



Application of ICT in logistics and supply chain in post-Covid-19 economy in Vietnam

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Abstract

This article analyzes the current status and proposes solutions of the logistics industry and supply management, in order to improve the efficiency of production of goods in transit in Vietnam. This article analyzes the current situation of goods traffic in Vietnam, it is expected that after the post-Covid-19 environmental events, the quality of production, goods and services will be improved. The disruptions caused by the Covid-19 pandemic affect every country, rich and poor, and the logistics industry also faces more challenges. Small and mid-sized logistics supply chains with disparate incomes struggle to accommodate new customer demands. Thus, from the point of view of fundamental and comprehensive innovation of the logistics industry and the supply chain, this is considered a leading important strategy, policy and measure to develop and bring the country to a prosperous and strong position. Thanks to that specific identification, the logistics industry and supply chain contribute to improving services for people, promoting efficiency and human resources, and it is this that creates values, motivation, objective requirements of socio-economic development with the core as knowledge based economy, which is vital in the current global trend and international integration development.

Keywords: logistics industry, Covid-19 pandemic, Vietnamese transportation, ICT application

1. Introduction

The Covid-19 pandemic, which broke out at the end of January 2020, has caused heavy economic, cultural, social and human losses worldwide. The pandemic has put heavy pressure on global production capacity and supply chains, and it has also opened up new avenues for the logistics industry to develop. Therefore, to maintain the operation of logistics service enterprises in the context of being affected by the current pandemic, it is necessary to have an assessment of the impact of the Covid-19 pandemic on logistics service enterprises, on that basis it is necessary to solve the problem. Synchronous measures from the government and logistics service enterprises themselves to promote the application of information technology, e-commerce, effectively exploit e-logistics (online logistics) operating methods to gradually overcome difficult.

Building and managing an effective supply chain is a matter of great concern to businesses. The optimal supply chain will help all activities of the business run more smoothly, be able to satisfy customers at the highest level with the lowest time and cost. At the same time, an information system that is scientifically organized, updated and shared regularly will help the parts in the chain to coordinate well with each other, in order to react quickly to frequent and continuous fluctuations of the market business environment. However, until now, Truong Viet Joint Stock Company has not built a clear supply chain management strategy, the cooperation between members in the chain is not high, the linkage between parts of the internal supply chain has not been established closely, so the performance of the chain is still limited. Therefore, along with initial successes, the company also faced many difficulties when competing with domestic and foreign competitors in the same industry.

Objectives

Systematize the theoretical basis related to supply chain management activities of enterprises.

Analyzing the current situation of Supply Chain Management within Truong Viet Joint Stock Company, assessing the achieved results and remaining limitations.

Proposing some solutions to improve supply chain management of Truong Viet Joint Stock Company in the period 2015-2020.

2. Theoretical Basis

2.1 Areas of the logistics industry and supply chains in the Vietnamese economy

In recent years, along with the development of industries in the economy, Vietnam's logistics service industry has made great progress and has great growth potential. Vietnam's logistics performance index (LPI - Logistics Performance Index) 2018 was announced by the World Bank in its July 2018 report, according to which Vietnam was ranked 39 out of 160 countries participating in the survey, increasing 25 places compared to the 2016 ranking (64/160). This is the result of the right and timely policies and strategies of the State along with the continuous efforts of Vietnamese logistics service enterprises. The development of Vietnam's logistics industry has significantly contributed to the increase in the number of logistics enterprises. According to data from the General Statistics Office, the fluctuation of the number of logistics enterprises in Vietnam in the period 2013-2018 is as follows: from 17,132 enterprises in 2013 to 2017 increased to 29,123 enterprises and in 2018 was 29,694 enterprises (in which, the Vietnam Association of Logistics Service Enterprises announced that there are more than 4000 logistics enterprises operating professionally and providing international logistics services). The average growth rate (CAGR) in the number of businesses from 2013 to 2018 is about 11.63%. One highlight is that up to 54% of logistics enterprises are concentrated in Ho Chi Minh City due to the advantage of Ho Chi Minh City in terms of goods sources with import and export activities of Ho Chi Minh City and both the Southern key economic region and the Delta of Mekong River, connecting international transport routes through Tan Son Nhat international airport, as well as a cluster of ports in Ho Chi Minh City, especially the export gateway through Cat Lai port.

According to a study by the Department of Logistics and Multimodal Transport Management in the Vietnam Logistics White Paper 2018 published by the Vietnam Logistics Service Association (VLA), staff shortage is one of the three main problems causing difficulties for logistics companies in developing business activities. VLA's forecast by 2030 the professional human resource demand for the whole industry is 200,000 employees. In addition, according to the Vietnam Logistics Report 2018 of the Ministry of Industry and Trade, if the demand for logistics human resources at all levels in logistics enterprises and logistics personnel from manufacturing enterprises is included, the demand for logistics human resources may increase to 2.2 million people by 2030. Meanwhile, the ability to meet the current demand for logistics human resources is only 10%.

Ho Chi Minh City University of Transport under the Ministry of Transport is the largest multidisciplinary school in the field of transportation in the South. In 2008, the University became the first university in Vietnam to specialize in Logistics and Multimodal Transport Management at the university level

with a training period of 4 years. It was not until 2013, that a few more universities started opening logistics majors/specialties.

In 2019, the program of Logistics Management and Multimodal Transport is officially under the Logistics and Supply Chain Management industry code (code 7510605) according to Decision No. 1045/QĐ-BGDĐT dated April 19, 2019 of the Minister of Education & Training. The major in Logistics Management and Multimodal Transport is one of the two training programs trusted by the school that is tasked with performing the self-assessment of the training program according to the standards of evaluating the quality of the training program of the university.

In order to provide high-quality logistics human resources, in 2016, the University opened a high-quality training program for the major in Logistics Management and Multimodal Transport. Also in this year, the University cooperated with Tongmyong University (Korea) to specialize in Port and Logistics Management.

The Faculty of Transport Economics majoring in Logistics Management and Multimodal Transport currently has a total of 45 lecturers; including 4 Associate Professors, 7 PhDs and 34 Masters.

Up to now, the School of Logistics Management and Multimodal Transport Management has enrolled the 12th course, of which 8 students have graduated and become highly qualified managers and staff highly appreciated by domestic and foreign employers as well as making an important contribution to the development of Vietnam's logistics industry. In order to continuously improve the quality, the logistics and supply chain management training program is always updated with input from stakeholders from lecturers, students, alumni, and enterprises human resources, training experts to build output standards suitable to the needs of the industry in the trend of international integration and the industrial revolution 4.0.

Besides training and research, the faculty also pays great attention to the development of students' academic activities. In 2018, Faculty's UT-LOGS team excellently won the top prize in the semi-final round of the Southern region and at the same time won the national second prize and the most impressive prize of the "Vietnam Young Logistics Talent 2018" contest organized by the Vietnam Logistics training network for the first time with the patronage of the Import-Export Department (Ministry of Industry and Trade) on a national scale; In 2019, the Faculty's team also excellently won the top prize in the semi-finals of the Southern region; most promising and favorite prize in the national final round. Currently, the University's mass, high-quality programs and international links in logistics human resource training are the most diverse in the South.

2.2 Impact of the Covid-19 pandemic on the operation of the logistics industry and the supply chain in Vietnam

The COVID-19 pandemic has impacted many economic sectors, especially key economic sectors of Vietnam.

The agriculture - forestry - fishery industry faces many difficulties in exporting agricultural - aquatic products. The main import markets of Vietnam's agricultural and aquatic products such as China, then South Korea, Japan and ASEAN, the US, and the EU have all been heavily affected by the epidemic, so the quantity of imported goods has been reduced. The agricultural auxiliary industry is indirectly affected, leading to a decrease in the output of the

chemical, fertilizer and agricultural equipment industries, the inputs of these auxiliary industries are highly dependent on the Chinese market.

Industry and construction: The growth rate of this industry in 2019 is 8.9%, in 2020 is 3.98%, this is the year with the lowest growth rate of the industry in the period 2015-2020. Vietnam's processing and manufacturing industries depend greatly on the supply of imported input materials and components - especially key industries such as electronics; textile; leather - shoes - bags; Therefore, when the COVID-19 epidemic broke out in countries supplying parts and accessories for production mainly to Vietnam such as China, Korea, Japan, domestic industries have faced many difficulties in securing production inputs in the first half of 2020. Manufacturing industries follow the supply chain model such as telephones, electronics, and computers. Textile, garment, footwear, etc. are all negatively affected due to the interruption of the global supply chain, causing a lack of input supply and the inability to consume output products. However, until the second half of 2020, when the above countries have anti-epidemic measures, the supply of imported materials and accessories for Vietnam's manufacturing industries will be restored. But countries that import the outputs of these industries such as the US, China, Japan, and the EU still face many difficulties due to the re-emergence of the disease in some areas. The cause of the industry in Vietnam being greatly affected by the COVID-19 epidemic is due to the limited internal resources of the manufacturing industry and its great dependence on foreign supply chains; The underdevelopment of supporting industries makes Vietnam unable to control the input factors of production, leading to a state of dependence on imported components and raw materials, making the added value of industries domestic industry is very low.

The service sector is most affected compared to other sectors due to the decrease in aggregate demand (both domestic and foreign). Tourism is the industry most directly affected by the pandemic (including travel, accommodation, and catering and travel services). In 2020, revenue from accommodation and catering services will reach VND 510.4 trillion, accounting for 10.1% and decreasing by 13%; tourism revenue reached 17.9 trillion dong, accounting for 0.3% and down 59.5%; Other service revenue reached 534.6 trillion VND, accounting for 10.6% and down 4% compared to 2019. The main reason is that the number of international visitors to Vietnam in 2020 decreased by 78.7%, specifically: visitors from Asia decreased by 80.4%; visitors from Europe decreased by 69%; visitors from the Americas decreased by 75.7%; visitors from Australia decreased by 76.2%; visitors from Africa decreased by 73.9% over the previous year. In 2020, tourism revenue will decrease by 59.5%; Other service revenue decreased by 4% compared to 2019.

The transportation and warehousing industry is also strongly affected by the COVID-19 epidemic. In 2020, passenger transport will decrease by 29.6%; freight transportation decreased by 5.2% over the previous year. Revenue of the aviation, railway and road sectors all decreased, especially the aviation industry suffered heavy damage due to the suspension and reduction of domestic and international routes of Vietnamese airlines.

Retail is also a directly affected sector, mainly due to the decrease in aggregate demand at the beginning of 2020, but by the end of 2020, this industry will have certain recovery because Vietnam has controlled the epidemic relatively well.

Total retail sales of consumer goods and services in 2020 reached VND 5,059.8 trillion, up 2.6% compared to 2019.

The most affected real estate business activities are commercial space leasing, offices for rent, hotels and apartments. Due to the decrease in the number of international tourists, the hotels are almost empty. However, towards the end of 2020, the real estate market showed signs of recovery. The reason is that a number of solutions, mechanisms and policies on housing and the real estate market that were proposed and promulgated from the end of 2019 and the beginning of 2020 began to take effect and bring into play their positive effects. Positive effects on the market such as: the revised Investment Law 2020, the revised Construction Law 2020, in which, there are 5 contents that will take effect from August 15, 2020 and a number of contents that will take effect from the date of implementation. January 1, 2021.

In 2020, most of Vietnam's economic sectors will face difficulties such as a shortage of input materials, and both domestic and export markets will be narrowed. With the financial potential and liquidity of the business sector in our country still weak, when the COVID-19 pandemic spread and complicated developments, causing production stagnation, businesses faced even more difficulties capital for production, especially the group of small and medium sized enterprises. The decline in export orders and difficulties in goods circulation are the biggest difficulties of the majority of enterprises; The cost of transportation, storage and warehousing increases, reducing the financial efficiency and operational efficiency of the business.

According to the business community's assessment, in 2020, over 80% of businesses will be negatively impacted by the pandemic, only 3.3% of businesses will receive positive impacts from the pandemic. These enterprises operate in industries such as insurance, healthcare, postal and delivery... The reason why Vietnamese businesses have difficulty is: (1) In order to avoid the spread of disease, many countries have implementation of social distancing and isolation, travel restrictions between countries have disrupted global supply chains, global circulation of goods, services and labor as well as all economic activities, international trade and investment cannot be smooth and efficient, so international economy and trade cannot function as in previous years, even falling into a recession; (2) The epidemic has reduced consumption of people and society, affecting the tourism and service sectors the most, so the service industry in the epidemic countries has been affected the most and consumption has been affected. most extreme by this pandemic; (3) The Government and businesses decided to stop economic activities in epidemic-hit areas, and at the same time move their production facilities to other places, businesses reduced production and business activities due to fear of diseases. The complicated development of the epidemic has strongly affected economic growth, economic cooperation, trade and investment between partners in the world including Vietnam and other countries.

2.3 Impact of ICT on logistics industry and supply chain activities in Vietnam after the Covid-19 pandemic

According to Department of Industry and Trade of Ho Chi Minh City, the country currently has about 30,000 enterprises operating in the field of logistics, with about 5,000 professional enterprises. Among them, the logistics industry currently contributes about 8.9% of the city's total GRDP, equivalent to about VND 117,000 billion, and up to 54% of

logistics businesses are based in Ho Chi Minh City. That shows, the logistics industry plays a huge role in the economy.

However, logistics costs in Vietnam are very high, accounting for 19% of GDP while this figure in developed countries accounts for less than 10%. The reason is that the investment in logistics is not much, mainly spontaneously by businesses. Many businesses do their own logistics, failing to optimize costs and social investment. The planning is not methodical. The department's solutions are still local. Road, railway and waterway systems are slow to invest.

The main roads driving development have not been completed yet. The port connecting waterway and land transport is not synchronous. Mining infrastructure is almost at full capacity, overloaded. The warehouse system is lacking, especially cold storage. Meanwhile, domestic logistics enterprises mainly provide services from foreign companies, costs are not consistent competition is not fair.

From the perspective of customs, according to Ho Chi Minh City Customs Department, despite the COVID-19 epidemic, by the end of November this year, the total output of imported and exported goods through the cluster Ho Chi Minh City port is estimated at 7 million TEU and 120 million tons, equivalent to about 116 billion USD, up 16% over the same period last year.

Since then, contributing to the city's port cluster ranked 25 out of 100 in the world with an average growth rate of about 8%. The industry's budget revenue is only a few days away from reaching the assigned target and that shows that the potential of the logistics service industry is huge.

E-commerce grew by 22%, but the warehouses of Tan Son Nhat airport were overloaded, only suitable for the volume of goods in 1995. Domestic logistics enterprises have the advantage of having ports and warehouses, but lack of capital, lack of technology; About 80% of logistics enterprises only have capital of less than 10 billion VND, mainly working as hired labor for foreign countries, the added value falls into the hands of foreign enterprises.

Every year, Ho Chi Minh City Customs refunds tax to tourists for purchases of only about 20 million USD and this figure is too low compared to our great potential. Meanwhile, the activities of specialized management agencies still overlap, seriously affecting the time and cost of logistics services.

From the perspective of logistics associations and businesses, according to Decision No. 1579 /QD-TTg dated September 22, 2021 of the Prime Minister approving the master plan on development of Vietnam's seaport system in the period of 2021-2030, with a vision to 2050, the relocation of seaports on the Sai River. Going to Hiep Phuoc-Nha Be area will be inevitable, but due to incomplete transport infrastructure, Soai Rap channel is being deposited quickly, Ho Chi Minh City does not have a deep-water port, so it will cause difficulties difficult to meet the growth rate of goods through the area. The logistics system in the world has developed to level 5 while logistics in Vietnam is just barely at level 1, 2, the first stage of transformation change number. Logistics costs account for 5% of total gross profit, just under 20% of modern retail businesses. Transport costs account for 40% of total logistics costs while this figure in other countries only accounts for 10-30%. Domestic logistics units must still apply the 300 rule in setting up warehouse and transportation systems. That is, the system of warehouses is 300km apart, while if the infrastructure is better, this rule can be raised to 500km, 700km, even 1,000km.

This fourth outbreak of the COVID-19 epidemic has also revealed a more obvious shortage and weakness of Vietnam's logistics industry. That is the lack of specialized warehouses, the lack of means of transportation, the lack of concentration for each industry. Connecting Ho Chi Minh City and localities is not synchronized while 65% of goods from the southern region are supplied to the whole country. This shows that, if you know how to effectively impact logistics, it will have a positive impact on the development of Vietnam's economy.

3. Research Methods

3.1. Data sources

Collecting general data for the topic from sources such as: scientific reports, theses, theses as well as business analysis articles so that relevant information can be found. factors to the higher education sector. And besides in the logistics and supply chain industry, it is extremely important to access and have some sufficient data to make reports. Therefore, in addition to focusing on the theoretical basis, we also found some more relevant sources for the topic, the following are reliable sources:

- ATM Globaltrans (<http://atmglobaltrans.com.vn>)
- Vietnam logistics website (<https://logitics.gov.vn>)
- Logistics market in Vietnam and the world (<https://gosmartlog.com>)
- Vietnam Ministry of Industry and Trade (<http://moit.gov.vn>)
- Industry (<https://nganhhang.vn>)

3.2. Collection Method:

During the research process, data collection consumes a lot of time, and both costs and efforts must be made. However, this is an extremely important part, laying the foundation for the research and analysis to go smoothly. Primary data is data that is not yet available, collected for the first time, collected by the researcher himself. In fact, when the secondary data does not meet the research requirements, or the suitable secondary data cannot be found, the researchers will have to conduct primary data collection.

The method of collecting relevant secondary data requires search work, consisting of two interconnected stages:

Step 1: Determine if the type of data you need is present in the form of secondary data.

Step 2: Locate the exact data you need.

Primary data collection method

Steps to perform primary data

1. Identify the problem to be researched.
2. Set up a research plan.
3. Conduct data collection.
4. Analyze collected data.
5. Distribution of analytical results.

Direct investigation method:

This is the method of collecting data directly through the research object. This method is implemented in a number of forms such as face-to-face interviews, telephone interviews, answering questionnaires. Observation method is applied when the research subject is not willing to provide information, or intentionally provides inaccurate information. At this time, the researcher will have to use the senses or machines to observe the behavior and habits of the research subject in a fixed period of time. From there analyze the

results and get the data. In online survey method, with the advent of the Internet, data can be collected through surveys via email or websites. The advantage of this method is that it collects data very quickly in large numbers, which is more cost-effective than traditional collection methods.

3.3. Research process

Step 1: Identify and clarify the research problem

Step 2: Research related theories and evaluation models

Step 3: Determine the research model

Step 4: Build a scale and questionnaire for the research

Step 5: Investigate, collect and process research

Step 6: Analyze research data

Step 7: Presenting the research results

Step 8: Conclusion and recommendations, complete the research

4. Research Results and Discussion

4.1 Industry situation for other sectors of the economy:

Developing logistics services will bring huge benefits to the country's economy. For developed countries like the US and Japan, logistics contributes about 10% of GDP. For less developed countries, this percentage can be higher than 30%. When the development of logistics will promote easier activities of buying and selling, exchanging goods and international transactions, Vietnam will have more opportunities to expand its production scale internationally, bringing more benefits to Vietnam large profits, promote economic development.

The source of competitiveness of Vietnam's logistics industry is still quite limited. Both hardware and software infrastructure as well as management technology and policy environment, although improved over the years, still need to be further strengthened to keep up with the development level of the developing countries partner countries and regional competitors.

Due to rapid development, the human resource of this industry is both lacking and of low quality. This difficulty is increasingly multiplied when Vietnam joins the ASEAN Economic Community and joins new-generation free trade agreements. In the coming years, the demand for skilled labor in the logistics service industry is expected to grow significantly. Currently, the supply of skilled labor for the industry only meets about 40% of the industry's actual demand.

Considering the export part: most Vietnamese enterprises are exporting in the form of FOB, FCA. Therefore, importers often appoint a logistics company in their country to provide services. Competition for Vietnamese enterprises is very low. In terms of imports, the prospect of the logistics industry for Vietnamese businesses is great because our country is a deficit-importing country. However, at present, large enterprises are dominating the market a lot, small businesses have not had a foothold in the market. This is the reality of logistics in Vietnam that needs to be improved.

4.2 Impact of Covid-19

The Covid-19 pandemic, which broke out at the end of January 2020, has caused heavy economic, cultural, social and human losses worldwide. The pandemic has put heavy pressure on global production capacity and supply chains, and it has also opened up new avenues for the logistics industry to develop. Therefore, to maintain the operation of logistics service enterprises in the context of being affected

by the current pandemic, it is necessary to have an assessment of the impact of the Covid-19 pandemic on logistics service enterprises, on that basis it is necessary to solve the problem. Synchronous measures from the government and logistics service enterprises themselves to promote the application of information technology, e-commerce, effectively exploit e-logistics operating methods to gradually overcome difficult. During the recent anti-epidemic period, logistics has shown itself to be an important service industry of the economy. The logistics service industry has actively participated in joint activities such as supporting enterprises to export agricultural and seafood products to the Chinese market, warehousing businesses have actively reduced the rental price of cold storage by 10-20%; actively participate in transporting goods to the domestic market in addition to serving import and export, especially goods for production and consumption during the time of social distancing.

The pandemic is a catalyst to accelerate the process of digital transformation and application of information technology in the logistics service industry, in the context of the industrial revolution 4.0. Therefore, enterprises providing logistics services in Vietnam are actively digital transformation to change stagnation, create breakthroughs to improve competitiveness, reduce logistics costs; strengthen e-commerce, online trading floor, and online payment. The Government needs to clearly identify opportunities and challenges in 2021 and the following years with different scenarios, in order to set out specific requirements for the logistics service industry with the goal of reducing logistics costs to reduce logistics costs improve the efficiency and competitiveness of goods and the economy, by synchronously implementing solutions.

4.3 Application of ICT

One of the great advantages that we must mention when applying information technology is to help businesses reduce costs during the production and distribution of products. Thanks to the application of information technology, businesses can reduce a number of costs, such as:

Transportation costs

The cost of human resources, improve labor productivity

Make the most of available resources, avoid wasting raw materials, thereby reducing raw material costs.

The automation, putting machinery and information technology into operation instead of manual operation, using human power will help save costs. Besides, the process of negotiating and exchanging information between sellers and buyers through information technology is also more effective.

Today's businesses put to use data storage software. These software help businesses easily make statistics, analyze operations, make forecasts based on previously stored data. The benefit of this application helps businesses avoid waste and loss that can occur due to the manual archiving process. The application of information technology in Logistics also supports businesses to make reasonable plans, make the most of available resources and avoid redundancies. Warehousing, shipping, and order tracking costs also work well.

Applying information technology in the logistics industry also helps companies synchronize information. From there, well manage information and data related to the transportation process, source of goods, orders. Enterprises can quickly handle incidents and risks that may occur during operation.

Businesses that apply online-selling apps to solve problems in covid-19 are very effective, applying 4.0 technology to logistics and supply chains, helping the industry to be unrestricted in creating competition in Covid-19.

5. Conclusions and Recommendations

5.1 Conclusion

Vietnam's economy suffered significant damage, but after Covid-19 it gradually recovered. Promulgating many guidelines, policies and solutions with a total of measures, mainly of short-term nature, to cope with the epidemic. In general, the promulgated policies have a combination of fiscal policy, monetary policy and other policies to support the industry or social security, which includes a group of short-term solutions, mechanisms and policies in a number of specific industries and fields, a group of fundamental and long-term solutions to remove difficulties for economic growth and support people and businesses. Post-Covid-19 is disrupting the way the global supply chain operates, making it difficult for businesses to model and assess risks. Clearly, supply chains across every country, including Vietnam, and across all economic sectors are severely affected. The supply chain of the future will not only revolve around efficiency and cost management but will be based on the security and adaptability of that supply chain. Especially when the Covid-19 epidemic has complicated developments, the logistics industry has promoted its capacity in ensuring smooth delivery, warehousing and goods circulation. This is evident in the supply of goods, food and medical equipment in the context of social distancing, as well as in e-commerce activities. The current logistics service industry not only develops and meets the international movement of goods, but also plays an important role in ensuring the circulation of domestic goods. When the outbreak of the Covid-19 epidemic led to a change in consumers' shopping habits from direct to online, the development of e-commerce has promoted the development of logistics services serving this field follow. Many domestic delivery businesses have quickly adapted, taken advantage of this opportunity and increased profits.

5.2 Suggestions and recommendations

With undeniable benefits, surely businesses operating in the field of Logistics want to apply modern information technology to their businesses. The automation, putting machinery and information technology into operation instead of manual operation, using human power will help save costs. Besides, the process of negotiating and exchanging information between sellers and buyers through information technology is also more effective. Development of logistics services, opportunities to expand the development of the logistics service market in Vietnam, connect logistics service businesses with partners who are corporations and businesses on the demand for using logistics products and services. Simultaneously, digital transformation in the field of logistics and supply chains in Vietnam, creating opportunities for businesses to join the supply chain, provide payment solutions, logistics solutions, and new models with specific characteristics in Vietnam. If we apply technology solutions to support transportation, solutions that help connect parties such as shippers, vehicle owners, drivers, distributors and other stakeholders in the supply chain, then can completely create better effects in the midst of a pandemic like today. Although the speed of industrialization of the industry is up

to 40% per year, to be able to take advantage of the latest scientific and technical advances, the "human factor", which is the technology operation team, must still be put on top of the list. The ideas revolve around the use of energy, clean fuel for transport vehicles, solutions that both protect the environment and save costs for businesses.

5.3 Solutions to minimize consequences and find competitive advantages in the covid-19 pandemic of logistics industry and supply chain

Firstly: The logistics service industry has actively participated in joint activities such as supporting enterprises to export agricultural and seafood products to the Chinese market, warehousing businesses have actively reduced 10-20% cold storage rental rates; actively participate in transporting goods to the domestic market in addition to serving import and export, especially goods for production and consumption during the time of social distancing.

Second: 30% reduction of income tax in 2020 for businesses with a revenue of less than VND 200 billion. Businesses will benefit from this decision in addition to other support measures of the Government, contributing to solving a part of difficulties for logistics service businesses in production and business, reviewing taxes and fees, there are solutions to help reduce transportation costs.

Third: Commercial banks need to freeze debts, delay debts, reduce lending interest rates, expand lending limits, and restructure loans for businesses in areas strongly affected by the Covid-19 epidemic. Actively seek and associate with reputable international enterprises to jointly develop and improve the quality of logistics services.

Fourth: Vietnam's logistics service providers are actively digital transformation to change stagnation, create breakthroughs to improve competitiveness, reduce logistics costs, and strengthen e-commerce trading floors, payment online. The Government needs to clearly identify opportunities and challenges in 2021 and the following years with different scenarios, in order to set out specific requirements for the logistics service industry with the goal of reducing logistics costs to reduce logistics costs, improve the efficiency and competitiveness of goods and the economy, by synchronously implementing solutions.

Fifth: The increased application of technology with the advancements of the fourth industrial revolution is expected by most businesses to change the logistics industry the most with top benefits such as increased labor productivity, cut costs, improve business strategies, improve the efficiency of logistics tracking and product lifecycle management, and strengthen the operating system, apply technology solutions that bring efficiency to the logistics services and significantly reduce associated costs.

Sixth: Cut employee wages and/or hours; cut unnecessary costs, negotiate payment terms for input costs and other costs, and narrow the scale of production and business.

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