabad, Pakistan.**

BUSINESS PROJECT ACCEPTANCE CERTIFICATE

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Signature of Supervisor with stamp: Dr. Adnan Waseem



Date: _____

Programme Head Signature with stamp: Dr. Adeel Ahmed



Date: _____

Signature of HoD with stamp: Mr. Bilal Ahmed Chohan



Bilal Ahmed Chohan
Assistant Professor, IB&M
NUST Business School, (NBS)
Sector H-12 Islamabad

Date: _____

Countersign by

Signature (Dean/Principal): _____



Principal & Dean
Dr. Naukhez Sarwar
NUST Business School

Date: _____

EXECUTIVE SUMMARY

In socio-economic progress of a country, transportation plays a very essential role. The events in the transportation sector have great importance to achieve national socio-economic developmental objectives to provide employment, place of safety, and infrastructure. This sector is among most overlooked sector in Pakistan, but from last few years, there has been a great change by block chain and digital trucking. Pakistani transportation companies were far away from modern-day global practices and thus not investing on their human resource development. Lack of education and skill shortages among truck stations (addas) in transportation leads to problems like lack of skill to use technology, unjust compensation, high turnover rate, poor health and safety record, damages and losses, poor quality transportation services, low efficiency, etc., having effect on all stake holders such as Fast-Moving Consumer Goods (FMCGS), Third Party Logistics (3PL) service provider, Truck Stations (addas), labor and warehouse staff. This study deals in assessing the efficiency of supply chain practices before and after Covid-19 in the Pakistan transportation industry especially various strategies, techniques, and associated challenges during the Covid-19 pandemic. Through interviews conducted from individuals of different transportation companies, the report ends with some recommendations based on the findings, which could be helpful for improvements in supply chain practices in the industry for training purposes and for managers and executives to efficiently manage their workforce.

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Chapter 1

Introduction

The ability of recruiting, training, evaluating, and holding capable employee is a major part for winning businesses. In transport companies, employees are the extremely expensive assets. In the presence of resources such as financial resources, physical resources, and information resources, every person has different behavior. The individual and collective needs should be satisfied by the company or manager if employees are contributing for the completion of tasks and achievement of mutual goals of company. The Human Resource Management department plays a key role. In an organization for developing employee's abilities, knowledge, professional and personal skills are important. Human resource management focuses on activities such as recruitment and selection, key employee identification, succession planning, mentoring, coaching, performance management, employee's career development and employee training.

In transportation sector, Pakistan's traffic i.e., road traffic both passenger and freight has grown drastically. The road network has been extending continually. New motorways and freeways have altogether diminished the time it takes for products as well as individuals to arrive at their destinations. The accomplishments of specialist transport companies such as Daewoo, Faisal Movers, Bilal Travelers, and a lot of more local vendors have furnished buyers (i.e., offering customer's best travelling options) with best possible delivery options. Air routes have also incredibly increased due to private companies such as Air Blue, Shaheen Air, Serene Airways and Air Sial. Construction of Gwadar Port and up-gradation of new air terminals around the country paved the way for further development of the roads guaranteeing the construction companies for promising future. Although transportation sector has seen some advancement, still it is faced by man challenges. An extensive and comprehensive Public Transportation Strategy that covers all methods of transportation for both Metropolitan and Rustic vehicles is yet to be developed.

However, the transportation sector is still confronted with challenges such as metropolitan gridlock, absence of public vehicles, corruption, and other negative overflows from the transportation area, alongside security (particularly street wellbeing). Pakistan's transport system is highly dependent on road transport, which makes up to 90% of national passenger traffic (NPT) and about 96% of freight movement. Over the previous few years, road traffic including both freight and passenger has developed much quicker than the country's general economic growth. The Motorway Network and National Highway, which spans over a length of 10,849 km, contributes 4.2 % of the total road network (TRN) and carries 90% of Pakistan's total traffic. Road density (total length of road/ Total area) is a general indicator for the progress of a country's road system and parallel used as an index for success, economic activity, and growth. When compared with developed and developing countries, it is quite low in Pakistan, this fact is shown in figure 1. Pakistan, with a population of 220.9 million people, has a practically developed transport system, yet at the same time aims to double its present street thickness of 0.32-km/sq. km to 0.64-km/sq. km slowly over the course of the following 10 years.

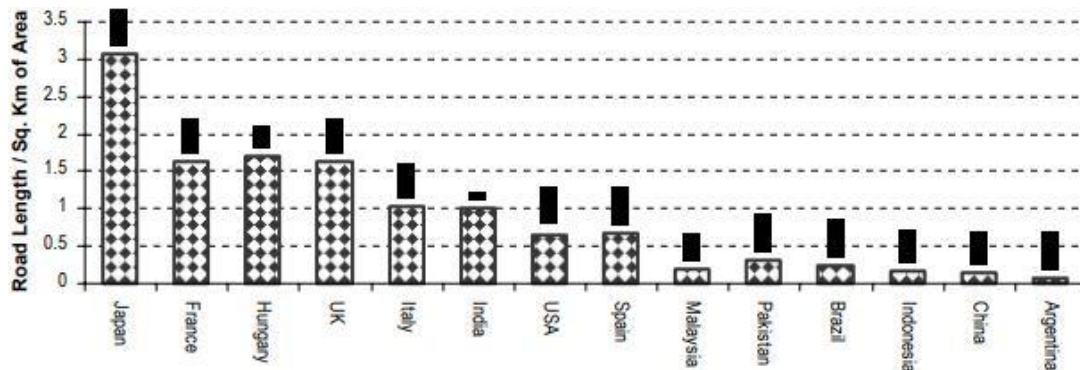


Figure 1: Road Density Comparison (Source: National Highway Authority)

<http://www.nha.gov.pk>

1.1 Motivation Behind Study

The transportation industry hasn't been addressed well in the existing literature specifically in the context of developing economies. There is little empirical work conducted in relation to the HRM & Operation practices in the Transportation industry. Transportation industry is one of the most thriving industries in Pakistan which has developed into a very profitable and well-structured industry over the last few years because of the modern developments regarding infrastructures such as roads, highways, better warehousing facilities in the country. Moreover, the work in the transportation industry is contract and noncontract based. Thus, management of employees in this sector is a massive challenge. Over the years, the HR & operation practices in transportation industry have improved but still the lack effective use of technology, well planned HR processes and operation execution. The study was carried out during Covid-19, so, there were additional challenges of workforce management for HR & operations. This study explores these issues and proposes initiatives that could help the HR & Operations sector cater the various challenges regarding workforce management. In the first step, the study focuses on the pitfalls and potential barriers. In the second step researchers identify strategies and initiatives for HR and operations at various levels to improve their process.

1.2 Objective of the Study

This study deals in assessing the efficiency of HRM practices in the Pakistani transportation industry especially in the Pre & Post Covid-19 context. After investigation of associated challenges and issues discussed in my first final year project (FYP-1), comparative analysis is made that is done on basis of pre and post covid-19 impacts on logistics industry in Pakistan and the relevant recommendations are made

which could be helpful for managers and executives to efficiently manage their workforce. Thus, this study adds value to the literature by focusing on Pakistani transportation industry and conducting interviews from the employees of transportation industry including Truck Stations (addas) and Fast-Moving Consumer Goods (FMCGs).

Sr #	Associated Challenges & Issues
1	Decreased top and bottom lines.
2	Government strategies on Import & Export.
3	Trending E-Commerce in Pakistan.
4	Performance Management & Data analytics.
5	Starting era of digital trucking.
6	Closure of production units.

Table 1: Associated Challenges and Issues

1.3 Organization of the Study

This project has six basic components, as listed in the figure. 2 below. The introduction deals with preliminary information about the project. The literature review discusses the existing practices in the logistics industry specifically setting China as reference. The result section details the actual practices and evaluation of these practices as well as providing recommendations.

The conclusion deals with outcomes of the study, implications, limitations, and future research directions.

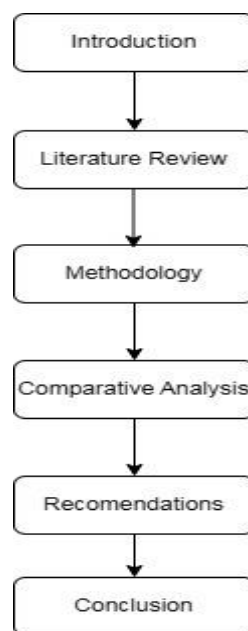


Figure 2: Project Components

Chapter 2

Literature Review

In Pakistan, logistics before covid-19 was totally at old traditions. Three modes of transportation are road transport, air transport and sea transport. Road transport is further divided into passenger and freight transport. Passenger transport includes the development of individuals starting with one area then onto the next utilizing different methods of transportation. It is a crucial part of present-day culture and incorporates a great many choices for getting individuals to their ideal destination. Passenger transportation can happen inside urban communities, between urban communities, or even between nations. Various methods of passenger transport include public transport (i.e., buses, trams etc.), Personal vehicles (i.e., cars, motorcycles, bicycles etc.), Yellow cab (i.e., taxis and ride sharing etc.). Passenger transport is urgent for monetary, social, and social connections, empowering individuals to get to occupations, schooling, medical services, diversion, and then some. The method of transport picked frequently relies upon variables like distance, comfort, cost, time limitations, and individual inclinations. It's an always developing field with continuous headways in innovation and framework to work on the effectiveness, wellbeing, and maintainability of traveler transportation frameworks. Freight transport, otherwise called cargo transport or merchandise transport, alludes to the development of merchandise, items, products, or materials starting with one area then onto the next. It assumes a principal part in worldwide exchange, trade, and production network the executives. Cargo transport is fundamental for guaranteeing that items arrive at buyers, organizations, and markets productively and dependably. Different methods of transportation are utilized for cargo transport, each taking care of various sorts of freight and distances. A few well-known methods of cargo transport include Trucks, Lorries, open body or half body vehicles, Car carriers, lower bed vehicles, swing bed vehicles, Flat bed vehicles, Special designed vehicles for specific transit of materials for long hauls.

2.1 Rail Transits

An effective transportation framework assumes an essential part in the financial improvement of a country. The government vision for financial development and Destitution decrease requires enormous venture and advancement of framework for supportable financial development. Pakistan Rail lines has a distinct edge over streets for long stretch and mass scale traffic development both for travelers and cargo in expansion to giving a protected, conservative, and climate cordial method of transport. All through world history, rail traffic has played a significant part in the turn of events and financial flourishing of countries. Rail routes are an important wellspring of work while producing enormous measures of income to the advantage of the economy. A successful rail route framework works with trade also, exchange, diminishes transportation costs (financial also, non-money related), and advances rustic advancement and public coordination while decreasing the weight on workers. Pakistan Rail lines was the essential method of transportation in the nation till the seventies. Nonetheless, owing fundamentally to a redirection of currently scant assets towards the development of the street organization, the execution and state of Pakistan Railroad declined, and its portion of inland traffic diminished from 41% to 10 percent for traveler and 73 percent to 4 percent for cargo traffic. During the most recent seven years (2000-2007), Pakistan Railroads has shown further developing pattern in both traveler and cargo traffic, enrolling a normal increment of 5.2 percent and 5.8 percent per annum, individually. A decrease in traveler traffic has been seen during the current year with a negative development rate of - 12.5 percent though cargo traffic has developed by 18% over a similar period last year. The positive development pattern for the beyond seven

continuous years can be credited to the wide scope of enhancements made by the Pakistan Rail lines through fruition of various advancement undertakings and better arrangements focused on modernization of PR. The fall in development rates for traveler traffic this year can be credited to the mayhem, political conflict, and revolting that the year 2007-08 has seen. Many pieces of the rail route track have been obliterated with gigantic harm being caused to the property of Pakistan Rail lines. The administration stayed shut for a significant measure of time following the brutality saw in the country in December 2007 after the death of one of its political chiefs. A few evaluations put the misfortune endured by Pakistan Railroads at the cost of the current year's aggravation at Rs 10 billion. Pakistan Rail lines has presented 9 new train administrations to work with travelers as well as cargo clients. (See Table. Below). PR has worked too much on the nature of its administrations, practicality, and neatness.

Fiscal Year	Passenger Traffic (Million passenger Km)				Freight (Million Ton KM)			
	Road	%Change	Rail	%Change	Road	%Change	Rail	%Change
1996-97	163,751	5.9	19,114	1.1	84,345	5.6	4,607	-9.3
1997-98	173,857	6.2	18,774	-1.8	89,527	6.1	4,447	-3.5
1998-99	185,236	6.5	18,980	1.1	95,246	6.4	3,967	-10.8
1999-00	196,692	6.2	18,495	-2.6	101,261	6.3	3,753	-5.4
2000-01	208,370	5.9	19,590	5.9	107,085	5.7	4,520	20.4
2001-02	209,381	0.5	20,783	6.1	108,818	0.2	4,573	1.2
2002-03	215,872	3.1	22,306	7.3	110,172	1.2	4,820	5.4
2003-04	222,779	3.2	23,045	3.3	114,244	3.7	5,336	10.7
2004-05	232,191	4.2	24,238	5.2	116,327	1.8	5,532	3.6
2005-06	238,077	2.5	25,621	5.7	117,035	0.6	5,916	6.9
2006-07			26,446	3.2			5,453	-7.8
Jul-Mar								
2006-07	191,057		20,921		88,032		3,786	
2007-08*	--	--	18,296	-12.5	---	--	4,488	18.5

* Estimated

Source: Ministry of Railways & Ministry of Communications

Figure 3 Trend of Passengers Traffic Freight and Freight Traffic

(Source: Ministry of Railways & Ministry of Communications)

<http://www.railways.gov.pk> & <http://www.communication.gov.pk>

To proceed with upgrades and to solidify changes, Pakistan Rail routes has arranged a marketable strategy for 2005-11. The arrangement puts accentuation on empowering private area support to build its seriousness, responsiveness, and productivity. Pakistan Rail line is intending to take a progression of interlinked drives, which will empower it to contend proficiently in the quickly developing vehicle area in Pakistan. Pakistan has granted an agreement to a worldwide consortium to complete a plausibility study for laying out a rail connect with China.

A rail connection could further lift exchange relations between the two nations by working with the all-around developing exchange with China and activities of Gwadar Ocean Port.

S.No	Trains	Section	Date of Commencement
i)	Thar Express	Karachi-Zero Point	18-02-2006
ii)	Margala Express	Lahore-Rawalpindi	22-05-2006
iii)	Marvi Express	Mirpurkhas-Khokhropar	07-06-2006
iv)	Sindh Express	Lahore-Karachi	24-07-2006
v)	Buraq Express	Rawalpindi-Karachi	14-08-2006
vi)	Peshawar Express	Peshawar-Rawalpindi	15-12-2006
vii)	Pakistan Express	Rawalpindi-Karachi (Via Hafizabad, Faisalabad And Multan)	16-12-2006
viii)	Jinnah Express	Karachi-Rawalpindi.	08-01-2007
ix)	Sir Syed Express	Rawalpindi-Karachi	08-03-2007

Source: M/O Railways

Figure 4: New Trains (Source: Ministry of Railways)

<http://www.railways.gov.pk>

2.2 Air Transits

Common aeronautics plays a significant part in the improvement of a country's economy by giving quick and proficient access between various pieces of the country as well as various objections around the world. Confidential support on this front has been supported through concessions and motivations for advancement of air terminals and carriers to expand the accessibility of air transport administrations both locally and globally. It is vital to build and keep up with air terminals in the country to work with financial movement in a progressively globalized world. The development of the new Islamabad worldwide air terminal (NIIA) is expected to assume a significant part in the public flight area. The air terminal will be created by the Common Flight Authority (CAA) on self-finance premises with an expected expense of Rs. 30 billion on 3200 sections of land of land. The venture has been planned with every one of the fundamental offices to handle a yearly traffic of 9 million travelers as well as 100,000 metric lots of freight. To enhance the development and advancement of Baluchistan, the CAA will develop the New Gwadar Global Air terminal (NGIA) through the Public Area Improvement Program (PSDP), at an all-out assessed cost of Rs. 3.6 billion. The air terminal will be created as a significant center for all flying exercises in the locale, furthermore, it is normal to be finished by November 2010. The updating of Multan and Peshawar Global Air terminals has additionally been started with assessed expenses of Rs. 2.6 billion and Rs. 0.6 billion separately.

2.3 Ports & Shipping

The consistent and constant headway made by KPT has assisted support the public economy throughout the years with worldwide exchange steadily expanding in a globalized world. The KPT had a yearly freight taking care of size of 30.8 million tons during 2006-07, showing a slight lessening of 4.4 percent over last year's record freight treatment of 32.3 million tons. Be that as it may, there has been an ascent in movement during the initial seven months of the ongoing financial year, showing amazing expansion in a wide range of freight taking care of including mass, Break mass and compartments. Figures show that

during the initial seven months of the ongoing financial year, currently 20.5 million tons of freight has been dealt with. Insights of freight dealt with during the most recent decade are given in Table.

Year	Imports	%Change	Exports	%Change	Total	% Change
1996-97	18,362	-1.9	5,113	5.2	23,457	-0.4
1997-98	17,114	-6.8	5,570	8.9	22,684	-3.4
1998-99	18,318	7	5,735	3	24,053	6
1999-2000	17,149	-0.9	5,613	-2.1	23,762	-1.2
2000-01	20,064	10.5	5,918	5.4	25,98	9.3
2001-02	20,330	1.3	6,362	7.5	26,692	2.7
2002-03	19,609	-3.5	6,273	-1.4	25,852	-3.1
2003-04	21,732	10.8	6,081	-3.1	27,813	7.6
2004-05	22,100	1.7	6,515	7.1	28,615	2.9
2005-06	25,573	15.7	6,697	2.8	32,270	12.8
2006-07	23,329	-8.77	7,517	12.24	30,846	-4.41
(July-Jan) 2007-08	15,090	-	5,455	-	20,545	-

Source: KPT

Figure 5: Cargo Handled at Karachi Port (000Tons)

(Source: Karachi Port Trust) <http://www.kpt.gov.pk>

The current port offices have all the earmarks of being deficient to deal with the developing freight at the port. To address these imperatives, the KPT has sent off several ventures that are at various phases of execution. Some of these activities have been planned for staged execution on a BOT premises, covering different exercises in port activities. The KPT has authorized the task named "Karachi Stretch Holder Terminal (KICT)". The task is now functional at the west wharf, what's more, it has yearly limit of 350,000 twenty equivalent units (TEU). An extra \$ 65 million was contributed to improve its ability up to 525,000 TEU. The third period of the undertaking was sent off on Walk 7, 2005, with a speculation of US\$ 55 million to stretch out the limit up to 700,000 TEU. Furthermore, KPT has granted an agreement for a second compartment terminal on BOT premises with an assessed cost of US\$ 75 million. To ease the transportation issue between the port and the production line, the KPT has promised to offer over Rs.2.8 billion for remaking of streets. As the new age of holder ships comes ready, KPT is taking drives to have the option to take care of the much higher limit fifth and 6th era ships. This includes the advancement of 10 profound draft billets with the all-out cost of US \$ 1,087 million. Besides, a Freight Town and Modern Park in the Western backwaters of Karachi Port has likewise been proposed. At long last, to give availability between the Pakistan Profound Water Holder Port and the Freight Town, KPT is intending to develop a Link Remained Scaffold across the channel, which will likewise interface Clifton with Manora and Hawksbay.

The Corona virus pandemic brought incredible difficulties to the world economy and had an exceptional and inescapable effect on the logistics business. With regards to the progressive mitigation of the coronavirus in China, we noticed five effects on China's logistics industry, which are sharp drop in logistics demand, deficit of transportation limit, disturbance of logistics network, change of service mode, and expansion in operational expenses and number of loss-making ventures. In the post-covid time, China's logistics industry will grow quickly, prompting critical changes in five perspectives: demand of

logistics, supply of logistics, logistics foundation or infrastructure, information of logistics, and logistics industry improvement and development.

2.4 Impacts of COVID-19 on Logistics Industry

Influenced by the quick government's control measures on individuals' versatility, there was a huge lack of labor forces in the logistics business. Accordingly, these disturbances have caused the deficiency of transportation limit. Additional proof for air transport, as indicated by the information reported by the Civil Aviation Administration of China (CAAC), throughout the Spring Festival, 412,000 flights were flown, with a normal of 11,302 flights each day, which was somewhere around 32 percent from a similar period last year. Broad control measures forced by the Chinese government to handle Corona virus lessen the spread of the infection as well as unavoidably remove transport organization. As displayed in Figure 1, CFLP (China federation of logistics and purchasing) overviewed the administrators of 100 Chinese street transport endeavors in February 2020, 74 percent of them expressed that they couldn't give transportation benefits on schedule because of the provincial traffic limitations. From one viewpoint, urban communities were secured, and the extent of transportation was significantly confined. On the other, the episode circumstance changes from one spot to another, and there were contrasts in neighborhood government limitations on transportation. Along these lines, it was hard for China to shape a bound together coordination network that upholds transportation during the flare-up.

To keep away from in person contact, however, much as could reasonably be expected, buyers liked to buy necessities through internet businesses. For a similar explanation, new methods of logistics services were additionally developed such as contactless deliveries. On 26 January 2020, Meituan (one of the largest online food requesting applications in China) started to lead the pack in dispatching a contactless delivery in China (CNS 2020a). As per the 'Contactless Delivery Report' delivered by Meituan, contactless conveyance orders represent over 80% of the complete requests from January 26 to February 8 (Sina News 2020a).

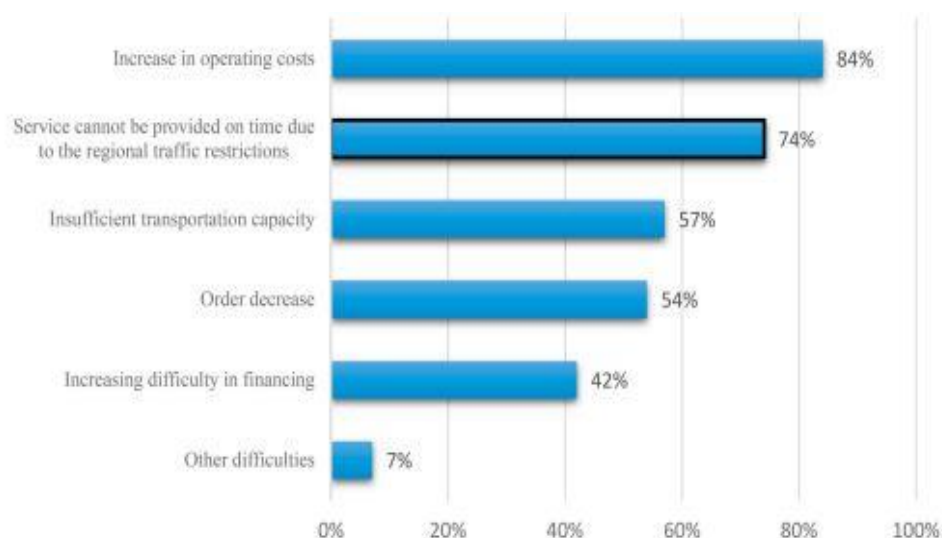


Figure 6: Key difficulties encountered by logistics enterprises during the outbreak. Source: China federation of logistics and purchasing. Report on impact of Covid-19 on road transport enterprises. <http://www.chinawuliu.com.cn/lhzhq/202002/18/493491.shtml>, 2020-2-18

The contrasts between contactless deliveries and conventional traditional delivery are displayed in Table 2 (developed by the author). According to the point of view of the administration process, contactless conveyance requires the delivery person to deliver the products in the contactless region and convey them to the assigned area as indicated by the clients. According to the point of view of staff and hardware, contactless conveyance focuses on the safety of staff, their wellbeing, and the use of extra storage spaces. With respect to working expenses, since contactless conveyance requires more contactless offices, the underlying fixed venture cost of the activity is higher than the previous methods. These logistics endeavors need to consider the control costs (for example the sanitization cost of delivery bundles, the development cost of contactless conveyance offices). Further, vulnerabilities in rush hour gridlock limitations make it hard to design transportation courses. As per data published by CFLP (China federation of logistics and purchasing) on 20-May-2020, lot of logistics organizations were suffering with great loss due to additional costs. Particularly, 57.6 percent of the SMEs (Small Medium Enterprises) have been affected with losses, which has increased the industry average as per (CFLP 2020b).

	Traditional Delivery	Contactless Delivery
Process	Delivery person and merchant, Delivery person and customer are both face to face delivery.	Delivery person picks up goods in specific contactless area, delivers them to the designated location as required, and takes a photo to inform the customer.
People in contact with goods	Visualization and traceability of goods delivery process.	Visualization and traceability of health information.
Delivery equipment	No requirement.	Smart parcel lockers, unmanned vehicles, etc.
Delivery Time	Long	Short
Fixed Investment Cost	Small	Large
Variable Delivery Cost	Large	Small

Table 2: Comparison between Traditional Delivery Vs. Contactless Delivery

2.5 Driving forces for the changes in the logistics industry

There are important factors that lead to modern advancement and improvement. With respect to the China's logistics industry, three main factors can be noticed which are request pull, technology-push, and strategy support. These factors were also seen in Pakistan context to some extent. With respect to global market interest, because numerous nations have shut their boundaries, international logistics are enormously limited. As the pandemic was progressively taken care of, worldwide transportation exercises started to some extent. It will improve participation between nations, which will prompt a more steady, organized and practical structure for the logistics industry. The development of smart logistics technology has become a new driving force in the logistics industry, given what the industry has encountered in terms of its potential during the COVID-19 outbreak. Smart logistics refers to a logistics system that realizes independent analysis, decision-making, and execution by applying smart technologies and devices (Kirch et al 2017; Pan et al. 2020). In smart logistics, smart terminal devices, such as Unmanned Aerial Vehicle (UAV) savvy package storage spaces, have been conveyed, and advances like enormous information, cloud computing, block chain and AI have turned into the critical advances for the improvement of China's logistics industry. For instance, JD.com has assembled 28 'Asia One' brilliant logistics communities, which have accomplished over 90% computerized activities (Xinhua News 2017) and are more than three times more productive than conventional distribution centers (Sohu News 2019).

In the post-COVID-19 period, by taking care of the emerging issues, logistics industry will grow such as new advances, new methods of administrations, and new approach climate (CFLP 2020c). Along these lines, as indicated by the hypothesis of current logistics administration framework (He and Liu 2018), bigger economies such as China will experience changed patterns in five angles: logistics request, logistics supply, logistics framework, logistics information, and logistics industry improvement (figure 4). Similar impacts can be expected in other parts of the world including Pakistan although the infrastructure in Pakistan needs to be developed significantly for these changes.

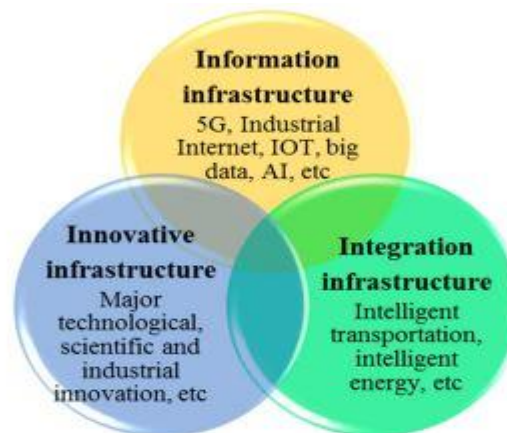


Figure 7: The Composition of China's new infrastructure construction project (Source: http://m.xinhuanet.com/gd/2020-05/27/c_1126041680.htm, 2020-5-27).

The new business needs produced during the COVID-19 have broadened the logistics horizon. From one viewpoint, more customers have encountered new logistics administration modes during the episode (for example contactless delivery), which will speed up the development of an ever-increasing number of

contactless offices (for example shrewd package storage spaces, conveyance robots/UAVs). Then again, the COVID-19 pandemic has brought about numerous logistics endeavors highlighting the

significance of close collaboration with upstream and downstream production network accomplices. For instance, during the COVID-19, JD.com, Suning and Cainiao, which have self-fabricated warehousing frameworks, stood apart among numerous logistics organizations. These companies have full-connect, complete inventory network administration capacities, which gives logistics administrations freedom to manage business. Versatile logistics endeavors will be focused on building a complete framework to guarantee the adaptability of the store assistance network. Some driving logistics undertakings have generally conveyed enormous information, AI, 5G and other important advancements to work on functional effectiveness in crisis (Sina News 2020d). Advancing the application of savvy gear and innovations won't just further develop the crisis support limit in general wellbeing occasions and cataclysmic events, yet in addition speed up the general improvement of logistics industry. In post pandemic, increasingly more logistics undertakings will speed up the usage of AI based techniques.

Logistics undertakings with high inventory network development exhibited their ability in quick reaction and dispatch during the flare-up; consequently, the public authority and undertakings will focus on their emphasis on this. Starting around 2018, the Chinese government has coordinated 266 undertakings to lead inventory network development and pilot projects (Ministry of Commerce of China 2020b). Inventory network development covers mechanical and administration model advancement, which has been broadly investigated. For example, JD Logistics utilizes block chain innovation to advance item recognizability, and Suning Logistics carries out the arrangement of worker sharing, which not just tackles the momentary labor force deficiency yet additionally lightens the work tension of society.

Chapter 3

Methodology

For purpose of comparison of Post & Pre Covid-19 impacts faced by logistics industry in Pakistan, I have gathered primary data with help of face-to-face interviews and online interviews using an interview guide. As most of peoples associated with logistics business in Pakistan specially with road freight are illiterate, I developed simple and easily comprehensible questions for their better understanding to collect helpful data for my research work. Secondly, the pandemic was a first experience for everyone to face and accordingly develop policies & regulations. This project is limited to road freight logistics, inbound and outbound logistics details of which are provided in table 3.

Inbound Logistics	Logistics that carries raw material from market to production plant.
Out Bound Logistics	Logistics that carries finished goods from production plant to other factories and warehouses.
Primary Logistics	Logistics from factory to warehouse is known as primary logistics.
Secondary Logistics	Logistics from warehouse to supermarket is known as secondary logistics.

Table 3:Explanation of freight logistics, inbound and outbound logistics

3.1 Data Collection

Qualitative data collection methods such as meetings and interviews, are viewed as more proper for getting amore deep knowledge of a subject under focus when contrasted with quantitative techniques such as polls. Interviews are the most proper data collection technique to be adopted when point by point experiences are expected from individual members. For the current research, semi-structured interviews were conducted with managers, drivers, laborer, helpers, supervisors, and senior staff of the different industries of logistics and supply chain area. An interview guide with open ended questions was developed to have a sound understanding of the subject.

The respondents were chosen based on the contact points of the author as he himself works in this sector. Further snowball technique was used to select the key respondents for this study. The target people were contacted through WhatsApp, emails, phone calls. Based on availability, a total of 20 interviews were conducted. The span of each interview was somewhere in the range of 50 and 70 min. The interview questions were sent shared with the respondents, so they could get ready and if they have any queries regarding the questions, those could be sorted out. The interviews were recorded and interpreted subsequently. Besides, notes were also taken during the interviews and later matched with the findings of the interview as well as used for integrating all the emerging themes for analysis purpose. After writing down all the findings of the study, the results were sent to respondents for their feedback and corrections in the transcribed information.

3.2 Details of the respondents

To collect useful primary data, I interviewed persons directly related to logistics business or who were indirectly related to logistics operation.

Sr #	People directly related to Logistics business.	Responsibilities
1	Supervisor	Supervising a small group of trucks normally a fleet of 10 trucks.
2	Workshop Supervisor	Caretaker of truck repair & maintenance.
3	Assistant Manager	Responsible for all smooth operations of logistics including closing of trip.
4	Logistics Manager	Heading a region with a small fleet size providing 3PL service to customer.
5	Regional Manager	Heading & controlling several regions.

Table 4: People directly related to logistics business.

Sr. No	People indirectly related to Logistics business.	Descriptions
1	Local Addas	They are brokers that arrange supply orders for transporters to lift and deliver stock at customer's premises. They personally don't have any fleet of trucks.
2	Computerized Weight Balance	They provide facility to check and confirm weight of loaded and empty vehicle.
3	Labor	Group of people that load and unload trucks in warehouses or factory premises.
4	Fast Moving Consumer Goods	Includes all companies that provide products for end consumer.
5	Exercise & Taxation	Authority that holds power to permit or stop any truck due to lack of documentation of route permit, fitness certificate, insurance certificates and vehicle token tax.
6	Traffic Police	Responsible for penalizing any truck driver due to violation of traffic rules.

Table 5: People indirectly related to logistics business.

The interviewing session spread over pharmaceutical Industry, Fast moving consumer goods (FMCGs), Food & Beverage Industry, Oil Companies and Logistics Companies. The table below shows the details of the people associated with logistics along with their organization and designation who responded to us for this research to collect data.

Interviewee	Participants City	Organization	Designation
1	Islamabad	A	Trade Marketing Manager
2	Faisalabad	B	Saffron Pharmaceutical
3	Islamabad	C	Area Sales Manager
4	Rahim Yar Khan	D	Assistant Key Account Manager
5	Lahore	E	Supply Chain Manager
6	Lahore	F	Assistant Manager Platform
7	Islamabad	G	Branch Manager
8	Sheikhupura	H	Owner of Company
9	Islamabad	I	Operations Manager
10	Sheikhupura	J	Owner of Company
11	Islamabad	K	Owner of Company
12	Islamabad	L	Owner of Company
13	Islamabad	M	Owner of Company
14	Sheikhupura	N	Owner of Company
15	Hattar	O	Operations Manager
16	Sheikhupura	P	Physical Logistics Manager
17	Sialkot	Q	Owner of Company
18	Lahore	R	Owner of Company
19	Rawalpindi	S	Supervisor
20	Karachi	T	Logistics Manager

Table 6: Interviewing list of people associated with logistics.

Chapter 4

Comparative Analysis

In this section, we will detail all the responses and findings elaborating the comparison of Pre & Post Covid-19 impacts in logistics industry of Pakistan:

4.1 Revenues

The term declining revenues refers to those where were generating maximum revenue and will be getting less revenue as per upcoming months or years. In other words, it simply means that logistic companies would make a loss as covid -19 continues and after that for few months. Most of interviewees told us that as pandemic started and spread vastly, everything shut down due to lock down initially implemented by Government of Pakistan. All type of dispatches except food and beverages (F&B), all other dispatches related to business to business, business to customer, customer to business, primary and secondary dispatches were stopped because of strict bans and strategies implemented all over cities and areas by traffic and local police to stop people coming out of their homes and getting in touch with environment which ultimately affects logistic operations hence resulted in low customer transportation orders to 3pl (Third Party logistic) provider, for this reason less margins and declining profits. Below table portrays pre & post covid comparison on basis of revenues.

Comparison on basis of revenues.		
Sr #	Pre Covid-19	Post Covid-19
1	High Revenues.	Reduced Revenues.
2	High Business to Business (B 2 B) dispatches.	Reduced Business to Business (B 2 B) dispatches.
3	High business to customer (B 2 C) dispatches.	Reduced business to customer (B 2 C) dispatches.
4	More primary dispatches by production units.	Controlled primary dispatches by production units.
5	Excess secondary dispatches by production units.	Limited secondary dispatches by production units.
6	3pl providers have high margins.	3pl providers have limited margins.
7	3pl providers have high profits.	3pl providers have declining profits.

Table 7: Pre & Post Covid analysis on basis of revenue

4.2 Import and Export orders.

Mostly FMCGs working in Pakistan purchase their raw material for finished goods from other countries mostly from China. Hence during covid-19 period a lot of countries including China banned their geographical region for entries of raw and other products to stop and control virus, which ultimately reduced import and export order of every country including Pakistan which resulted zero or reduced dispatched orders from port Qasim to manufacturing plants and vice versa .Further Government policy

after covid till date in Pakistan are not stable and entertaining big giants to make import & export orders to run smooth .Most of times there is a ban due to some procedural issues ,change in policy by government etc . Below tables shows a comparison between pre & post covid export and import orders for better understanding.

Comparison on basis of Export Orders		
Sr #	Pre Covid-19	Post Covid-19
1	Excess orders of Basmati Rice.	Reduced orders of Basmati Rice.
2	More orders of surgical goods & medical instruments.	Declined in orders of surgical goods & medical instruments.
3	High orders of cotton yarn.	Less orders of cotton yarn.
4	Record level orders for sports goods.	Reduction in orders for sports goods.
5	Increase orders of made-up articles.	Not enough orders of made-up articles.
6	Increase orders of readymade garments.	Decrease orders of readymade garments.
7	Higher orders of towel in exports.	Low orders of towel in exports.

Table 8 Pre & Post Covid analysis on basis of Export Orders

Comparison on basis of Import Orders		
Sr#	Pre Covid-19	Post Covid-19
1	Excess orders of Petroleum Products.	Decline in orders of Petroleum Products.
2	High orders of Palm Oil.	Less orders of Palm Oil.
3	More orders of Natural Gas Liquefied.	Declined in orders of Natural Gas Liquefied.
4	Higher orders of Mobile Phones.	Low orders of Mobile Phone.
5	Increase orders of raw cotton.	Decrease orders of raw cotton.
6	Record level orders for Iron, Steel & Scrap.	Reduction in orders for Iron, Steel & Scrap.
7	Increase orders of Plastic Material.	Not enough orders of Plastic Materials.
8	More orders of Electrical machinery & apparatus.	Few orders of Electrical machinery & apparatus.

Table 9 Pre & Post Covid analysis on basis of Import Orders.

4.3 Reduced local market dispatch orders across Pakistan.

General public in Pakistan started to store products and items used for daily needs, because of the fear that markets will be closed for lockdown period again in future due to any other pandemic and hence no supply of consumer products. Moreover, things will become more expensive due to shortage of food and grocery items. Further on other hand as covid is over routine come to normalize in Pakistan orders related to necessities become better. Below table shows a comparative analysis based on pre and post covid practices for better understanding.

Comparison on basis of Local Market Dispatches.		
Sr #	Pre Covid-19	Post Covid-19
1	High orders for fruits dispatches from different areas of Pakistan.	High orders for fruits dispatches from different areas of Pakistan.
2	Cereals & Pulses ever green dispatches from local markets within Pakistan.	Cereals & Pulses ever green dispatches from local markets within Pakistan.
3	Livestock dispatches were on upper end.	Livestock dispatches were on declining end.
4	Dairy industry includes milk, butter, eggs, yogurt, meat excess dispatches throughout Pakistan.	Dairy industry includes milk, butter, eggs, yogurt, meat excess dispatches throughout Pakistan.
5	High dispatch orders for Wood loads from northern areas of Pakistan.	Reduced dispatch orders for Wood loads from northern areas of Pakistan.
6	Cold Chains were profitable business.	Limited business of cold chains.
7	Excess dispatch order for Confectioneries.	Reduced dispatch order for Confectioneries.

Table 10: Pre & Post Covid analysis on basis of Market dispatches.

4.4 Food and Beverage (F & B) Supplies Only

As lockdown continued in every city and provincial government immediate felt a need to make a policy regarding food and beverage supplies across Pakistan to save nation dying from hunger. The Government advises all FMCGS to start food processing unit which were earlier stopped in lockdowns. Shortage of raw material and labor shortage were also a big bottleneck. Every food processing unit made special covid policy to run production units and resumed food supplies operations from factories to markets through improved supply chain and transportation networks. During and after covid big giants that were working in F & B supplies make changes in their operational process which can be easily understandable by below table hence portraying pre and post covid comparison.

Comparison on basis of Food and Beverage supplies.		
Sr #	Pre Covid-19	Post Covid-19
1	Vehicles hired through concept of built or from addas.	Hired 3pl contractor for fleets or dedicated fleets.
2	Non tracker fleets and less control over shipments.	Tracker fleet to get more control over shipments.
3	No apps and block chain implemented.	Multiple apps and block chain implemented.
4	Non-Palletized stock for loading in vehicles.	Palletized stock available for loading in vehicle.
5	Slow loading and non-systemic process.	Steady loading and systematic process.
6	More Labors required and loading vehicle manually.	Loading through with help of lifters and less labor required.
7	Health and safety issues were not important. Very few companies have S & F Departments.	Health and safety issues become important, and every company raised department to address issues.

Table 11: Pre & Post Covid analysis on basis of Food & Beverage supplies.

4.5 Ecommerce business started increasing in Pakistan.

As covid-19 started to rise faster and hit peak where record breaking number of patients affected across Pakistan within current pandemic, there exists a need for faster and better service provider to supply necessity that includes grocery items, medicines, fruits and vegetables, dairy products etc. on their doorstep, which ultimately led the companies to indulge in E-Commerce platforms. On the other hand, buyer decision making process changed dramatically because of the pandemic. As covid is over in Pakistan, E-commerce becomes norm accordingly to daily life. People make their life easy by ordering everything that is related to necessity or luxury through online portals. Below table shows comparison between Pre and Post covid practices for better understanding of business models.

Comparison over Traditional ways & Ecommerce.		
Sr #	Pre Covid-19 Business	Post Covid-19 Business
1	Traditional way of selling medicines through stores.	Medical stores and services converted to online stores.
2	Whole selling business models was traditional.	Whole selling business models converted to Online business models.
3	Food selling vendors sells through cash payment and serves food in restaurant.	Multiple Food ordering services available and payment mode changed.

4	Different type of electronics was sold as per old selling traditions in market.	Now currently many electronic online stores are available and selling through E-Commerce portal.
5	Concept of yellow cab, taxi, Lorry etc. working under addas system.	Concept of ride hailing apps that promotes mobility by helping customers and drivers to negotiate at fair price.
6	Toy shops selling as per old tradition market.	Online toys and baby stuff stores worked over E-Commerce business model.
7	Traditional retail distributions working as per norm.	Re-invent of retail online distributions.
8	Traditional ways of selling items.	Concept of Drop Shipping over items.

Table 12: Pre & Post Covid analysis on basis of Traditional & E-commerce

4.6 Training Issues

The pandemic addresses the greatest danger to lives, occupations and economies since the Second World War (WWII). It is as of now quickly reshaping social orders and economies, changing the way individuals collaborate, the way they work and the textures of their lives. As we understand the fact that people in logistics sector of Pakistan related directly or indirectly are mostly illiterate. There are very few developed HR - Departments in some companies and HR department do not exist in most of the logistic companies or in distributions. Hence it was a big challenge for logistic companies how to train drivers? Arranging training sessions for drivers and workshop staff related to current pandemic was another challenge for logistics companies. Below table shows comparison between Pre and Post covid practices for better understanding of business models.

Comparison on basis of Trainings & Workshops		
Sr #	Pre Covid-19	Post Covid-19
1	Mostly people related to logistics in Pakistan are illiterate.	People joining to logistics industry in Pakistan are literate.
2	No concept of HR department (adda system).	Hr departments rising in logistic companies and distributions.
3	No concept of trainings for drivers.	Multiple training sessions commenced by NHA and hr departments.
4	Limited concept of Health & Safety trainings.	Concept of Health & Safety trainings commenced in most of organizations.
5	No concept of regular medical checkup & trainings.	Concept of regular medical checkup & trainings commenced.

6	No specialized training programs by organization.	Specialized training programs & workshops commenced under different domains.
7	No concept of vaccination drives.	Commenced regular vaccination drives.
8	Freedom of movement of people & stock was not restricted.	Freedom of movement of people & stock restricted.

Table 13:Pre & Post Covid analysis on basis of Trainings & Workshops.

4.7 SOP Creation

It was very difficult for logistic companies to specially design SOPs that secure revenues in logistic business because in logistic operations it's difficult to stop sharing of evidence of delivery of goods document. Invoices that contain actually details description of goods need to be checked by different peoples across the chain from the product site to the delivery location. Hence there was a big chance of spreading of virus through invoice paper, even after covid as well. Furthermore, what SOP was to develop for entering vehicle in loading premises (Factories) and leaving unloading premises (warehouses). Devising SOP regarding vehicles and safety measures of drivers was also a big challenge. Below table shows comparison between Pre and Post covid practices for better understanding of business models.

Comparison on basis of SOP Creation		
Sr #	Pre Covid-19	Post Covid-19
1	Limited concept of logistics & dispatch SOPs.	Organizations come up with SOP creation concept as per multiple cases to deal with.
2	Proof of delivery (POD) was manually handed evidence over to concerned peoples.	SOP creation on POD to make paperless environment and make life safe for everyone.
3	No concept of driver medical checkups on every time entrance in loading premises.	SOP created for drivers' medical checkups on every time entrance to loading docks.
4	No SOP found on safety measures of drivers.	SOP creation on safety measures of drivers.
5	Cash collected at time of delivering goods. Limited online portal for cash transactions.	Multiple online cash transfer options available at time of delivering goods at customer dock.
6	Limited health parameters at work and field.	More health parameters at work and field.

7	Working environment for operations staff was to work from offices.	SOP created by organizations for flexi hours and hybrid jobs.
8	Traditional ways of delivery.	SOP created over concept of contactless deliveries.

Table 14: Pre & Post Covid analysis on basis of SOP Creation

4.8 Operational Areas

Operational issues in business are problems that can create waste and affect profitability. Further, they can drain company resources, impact operational performance, and hinder growth. Below table portrays pre & post covid comparison on basis of operational areas to understand how business models have adopted change.

Comparison on Operational Areas.		
Sr #	Pre Covid-19	Post Covid-19
1	Physical presence required by organization.	Concept of hybrid jobs and flexi hours.
2	Limited concept of waste department.	Many reports have been generated by waste department in organization to understand insights.
3	Limited concept of quality department.	Many reports generated by Quality department for better understanding.
4	Less controls over processes and systems	More controls over processes and systems to make that there is no negative impact of company's profitability.
5	More delays in process and systems are dependent on manpower.	Performance starts monitoring that has direct link with profitability of company and independent of manpower.
6	Cash flows are quite unstable.	Cash flows become more stable.
7	Limited concept of planning and specially for period of uncertainty.	Better forecasting and planning with help of automated tools available online and licensed software's.

Table 15: Pre & Post Covid analysis on basis of Operational Areas.

4.9 Performance Management

In Pakistani culture, two types of business model can be seen one is cooperating culture business organization and second one is seith culture business (An entrepreneur who runs business and is illiterate) organization. In cooperate culture organization we can see each department with clearly defined job description of each employee. On other hand, we have seith culture business organization where may be one person heading all department activities and with no defined job description of each employee. In Pakistan, majority of logistic companies operating are seith culture business organization where there is no concept of monitoring and rewarding for performance management of drivers and other staff. So, in time of Covid-19, this raised a great challenge for Human resource professionals to make proper HR policies for drivers to retain, monitor and reward for their performance management in the presence of high risk of life threat. With the help of comparison done below, we can understand better pre and post covid-19 changes for performance management practices.

Comparison on Performance Management		
Sr #	Pre Covid-19	Post Covid-19
1	No concept of performance management.	Performance metrics developed to check and monitor.
2	No loading time defined in factories for a vehicle.	If loading time increased as per defined times so their calls justification and penalties.
3	No offloading time defined at distributions or warehouses for a vehicle.	If offloading time increased as per defined times so their calls justification and penalties.
4	No transit times defined by company.	Clear transit times defined by company on each route and incase violation there is a penalty.
5	Limited concept of working hours.	3 shifts defined for labors and operators working in factories.
6	No concept of performance management of drivers and logistics staff.	Performance starts monitoring with operational activities and recorded in customized software's.
7	No linkage between Performance Management and profitability of company.	linkage between Performance Management and profitability of company.

Table 16:Pre & Post Covid analysis on basis of Performance Management

4.10 Traditional & Digital Trucking

In Covid-19, many businesses have been shut down, many businesses models have been restructured and many new businesses models entered the consumer market. So, the market share of any type of industry during Covid-19 got minimized, squeezed, and stretched depending upon situation of new entrants, available players and players exiting from the market. Below table shows comparison between Pre and Post covid practices for better understanding of business models.

Comparison on Traditional & Digital Trucking		
Sr#	Pre Covid-19	Post Covid-19
1	Invoice copy to be handed over as per different departments.	Electronic proof of delivery (ePOD)
2	Unstable Cash flows	Improved cash flows for clients.
3	Stamp paper agreements.	Digital Agreement
4	Long detail contracts.	Smart Contract
5	Limited concept of vehicle trips.	Record of freight history
6	Manuel working for logistics companies.	Open Enterprise Logistic Models (OEL Model)
7	Limited sourcing as per transporter links.	Subcontracting 3PL contracts
8	No concept of block chain	Block chain
9	Works as per adda system market.	Guarantee business availability
10	Solutions as per case to case handling.	Fleet Management solutions
11	Price list implemented as per open market.	Affordable prices point
12	Complex system and value chain.	Simplified entire value chain
13	Open market facts not clear and not visible.	Transparent costing
14	No concept of dash boards.	Dashboard for all your previous and upcoming bookings
15	Limited option for transactions.	Secure and convenient payment methods
16	All system works as per manual.	Updates and notifications
17	Higher cost expenditures.	Cost saving
18	Complex and rigid	Flexibility and reliability
19	No concept of live tracking and digital insights.	Live tracking and digital insights
20	High carbon footprints.	Reduced carbon footprints
21	Nominal revenues.	Revenue boost
22	Cash payment solution available only.	Easy Payments
23	High payment times.	Reduced payment times
24	No concept of value-added services.	Value added services

Table 17: Pre & Post Covid analysis on basis of Traditional & Digital Trucking

Chapter 5

Recommendation

5.1 Increase in revenues

Covid-19 starts in December 2019 and now it is about three years from the date spreading this virus. People from different countries survived during these two years and this virus has become a part of life like other viruses present these days. So, we must make policies for transportation business to adopt change and work according to previous as before start of Covid-19 to increase revenues in transportation business. Below are mentioned some business techniques as an outcome of the findings which can be adopted by logistic companies.

- By doing electronic ads or screens on vehicle containers, we increase revenues.
- Allowing local businesses and brands to paint on containers will help us increase revenues.
- By using vehicle containers as warehouse in case of no empty space in warehouse charging per day by transporter.
- By offering on demand services door to door (last mile service).
- By charging per kilometer freight to shipper.

As still we are running out of Covid but on the other hand we don't know when it will be a suitable condition for life on earth i.e., disease free environment. Only way to increase export and import orders are Government should make policy for necessity items (such as edibles, medicines, fruits, cereals etc.) in case of lockdowns or bans on import & export which can be allowed but issuing permit, so that it creates a pathway for transporters to transit from different areas of Pakistan to Port Qasim, hence increasing export orders helping transporters to increase in revenue.

5.2 Contactless deliveries

It's a new concept in Pakistan as well as already this model has been implemented in China as referenced to literature review. Local market orders for transportation were reduced from factories to shops because of lock down in cities hence affecting customers to buy products in bulk and store in houses. The solution to this problem is "Contactless deliveries". In this process, the delivery person picks up goods in specific contactless area, delivers them to the designated location as required, and takes a photo to inform the customer. Further benefits of contactless deliveries are as follow:

- Visualization and traceability of health information.
- Delivery time is quite short.
- Variable delivery cost is small.
- Smart parcel lockers and unmanned vehicles.
- The fixed investment cost is large but in the long run it is of no value.
- Less human resources required.

In the beginning of Covid-19, everything seems to be going in state of closing, especially in situation of lockdown when complete areas and cities were closed with proper announcement of governmental officials only general stores, pharmacies and eateries were to be opened. In this situation food and beverages (F & B) supplies were later announced by the government to transport from factories to warehouses, which ultimately causes a decrease in revenues. As already mentioned in literature review as well as concept of contactless deliveries can also be applied in same situation to warehouse and factories as manual loading and unloading of vehicles were done by labor which can be replaced with stock lifter and palletized stock same process can be done on other side. Hence all types of general consumer supplies can be done while maintaining transportation revenues.

5.3 Expansion of E-commerce business is no threat.

During and after Covid-19, Increasing online stores due to lockdown in Pakistan and across globe is no threat to transportation business. It is only the change of mode of transportation due to the need of hour. In other words, primary logistics business is transferred to secondary logistics business. Hence decrease in revenues in primary logistics, on other hand increase in revenues of secondary logistics. It also impacts local market consumer orders but increase in online stores i.e., food panda, daraz, tajir, bazaar etc. orders. Many big tech giants are making digital apps through collaboration with big transportation companies and finding new ways of trucking with help of block chain to get more and more controls over shipments in Pakistan making it successful, hence, it creates need for more educated people to work in such environments which will ultimately replace illiterate people with literate one in supply chain industry. On other hand, soon there will be better human resource departments engaging, developing, and training to people and culture in logistic companies. Below are some of drilling and training exercises I am suggesting which will help in Post pandemic to deal with while ensuring safety and health of employees in transportation companies.

5.4 SOPs for Logistic Companies.

- Laying off 2nd driver and helper from long vehicles (Before 2 drivers and 1 helper).
- Temperature check of each driver at entrance of loading docks. (Warehouse & factories).
- By disinfecting driver cabin and container every time at time of loading. (Almost 3-4 times a week)
- Special permission letter copies to drivers which allows governmental approvals for on road transit during lock downs route closure, revolts etc. (Certificate/Approvals)

- Wearing mask and gloves is necessary at loading time. (In warehouse and factory areas)
- Disinfecting driver every time he returns to office for submission of PODs. (At time of closing of trips).
- Social distancing to maintain and implement with in loading, unloading, rest areas on highways, driver hotels and stops and gas stations.
- Stop use of thumb impression machines for attendance purposes. (To be marked online on WhatsApp by sharing current locations in office WhatsApp group).
- Multiple shifts in workshops cooperate offices, warehouses, factories to avoid interactions between staffs.
- Working with 50% staff by offering residence on office premises for a week.
- JDs enhanced by rotational duties.

Tenure & Type	Trainings & drilling exercises
Phase 1	➤ No Trainings.
Alpha	➤ Work from home.
B.1.1.7	➤ Categorizing employees in teams.
	➤ Washing hands for 10 minutes at least.
Phase 2	➤ Trainings for drivers how to maintain social distancing.
Beta	➤ Working in paper less environment in cooperate offices to stop spreading virus. (Use of different apps)
B.1.351	➤ More training to strongly implement health and safety practices.
	➤ Use of warm water and effective ways to disinfect.
Phase 3	
Gamma	➤ Laying of staff, employees, labor and other wagers.
P.1	➤ Vaccination drives at governmental levels.
Phase 4	➤ Vaccination drives at governmental levels.
Delta	➤ Vaccination drives at individual level by different organizations to their employees with help of NCOC.
B.1.617.2	➤ Issuance of vaccine certificates.
	➤ Verification through Nadra and Online portal.
Phase 5	➤ Booster dose for above 30-year aged people.
Omicron	➤ Vaccination drives for helpers.
B.1.1.529	

Table 18: Covid-19 Phase wise practices

5.5 Performance Management of Drivers and adopting change.

Some types of jobs are not very rewarding in the context of developing countries such as job of a security guard, job of a helper etc. Same applicable to heavy truck drivers. On one hand, they are paid very less and on the other hand, they travel thousands of miles and stay on roads to deliver stock. As very few transportation companies have proper human resource departments, which can help to gauge and manage driver performances. A few big firms, institutes and transportation companies have taken the initiative to offer services of training of drivers as well as they also have started monitoring drivers' performances. Motorway Police has also made National Highways & Motorways Police Training College, Sheikhpura for trainings of heavy vehicle drivers. On other handful big transport companies such as Capital Marketing Services (CMS), Bashir Sadiq Logistics (BSL), Daewoo express etc. have developed driver training schools where there are proper short courses related to driving manuals of different vehicle, health & safety standards related to on road driving, on road sense of driving etc. Furthermore, most of transport companies have tracked fleets which means that tracker companies such as E-Drive, Nexer Tech, TPL etc. have already given online web based and mobile portals to customers for multiple type of updates and notifications, which ultimately helps FMCGS and transporters to verify and gauge performances management of drivers during driving and idling throughout journey. Below are some bases on which we can check and incentivize performance management of drivers:

1. Kilometer travelled on daily and monthly basis.
2. Harsh braking during driving hour.
3. No of times over speeding during a month.
4. Traffic police and exercise & taxation Challans.
5. Idling time during journey or a complete round trip.
6. Achieving transit time of a complete trip.
7. Number of trips during a month versus target.
8. Revenue generated by each driver during a month.
9. Halting time throughout month.
10. Workshop expenses throughout month.
11. Diesel consumption and analysis.
12. Number of trips to hilly areas throughout month.

Above all types of data for performance management of drivers can be checked and fetched through IOT and tracker portals. On other hand in big transport companies, they have already maintained their operations room for reporting of big fleet size vehicles. Where they already make different types of report with help of tracker data. One such big report that contains all types of stuff that are required for performances management of drivers is (VMR) Vehicle movement report and (TCR) trip closing report. As already discussed above that during peak time of covid and lockdown in several areas across Pakistan caused shortage of drivers and loading staff as people went back to their villages and small towns. Recommended solution for shortage of drivers is to implement concept of relay logistics. Each driver along with loaded truck must travel to some kilometers without taking rest after that driver is changed and other driver will drive truck throughout destination. The same procedure will be done on the return trip.

For instance, considering route: -

- Karachi to Islamabad (First Load 1600 Kms)
- Islamabad to Karachi (Return Load 1600 Kms)

No of Kms Travel	Driver Changed as per defined Kms.
0 -----400 Kms	Driver 1
401 -----800 Kms	Driver 2
801 -----1200 Kms	Driver 3
1201 -----1600 Kms	Driver 4
0 -----400 Kms	Driver 4
401 -----800 Kms	Driver 3
801 -----1200 Kms	Driver 2
1201 -----1600 Kms	Driver 1

Table 19: First and return load makes complete one round trip.

Furthermore, as we know that shortage of labor on loading and unloading docks creates high loading and unloading times. Recommended solution for this is to change manual loading process with palletized loading with help of lifters on warehouses and factories as well that will reduce loading and unloading times as well reduction in wages as well, hence implementing contactless deliveries concept as mentioned in literature review.

Adopting change is very important for every type of business for its existence in particular business sectors. So, companies who switched from any business sector or transformed from passenger buses services to road freight logistics during covid and in lock down scenario has done excellent because its need of an hour to sustain business. On other hand as already discussed, market share in every business sector is squeezed, stretched, minimized, or spread among existing players performing with in single business sector, while some new players enter market some players take exit from market sometimes there may be seasonal variation which also affects net margins and impacted in reduced revenues. So, this is a normal behavior of the market and is not challenge raised by covid. In Pakistan, transporters

who have big fleets of trucks and trailers maintaining their vehicles under their own workshops also have direct contractual lines with shippers such as FMCGS, Oil Companies, Manufacturing firms etc. Big fleet transporters also have their own tracking portals to trace shipments and keep updated about vehicles

journey by connecting with their own tracking room. So, digital trucking has no impact on big fleet transporters. On the other hand, in Pakistan, there are transporters who have small fleet size or have single vehicle fleet, who does not have contractual lines have an opportunity to connect with digital trucking and get cash loads on better freights than open market without wasting their time in search of load with help of addas. Furthermore, these single fleet transporters do not have tracking portals to trace shipments and do not remain updated about vehicles. So, they have again the opportunity to provide these services to their customers with the help of digital trucking by installing portable tracker devices and hence keep updated about vehicle journey. Hence, it's a change rather than a threat to revenue.

Chapter 6

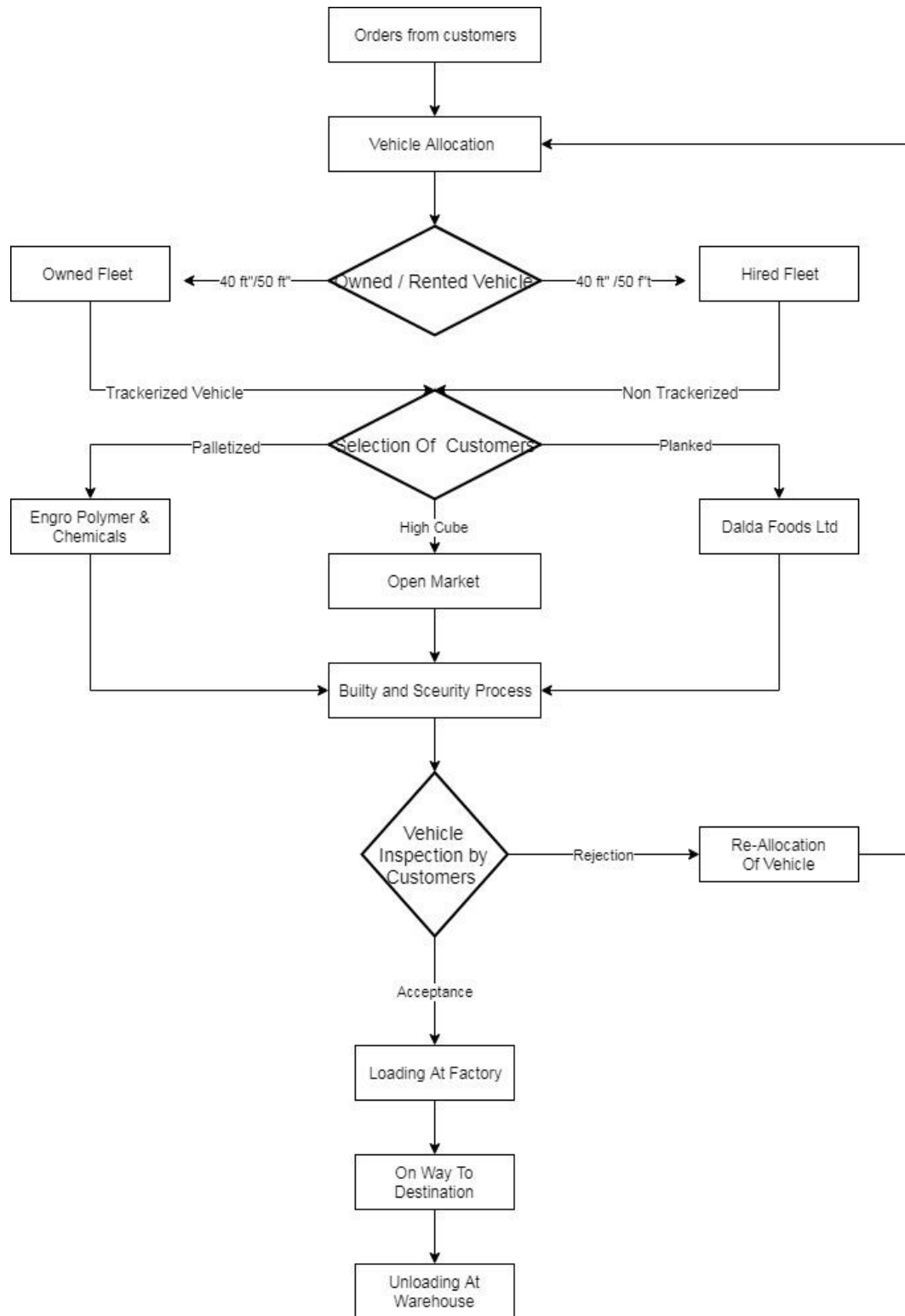
Conclusion

An assessment of Covid-19 challenges common in the transport sector in Pakistan was carried out. Interviews were conducted from different logistics companies, transport department of FMCGs, addas and other related parties. The issues under consideration were challenges faced by logistics companies Pre & Post Covid -19, after-effects, strategy making for first time, retaining skilled drivers, implementing strategies, trainings, and drilling exercises. It was found that there were fewer formal practices related to Pre Covid-19 in transport companies, transport departments of FMCGS and other related parties. During assessment, I also found that there are no proper training programs due to no long-term planning of transport companies and considering it waste of time and money. Furthermore, I found that there are no properly defined procedures for performance management and compensation and reward management for drivers in logistic companies and local addas. The Pre & Post Covid-19 practices are changing with time due to competition within transport companies coming in CPEC project in Pakistan, due to unstable economic factor and government policies on trade. A lot more needs to be done by Government of Pakistan. Government should take initiatives of Pre & Post Covid-19 practices and their check and balance on regular basis. Transport companies should also focus on driver development as their main source of transport companies and trip completion cannot be done without them.

Like all research, this study also has some limitations. This study is based on freight logistics, inbound logistics and outbound logistics. These study recommendations cannot be implemented on passenger bus logistics. As covid occurs first time in history so it was first experience for everyone to face this pandemic and was difficult to make policies & regulations for it. Covid policies cannot be implemented for any other type of disease case; new policies will be made for new types of viruses and diseases in the transport industry. In transport companies most decisions are based on the occurrence of events such as accidents, loss of lives in covid, strikes and roadblocks. Adding more to the above, the findings are based on interviews, hence, it gives an overview of industry, but it cannot be generalized for the whole transport industry. Finally, the logistics industry is based on the best transit time possible to be provided goods to the customer's door to attract much more business as possible.

Annexures

Process Of Logistics Operations-Annexure-1



VEHICLE MOVEMENT REPORT (VMR)-Annexure-2

Report prepared by operations department includes 6 stations and contains 234 vehicle records.

It consists of further reports. Which are explained below: -

- ❖ **MTD –Report: -**
Month To Date report consists of monthly trips of each vehicle in detail form.
- ❖ **Efficiency Report: -**
This report gives a summary of the point of view of loading, unloading, workshop time, stays on unloading, stays on loading and empty hours stays as well.
- ❖ **Days Count Report: -**
It's a type of attendance of vehicle report.
- ❖ **Kilometer Report: -**
Distance from loading and unloading place is measured with the help of tracker based on Google maps and comparison with actual reading fetched from vehicle.
- ❖ **Revenue Report: -**
The revenue report is generated by the net earnings from the vehicle calculated for this purpose. The revenue is calculated by taking the difference of the expenditures incurred on the vehicle during transit pertaining to that trip and the income to be received or receivable from the order duly taken by the sales department for this purpose. The income is based on the quantity and weight of the products to be delivered.
- ❖ **Comparison Report: -**
The comparison is made by the reports fetched from tracker (**VMR**) and reports generated from vehicle movement system (**VMS**). Which reveals the gap between regional offices and accounts department.
- ❖ **Workshop Hours Report: -**
Daily update of vehicles present in workshop for repair & maintenance is taken, which helps in calculating workshop hours during month.
- ❖ **Halting Report: -**
This report predicts the number of days vehicles stay loaded on distribution. Time for halting is taken if vehicle reached before 5 pm at distribution.
- ❖ **POI Report: -**
Point of interest report predicts no vehicles present at distributions, factories as well as fuel pumps.
- ❖ **Harsh Braking & NR-Report:**
No record & harsh braking reports are also available which explains how many vehicles tracking device is receiving signal and no of obsolete tracking devices.

Certificate for Movement of Consumer Goods during lockdown-Annexure-3

To whom it may concern:

XYZ Pakistan Limited is a leading food and beverage manufacturing company of essential goods in Pakistan. Based on notifications issued by the federal and provincial governments because of the constantly evolving situation due to COVID-19, we have been allowed to carry on operations by the provincial and federal governments.

In light of this, please accept this certification that ____ Transporter, having its office at _____, Islamabad, whose truck fleet with the corresponding plate, truck type and personal names are listed herewith below, is providing transport services to XYZ Pakistan Limited for the movement and delivery of goods (finished and semi-finished) from and to the below factories and 3rd party material management warehouse.

Contractor Name M/s. ABC Transporter						
S.#	Invoice # /DN	Vehicle No	Driver Name	NIC No	License No	Mobile No

Kindly allow the bearer of this certificate to pass through with goods retrieved from the below mentioned sites, without any hindrance.

XYZ Factory:

1. XYZ Pakistan Limited, Sheikhpura Factory, located 50 Km Lahore Road Sheikhpura.

After delivery of the goods, please allow return of this individual/ vehicle to transporter site or above-mentioned sites, to ensure uninterrupted supply of essential food items across Pakistan during lockdown. As one of the leading food manufacturing companies, we need to ensure supply of pure and healthy food and beverages to the people of Pakistan. Our teams are carrying the relevant government notifications.

Thank you in advance for your cooperation.

Yours Sincerely,

For XYZ Pakistan LTD

Questionnaire-Annexure-4

My name is Huzeafa Shahzeb, and I am a student of E-MBA in National University of Sciences and Technology Islamabad. I am collecting data for my final year research work. Only purpose of this collecting data through this interview is to make findings helpful for research work and discover solutions for collected findings that can benefit supply chain and logistics industry in Pakistan.

Q.1 What are main challenges faced Pre and Post covid -19 in logistics industry of Pakistan?
Q.2 What SOPs were developed before & after covid -19 to restructure logistics business?
Q.3 What trainings and drilling exercises were initiated by HR to adopt change?
Q.4 Currently what HR practices are in use in logistics regarding Pre & Post pandemic?
Q.5 How many competitors enter and exit logistic market during and after Covid-19?
Q.6 Any suggestions that can help logistics industry to increase efficiency?

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