Covid-19 and ISO9001 practices in air cargo transportation: A case study

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ABSTRACT

Air cargo transportation in international trade stands out with its speed, reliability, safety, interaction with other transportation types, intensive use of information technologies and global standards. During the Covid-19 pandemic, various negativities have emerged in air cargo transportation, as in many sectors. In this study, the difficulties caused by the Covid-19 pandemic in air cargo transportation business processes are evaluated within the scope of the ISO9001 Quality Management System standard so that they do not adversely affect the service quality. In this context, a case study was conducted on the implementation of the ISO 9001 Quality Management System standard in dealing with the difficulties arising from the pandemic in the cargo operations of an air transportation company. As a result of the implementation, the cargo ecosystem has been expanded, the carrying capacity has been increased, and the storage and cargo transportation efficiency has been increased by making use of information and communication technologies. Thus, it was easier to overcome the difficulties arising from the pandemic in the business processes of the company, and it was seen that sustainability in line with commercial expectations was ensured by rising to the fifth place in world air cargo transportation in 2020.

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Introduction

The air transportation sector is one of the sectors that have been adversely affected by the Covid-19 process. The main reason of this, is the decisions to stop flights due to the measures taken by the countries against the spread of the virus (Sen & Bütün, 2021: 107). This situation caused a decrease in revenues in international air passenger and cargo transportation activities (Akça, 2020: 46). Aviation industry reports indicate that the loss of revenue is over \$84 billion globally and international flights have decreased by 80% (Dondurucu & Çetinkaya, 2020: 328).

In Turkey, international flights were suspended as of March 27, 2020, and domestic flights as of April 3, 2020, due to the impact of Covid-19, and approximately 80% of the aircraft operating in the civil aviation sector, registered with the Turkish registration, landed (Sen & Bütün, 2021: 116). Total air cargo traffic in Turkey in 2020 decreased by 10.10% compared to 2019 and amounted to 1,368,577 tons. However, there was no decrease as much as passenger traffic. (DHMIGM, 2021: 21). The most important reason for this is the continuation of cargo transportation between countries during the period when flights are suspensioned (DHMIGM, 2021: 14). In this process, air cargo transportation has played a major role in the rapid delivery of essential goods, medicines, medical equipment, materials and foodstuffs (Sen, 2020).

There are various studies in the literature on the effects of the Covid-19 process on aviation industry. Macit & Macit (2020), examined the situation of the aviation industry affected by the Covid-19 pandemic and the measures taken in the Turkish civil aviation industry, and evaluated the precautionary methods applied in air transportation companies and airports. Karakavuz (2020), evaluated the strengths and weaknesses, threats, and opportunities of airline companies in Turkey during the pandemic process. Accordingly, he

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stated that threats and opportunities are common to all airline companies, but that the strengths and weaknesses are different from each other, and that companies should make an assessment by considering these strengths and weaknesses in their strategic decisions. In the study conducted by Kurt (2020), it is stated that the measures taken for passengers in air transportation against Covid-19 will positively affect the reliability and image of the company, and the measures taken for the personnel will motivate them and contribute to their productivity. Bakırcı (2020), in his study evaluating the period between January and August 2019-2020, states that the effect of Covid-19 in Turkey has led to a statistical decrease in flights, economic losses in the sector, and new regulations such as layoffs, unpaid leave and reductions in wages. Çalış et al. (2021), in their studies, evaluates that global passenger transportation revenues have started to decrease since 2019, and that the decrease in revenue will accelerate from the beginning of 2020, as the effect of the pandemic increases. They state that there is a decrease of up to 50% in passenger transportation revenues compared to 2019, while there is no significant decrease in global cargo revenues. Sucu (2021), in his study, evaluated the strategies developed to cope with the negative effects of the Covid-19 pandemic in the aviation industry in general, and in Turkey in particular, within the framework of crisis management, and their effects. In a study conducted by Saban & Trabzon (2021), on a company operating in the aviation industry in Turkey, it is stated that cargo and postal items are not adversely affected by the process. Yıldız et al. (2021), conducted a study to measure the success of civil aviation companies in quality management in the Covid-19 period from the perspective of customers and to reveal how they are perceived.

Quality management systems are implemented for air transportation companies to be affected by the adverse conditions at the lowest level and to maintain their existence. Thus, the adaptation of existing business processes to new conditions and, if possible, opportunities that may arise from adverse conditions are evaluated. The main institution that determines the quality standards in the aviation industry is the International Civil Aviation Organization (ICAO), of which the states are members. ICAO states that the quality system to be created must first be in compliance with the quality standards ISO 9000. The structure, operation, and applications of the quality management systems of institutions operating in the aviation sector in Turkey are provided by the instructions determined by the Directorate General of Civil Aviation (SHGM) by adhering to the rules of ICAO (Göv, 2018: 397-398). Companies prepare their own quality processes in accordance with these rules and instructions. All the problems and crises experienced in the aviation industry in the past have been resolved by companies developing different business models and plans in line with the industry's standards (Tasdemir & Aydın, 2021: 177). The Covid-19 outbreak has caused a change in the obligations of air transportation companies to ensure standards in their operations, and for this, companies have taken the necessary measures with their new regulations (Naboush & Alnimer, 2020: 8).

Although there are studies on the effects of the Covid-19 process on air transportation in the literature, no study has been found that deals with the issue in terms of the quality management systems implemented by air transport companies in their business processes. The aim of this study is to evaluate the effect of the ISO 9001 Quality Management System standard practices applied in the cargo operations of an air transportation company during the Covid-19 pandemic on the success of business processes. In this context, first of all, the development of air cargo transportation, the ISO 9001 Quality Management System standard and the purpose of its use in the aviation sector are mentioned. Then, an airline company's cargo transportation activities were analyzed under the guidance of the ISO9001 Quality Management System standard during the Covid-19 process, quality process planning was made, and the process improvement operations were implemented and their effects were evaluated.

Literature Review

Theoretical and Conceptual Background

Air Cargo Transportation and Conception of ISO9001 Quality Standard

Development of air cargo transportation

The first cargo transportation activities by air were carried out in the United States of America (USA) in 1910. In this period, Glenn Curtiss, who is considered the founder of the US aircraft industry, transported mail bags to 240 km by air in 2.5 hours. The American company named Wright Company transferred the materials of the fabric shop on the passenger seat to a distance of 105 km from Dayton, Ohio, to the city of Columbus (Akoglu & Fidan, 2020: 33). Nowadays, air cargo transportation is generally used for the fast and safe transportation of live animals, perishable, valuable and urgent cargoes, which have a commercial value as long as they are kept up to date (Çancı & Erdal, 2009: 10). In addition, general cargoes move from the point where the raw material is supplied to the production centers and from there to the markets. (Sekkeli, 2020: 103).

Cargo planes and passenger planes are used together in air cargo transportation. The types of cargo carried in the aircraft are divided into three main headings as general cargo, special cargo and dangerous goods (SHGM, 2021). General cargoes are all kinds of cargo contents that do not require special packaging and handling. Special cargoes are cargoes that are subject to special rules for transportation such as perishable food products and live animals and must be transported under special sections and conditions (Derici et al., 2015: 72). Hazardous materials are toxic, explosive, flammable, radioactive and chemical-containing substances that have dangerous contents that are harmful to human health and the environment. (Küçük & Çoskuner, 2014).

When the volume of air cargo transportation is examined, it is seen that it generally changes depending on the world trade volume. While it had a narrow service area in the 1940s and 1950s, double-digit growth figures were reached in the sector with the growth in

international trade in the 1960s. With the technical developments in the 1970s, both costs were reduced, and new players began to appear in the market in the field of aircraft production and cargo transportation. The use of automation in cargo services in the 1980s significantly reduced loading and unloading costs compared to before. The developments in world trade in the 1990s increased the volume of transportation even more (Yalçinkaya, 2019: 6-7). Since 2000, Middle East-based carriers have started to increase their share in cargo traffic by taking advantage of their geographical location at the crossroads between Africa, the Asia-Pacific region and Europe and rapidly increasing their fleet of wide-body passenger and cargo aircraft. The intra-European air cargo market was almost stagnant from 1999 to 2009, growing by about 5% per year after 2009. In 2010, there was a strong increase in productivity as demand grew faster than capacity. However, below-average economic and trade growth, followed by lower oil prices in late 2014, again put downward pressure on yields. While demand increased in 2017 and the first half of 2018, the weakening of the manufacturing sector and rising trade tariffs caused yields to weaken in the second half of 2018 through 2019 (Boeing, 2020: 19-20). Nowadays, air cargo transportation is carried out in the shadow of the Covid-19 pandemic. Therefore, according to World Air Transport Statistics Plus Edition 2021, the world air cargo load factor was 53.8% (IATA, 2021: 3).

Air cargo transportation in Turkey started as military equipment transportation with the establishment of the first airport in 1912. However, on February 3, 1933, for the first time in the history of civil aviation, some cargo was started to be carried along with passenger transportation. The airline industry has undergone a significant development since the second half of the 1980s. In this period, Turkish Airlines (THY) modernized and improved service standards, as well as significant increases in the number and fleet capacities of private sector airlines (Batur, 2008). Nowadays, in the air cargo transportation sector, Turkey is shown as one of the top 20 countries in the world. In 2019, a total of 4,090,168 tons of cargo was transported, of which 833,768 tons were transported on domestic lines and 3,256,399 tons were carried on international lines. By 2020, a total of 2,490,521 tons of cargo was transported, of which 500,551 tons were transported on domestic lines and 1,989,970 tons on international lines. According to statistics, the cargo volume in Turkey has contracted by 39.1% in 2020 (DHMİGM, 2021: 20).

ISO9001 Quality management system standard

Quality management is the principles applied to achieve organizational goals for continuous improvement and to align an organization's management process with quality (Barros et al., 2014: 2). The quality management system is the establishment and maintenance of procedures for the identification, collection, indexing, filing, storage, preservation and, where necessary, destruction of documentation and records (Sipahi & Enginoglu, 2013: 297). It is designed, implemented, audited, and reviewed to ensure continuous improvement (Oakland, 2014: 35) and improving the functioning of key areas in the organization (Zimon, 2016: 62).

The International Organization for Standardization (ISO) is an independent non-governmental organization established to share knowledge, support innovation, provide solutions to global challenges and develop international standards (Saha, 2011: 1). First, in 1946, delegates from 25 countries met at the Institute of Civil Engineers in London and decided to create a new international organization to facilitate international coordination and unification of industry standards. Today, 163 national standards organizations are members and have published 21,780 International Standards and documents covering every sector of production (Theofilos & Evangelia, 2020: 2).

The ISO9001 Quality Management System Standard is included in the ISO9000 family of standards. The ISO 9000 family of standards was first published in 1987. Its purpose is to show the way to be followed in order to establish a quality management system rather than the quality of products and services, and to evaluate the established quality systems. (Ilkay & Varinli, 2005: 2). It is the most common quality standard and consists of ISO 9000, ISO 9001, ISO 9002, ISO 9004. The main management standard is the ISO 9001 Quality Management System Standard. It determines the Quality Management System conditions at many points from the organizational structure of the organization to the level of customer satisfaction and from the analysis of all data collected to the effective management of processes, from internal audit to product design, from purchasing to sales, and it is also seen as a control mechanism (Tricker, 2016: 38). ISO 9001 was published in 1987, 1994, 2000, 2008 and most recently in 2015. The current version is ISO 9001:2015 (Karakas & Savas, 2019: 3518).

Other standards in the ISO 9000 family are geared towards enabling the use of ISO 9001. In this context, the ISO 9000 Quality Management System standard includes basic principles, terms, and definitions. It explains the basic principles of the infrastructure and quality management system to implement the ISO 9001 Quality Management System Standard. The ISO 9002 Quality Management System Implementation Guide is a guide and describes the implementation of the ISO 9001 Quality Management System Standard. ISO 9004 Quality Management System is a standard that guides the quality of an organization to achieve sustainable success (TSE, 2015: 4; Tricker, 2016: 40; Kutlu & Duran, 2015: 5).

With the ISO 9001 Quality Management System in the aviation sector, aviation companies are committed to keeping customer satisfaction at the highest level while providing safe and secure flight operations in the passenger and cargo transportation processes they carry out (Göv, 2018: 209). Companies operating in the aviation sector are obliged to comply with national and international regulations, laws, and other conditions, thus it is aimed to continuously improve the system. In this regard, quality policies are formed in line with the strategic goals of the companies.

Case Study Process

Qualitative research is the study that uses qualitative data collection methods to understand and explain perceptions and events in their natural environment (Yıldırım & Simsek 2008: 39). It involves interpreting the meaning, value, experiences, ideas, and behaviors of the research topic for other people by the researcher (Jaye, 2002: 560). The main methods used in qualitative research are interview, observation, archive research, stakeholder analysis, focus group and case study (Saruhan & Özdemirci, 2016: 333). In this study, the case study method, which is one of the research techniques used in social sciences, was used. (Taghisoylu, 2020: 1162). It is a method in which a single situation or event is examined in depth, data is collected systematically and what happens in the real environment (Subaşı & Okumus, 2017: 420). Flyvbjerg (2011), in his study, state that instead of generalizing in case analysis, what is best understood from the situation should be studied. In the case study, it is a frequently discussed topic to examine what the institutions that have undergone a critical change experienced in this process, how they were affected by which dimensions and the stages of the process (Saruhan & Özdemirci, 2016: 365). In this context, it is used to define and see the details that make up a situation, to develop and evaluate possible explanations for a situation (Yılmaz, 2014: 264).

The aim of this study with a case study is to make quality analyzes in air cargo transportation activities carried out under the guidance of ISO9001 Quality Management System standard during the Covid-19 pandemic in an airline company registered in the Turkish Trade Registry, which has been in existence for more than 80 years in the aviation sector, to plan the quality processes of cargo transportation, and to put the plans into practice, and thus the evaluation of process improvement studies and their effects in terms of company in particular and air cargo transportation in general.

In the study, a literature review was conducted on the effects of the Covid 19 epidemic on the field of civil aviation, especially on-air cargo transportation. At the same time, focusing on the cargo transportation activities of the air company examined, quality studies for cargo transportation business processes were taken into account in order for the company to survive in the market conditions caused by the COVID-19 pandemic process. During the business process and quality practices, experts and chiefs were interviewed in the relevant departments. Implementation data was obtained by observing the project team and evaluating the process outputs. By comparing the situations before and after the studies, an evaluation was made in terms of the company in particular and the civil aviation sector in general.

Identifying the problem

Fishbone method, one of the creative thinking techniques, was used to determine the problem. Creative thinking techniques are a method used by resynthesizing and evaluating previous ideas in identifying the main problem and seeking a solution (Aslan, 2001: 22). The methods used are morphological synthesis, listing, synectic, six thinking hats, brainstorming, and fishbone diagram (Kaplan & Ercan, 2011: 768-769; Yazdani & Tavakkoli-Moghaddam, 2012: 651). Aderibigbe (2017), used a fishbone diagram to determine the root cause of an accident on the airport road, near the jet fuel tanks, creating the potential for a major fire disaster. Macit and Göçer (2017), demonstrated the interaction of airline company, supplier, and customer on the fishbone model in their study. Cheng et al. (2019), used the fishbone diagram to determine the factors that cause problems in air traffic management incident investigations. Ratnasari et al. (2020), used a fishbone diagram to reveal potential causes in the cause and effect of commercial flight on time performance.

After the outbreak of the COVID-19 pandemic, the company, which was the subject of the case analysis, determined the problem with the fishbone diagram as seen in Figure 1. Thus, the main problem, Covid-19, disrupting the business processes of air cargo transportation and the reasons for this were revealed.

Figure 1: Problem determination using the fishbone method

Effects of Covid-19 on air cargo operations

After the problem was determined, SWOT analysis was made and the positive and negative effects of the emerging situation on air cargo transportation were evaluated. SWOT analysis is a technique used to identify the strengths and weaknesses of the company, technique, process, or situation under investigation, and to identify opportunities and threats arising from the external environment,

providing situational analysis (Çoba & Karakaya, 2010: 347). By considering the internal and external environment, the company's strengths, weaknesses, opportunities, and threats are identified. Afterwards, the company evaluates alternative strategies depending on its goals, selects the appropriate strategy and eliminates incompatibilities with the environment (Kevser, 2019: 37). In the literature, it is seen that various SWOT analysis studies have been carried out for the aviation industry. Gökırmak (2014), in his study, examined the development of the Turkish Civil Aviation sector and THY in the last thirty years, using Porter and SWOT analyzes to reveal the current situation, problems and opportunities. Using SWOT analysis in their study, Zhu and Gong (2016), examined external factors affecting general aviation industry development in Shandong Province. Bakır et al. (2017), evaluated the strengths, weaknesses, opportunities, and threats of the Turkish civil aviation sector with a SWOT analysis based on a numerical basis. Karakavuz (2020), in his study, revealed the effects of Covid-19 on the Turkish Airlines company with SWOT analysis.

As seen in Table 1, SWOT analysis was conducted in order to determine the targets of the company, which is the subject of the case study, in air cargo transportation and to reveal the current risks and opportunities

Table 1: SWOT Analysis for Cargo Operations in the Covid-19 Pandemic Process

Strengths	Weaknesses
Different types and types of cargo carrying capacity	The cargo carried in the cargo compartment of the passenger aircraft cannot be transported due to flight cancellations.
The company's geopolitical location advantage	Financial problems experienced by the company
Employee authorization	Limited capacity for transporting specialty products
International recognition and reliability in aviation	Due to the pandemic, international measures and bans restricting the cargo operation
Higher service standards compared to other companies in the Europe and Middle East region	
Opportunities	Threats
The low number of companies carrying different types of cargo in the region where the company is located	The possibility of the pandemic to affect the health of employees both physically and psychologically.
Increasing demand for cargo with the pandemic	The risk of delay in the work process in the operation areas that need to be worked as a group due to the transition to the gradual working system
Studies on digitalization in business processes were started before the pandemic	
Converting passenger planes to cargo planes in case of need	
The ability to allocate detailed technical maintenance of aircraft whose technical maintenance was difficult due to operational intensity before the pandemic.	
Decline of fuel prices	

Quality studies are carried out in order to minimize the negative effects of the weaknesses and threats revealed as a result of the SWOT analysis on the company. The identified weaknesses and threats enable the determination of the risks in the ISO 9001 standard article 6.1. Then, according to the article 6.2 of the ISO 9001 Standard, planning is made to enable the company to carry out its processes and to identify new processes that may benefit the company, and the decisions taken depending on the planning are put into practice.

Cargo transportation quality analysis

After the SWOT analysis was made, the risks and opportunities specified in article 6.1 of the quality management systems standards were analyzed for Cargo operations as seen in Table 2. In quality management systems, it is thought that each risk can also provide an opportunity. Therefore, risks and opportunities are evaluated together. The functioning of the processes changes according to the emergence of each risk and opportunity.

Table 2: Cargo Transportation Risk and Opportunity Analysis

Current Risk	Opportunity From Risk
Decrease in passenger demand and increase in cargo transport demand	The use of passenger planes in cargo transportation and thus preventing the loss of passenger revenues
The risk of not providing the necessary environment during the transportation of special cargoes	Turning the situation into an opportunity by increasing the capacity suitable for the transportation conditions of special products such as medication and vaccines in which demand has increased
Financial problems	Increase in company revenues by increasing cargo transportation
International regulations restrict operations	Increasing the market share by taking quick action for the course of action in accordance with international regulations

Cargo transportation quality and process planning

As a result of the Covid-19 outbreak, the demand for cargo transportation for the company has increased and the characteristics of the product groups transported have changed. In operations, the share of humanitarian aid shipments and group charters increased. Accordingly, the necessity of additional applications in transportation operations has emerged and in order to maintain the service quality in cargo operations without decreasing, it was necessary to re-do the quality process planning. In this framework, planning has been made to achieve the ISO 9001 Quality Management System 6.2 Quality Targets. Quality objectives are that what is done is measurable, applicable, and aimed at increasing customer satisfaction. As a result of the evaluation made based on the risk-opportunity analysis, it was decided to change the cargo volume and capacity and it was planned to convert 50 passenger aircraft into cargo aircraft. In order to respond quickly to the customer density in cargo transportation, it is planned to increase digital customer communication channels. In addition, plans have been made to increase the carrying capacity of specialty products such as medical supplies.

Cargo transportation process improvement

Depending on the process plans made, improvement studies have been initiated in the existing business processes of the company. The cargo ecosystem has been expanded with the support of suppliers, equipment, and personnel. Passenger operations have been reduced with the exemptions granted by the national and international authorities, which are the regulators of the sector, and airplanes have been converted to carry cargo in accordance with safety and security conditions. First, cargo aircraft volume, cargo capacity and number of cargo aircraft were increased. For this purpose, in addition to the existing cargo planes, the transport areas of 50 passenger planes to be used in cargo transportation have been rearranged. As seen in Figure 2 before the pandemic, the passenger cabin is located at the top of the aircraft and the cargo is carried in the lower compartment.

Figure 2: Passenger Aircraft passenger and cargo areas

As the demand for passenger transportation decreased, as the demand for cargo transportation increased, as seen in Figure 3, primarily passenger seating areas were used for cargo transportation.

Figure 3: Cargo transport in passenger aircraft seats; *Source:* Arabian Business, 2020

Later, as seen in Figure 4, 50 passenger planes were converted into cargo planes by removing their seats. Thus, the number of cargo aircraft from 25 was increased to 75. Covid-19 vaccines produced in China have been transported to Brazil. A world-class product to be used in medicine transportation was developed and medicine were transported to destinations such as Brussels, Singapore, London, and Amsterdam. A global medicine corridor has been created between more than 400 destinations. In addition, a 1200 square meter smart warehouse system was established to meet the increasing demand in vaccine, medicine, and temperature-controlled cargo transportation. By working with the largest container suppliers, the cold chain carrying capacity was increased by 30%. In this process, the company was able to seize the opportunity to decrease fuel prices. Thus, cargo transportation costs were supported, and an advantage was gained against competitors in transportation price.

Figure 4: Passenger plane converting to cargo plane; Source: PAX International, 2020

In addition, digital customer communication channels for cargo transportation were increased during this period. Chat boxes, online reservation systems, special applications to be used via smart phones and a cargo whatsapp chat line have been developed, thus making online reservations easier 24 hours a day, 7 days a week. In addition to these, four robotic programming structures were established in 2020 to facilitate cargo handling and reservation processes. A robotic infrastructure has been established to perform the duties of A robotics is system chief, B robotics is pricing processes specialist, C robotics is mail operations specialist and D robotics is reservations specialist.

As seen in Figure 5, at the beginning of 2015, the company ranked 22nd in worldwide cargo transportation and continued to improve its transportation volume with its investments. By 2020, the company has risen to the fifth place in the world in air cargo transportation.

Figure 5: Cargo transportation amount and percentage changes by years

It is thought that the quality planning and appropriate practices contributed to the continuation of this development during the Covid-19 pandemic process. Due to the crisis experienced after the pandemic and the urgent actions taken, the cargo department of the airline company grew rapidly, so that approximately 5% of the world's air cargo transportation was carried out by the company.

Conclusions

Quality management practices are important in ensuring success in the activities of air transportation companies. The most important reason for this is that even a possible small mistake can produce irreversible results. In this framework, companies set concrete and

measurable quality targets by creating quality policies in line with national and international standards. The operation of the quality system is structured according to the operational characteristics of the company. The first of the steps applied in the quality management process is to reveal the situations that affect the current quality level. Then, within the scope of quality objectives, planning for quality improvement and development under the current conditions is made and finally the decisions are put into practice. In addition, this process is continuous within the framework of the philosophy of continuous improvement. Göv (2018), states in her study that the issue of quality is much more important than other sectors in all aviation activities and it is based on written rules so that it is not left to chance.

In this study, the management of an airline company by arranging its business processes with the help of ISO 9001 Quality Management System during the COVID-19 pandemic was examined. Tasdemir and Aydın (2021), state that in the face of the problems experienced in the past in air transportation, solutions have been produced with different business models in accordance with quality standards. Within the scope of the study, first, fishbone analysis was carried out to determine the problem. After determining the problem, SWOT analysis of the current problem was made and the positive and negative effects of the situation on the air cargo transportation process were evaluated. Afterwards, a risk-opportunity analysis was conducted for ISO 9001 Quality Management System standards. In line with the evaluations made, the studies carried out to minimize the effects of negativities are explained. With the pandemic, there has been a change in the processes that the company currently carries out. The change in the processes has revealed the necessity of renewing the quality targets. It is considered that the improvement works, and process changes made within the company during the pandemic process are useful for the company to continue its existence. Naboush and Alnimer (2020), state in their study that Covid-19 requires changes in the processes to ensure standards in air transport operations and companies take precautions with new regulations. However, audits should be carried out at regular intervals in order to ensure continuous improvement. Thus, it will be ensured that the industry is quickly integrated into the changing conditions during and after the Covid-19 pandemic. Finally, it is thought that an important factor in the success of the company is its financial situation in terms of making the necessary arrangements and investments. Akpınar and Altundal (2020) state in their study that the pandemic caused the bankruptcy of many regional airline companies in the world and the shrinkage of global airline companies.

It is seen that the problems that may occur in the aviation industry can be prevented by the implementation of quality management systems and the review of existing processes. For this reason, it is thought that this study can be applied to other air transportation companies engaged in cargo transportation. Since this study included only one company's cargo transportation processes, future studies can compare processes of several air transportation companies in terms of ISO9001 practices. In addition, the effects of working from home conditions during pandemic on efficiency of work processes. In addition, the effects of the financial status of airline transportation companies on the sustainability of business processes during the pandemic period can also be investigated.

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