

## The Effects of Climate Conditions on Occupational Health and Safety and Employee Performance in The Logistics Sector; Comparative Example of Kars and Adıyaman Provinces

Lojistik Sektöründe İklim Şartlarının İş Sağlığı ve Güvenliği İle Çalışan Performansı Üzerine Etkileri; Kars ve Adıyaman İlleri Karşılaştırmalı Örneği

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### ABSTRACT

Occupational health and safety is an inevitable fact to increase the knowledge of information activities in order to ensure that all employees working with the knowledge of a healthy and safe working environment have information. In this work we have done, studies have been made specifically for the sector, and the provinces of Kars and Adıyaman are targeted. Detailed information has been given about the occupational health and preparations required to be guided before they are completed in a way that will be designed, with regard to being directed from the target in the design to be determined as final in the design, and detailed information about their guidance from their intended performance in general with the completion to be completed. examination has been made. As a result, in order to obtain a result, settings related to the jobs that can be adjusted according to the climate in terms of appearance have been tried to be made and these background settings will be used because they will benefit.

**Keywords:** Occupational Health and Safety, Logistics Industry, Climate Conditions, Employee Performance

### ÖZ

İş sağlığı ve güvenliği, sağlıklı ve güvenli bir çalışma ortamının oluşturulmasıyla beraber tüm çalışanların kendilerini güvende hissetmelerini sağlamak amacıyla gerçekleştirilen faaliyetler sonucunda çalışan performansını da arttırdığı kaçınılmaz bir gerçektir. Yaptığımız bu çalışmada özel olarak lojistik sektörüne yönelik incelemeler yapılmış, Kars ve Adıyaman illeri araştırma sahası olarak seçilmiştir. Çalışmamızda lojistik sektörde çalışanların iklim koşullarına bağlı olarak ortaya çıkabilecek etkilerin neler olduğunun ortaya konulmasıyla birlikte çalışanların iklim koşullarından olumsuz yönde etkilenmemeleri adına alınması gereken iş sağlığı ve güvenliği önlemleri hakkında detaylı bilgi verilmiş, bununla beraber iklim koşullarının lojistik sektörde faaliyet gösteren çalışanların performansları üzerindeki etkilerine yönelik detaylı bir incelenme yapılmıştır. Sonuç olarak ise lojistik sektörü çalışanlarında iklim koşullarına bağlı olarak ortaya çıkan sorunlarla başa çıkabilmek adına alınması gereken önlemler belirtmeye çalışılmış ve bu önlemlerin alınması sonucunda ise çalışan performanslarının artacağı belirlenmiştir.

**Anahtar Kelimeler:** İş Sağlığı ve Güvenliği, Lojistik Sektörü, İklim Koşulları, Çalışan Performansı

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## INTRODUCTION

Occupational health and safety, in order to protect the right to life, which is the most basic right of the employees, who perform all activities in the enterprises, to ensure occupational safety in the areas where the employees work, to prevent all kinds of work accidents and possible occupational diseases that may arise, and to all the risks and risks that exist in the environment where the work is carried out. It is a science that aims to take precautions against hazards and to fulfill all the necessary conditions in this regard.

Occupational health and safety, with the start of the industrial revolution, has emerged as an important problem that causes work accidents and occupational diseases in business life. Occupational health and safety, which has a very important place in terms of all individuals working in all branches of activity, employers, social and human resources management. Occupational health and safety also has a very important place on the productivity of employees and the ability to continue their lives in a healthy way.<sup>1</sup>

Occupational health and safety is a very important issue for employees and employers. At the same time, it is a very important issue for all stakeholders of the society in terms of economy, which is closely related to the whole society. In order to solve all existing problems related to occupational health and safety; It is necessary to establish an occupational health and safety policy that covers everyone in the national sense with the participation of the state, employers, employees, universities, non-governmental organizations, professional chambers and relevant organizations of all stakeholders. This policy must be accepted and implemented by all stakeholders.<sup>2</sup>

Steps taken and measures taken to ensure occupational health and safety employees It is also very important from a spiritual point of view. In occupational health and safety, which has a very important place for employees, the employer is responsible for implementing all the necessary measures to

protect the health and safety of the employees. This responsibility plays an important role both in ensuring that the employer fulfills its social responsibility and in increasing the productivity of the employees.

The World Health Organization (WHO) defines an accident as an "unexpected and unplanned event". Sudden, unexpected and unplanned occurrence of accidents can cause undesirable situations that may result in injury or death for employees. However, it is an inevitable fact that accidents will result in material damage.<sup>3</sup>

There are many definitions of occupational accidents in the literature. One of these definitions was made by Ceylan (2011); "All unplanned events that endanger the health and safety of workers as a result of unsafe actions and situations in the workplace, often causing injury or death to workers." defined as. The most important point in the definition made is that the accident is a sudden, unexpected and unplanned event.

In the occupational health and safety law numbered 6331, occupational accident is defined as follows; It is stated as "the events that occur in the workplace or occur during the execution of the work, cause the death of the employees or make the physical integrity of the employees mentally and physically disabled".<sup>4</sup>

In this study we have done, the boundaries of which event will be considered as a work accident are determined in the job definition in the Law No. 5510, which regulates the rights of employees within the scope of social insurance.

Cases considered work accident according to the first paragraph of the 13th article of the Law No. 5510;

- a) While the insured is at work,

b) If the insured works independently on his own behalf and account due to the work carried out by the employer,

c) In the times when the insured employee at the workplace is sent to another place outside the workplace as an official,

d) In the times allocated to breast-feeding her child in accordance with the labor legislation of the lactating female insurance holder within the scope of subparagraph (a) of the first paragraph of Article 4 of this Law,

e) It is an event that occurs during the insured's travel to and from the place where the work is done with the workplace service and renders the insured immediately or later physically or mentally disabled.<sup>5</sup>

As stated above, in this definition, it is stated in which situations and situations that events in the workplace can be considered as work accidents.

Another important issue in occupational health and safety is occupational disease. As the name suggests, it is a health problem that occurs after long-term work in the professions of all employees working in the workplace.

Occupational diseases are different from occupational accidents, and they cause the health of the employees who perform all the work in the enterprise to deteriorate due to their long-term work. The fact that the employees always do the same work for long periods of time has brought along monotony. Due to the monotony, very high levels of stress have emerged in the employees, which has led to the development of mental illnesses in the employees.<sup>6</sup>

In the definition of occupational disease made in the Occupational Health and Safety Law No. 6331, it is defined as "diseases that occur in employees as a result of continuous exposure to occupational risks in the work done". It has been seen that there is a certain causal link in the emergence of the problem in the health of the workers as a result of the work or occupations performed differently than the occupational accidents experienced.

However, another difference between occupational diseases and work accidents is that the work performed at the workplace occurs after a certain period of time. In other words, it can be defined as the mental and physical health problems that occur after continuing the work for a certain period of time for the emergence of occupational diseases.

The existence of an unsafe working environment in the majority of occupational accidents is due to the fact that the employees are not adequately informed about occupational health and safety, and the necessary inspections are not carried out in place and frequently. It is obvious that it is an unavoidable fact that the employer, the state and the employee bear the great responsibility that we deal with the occurrence of occupational accidents from this point of view. As a matter of fact, in Article 4 of the Occupational Health and Safety Law No. 6331, it is stated in general about the obligations that the employer must fulfill.

When the occupational accidents and occupational diseases are examined in detail;

- Factors in the environment in which employees operate (ventilation, temperature, etc.),
- Arrangement of the working environment and hygiene conditions,
- Wastes resulting from production activities,
- Personal characteristics of the employees,
- Ergonomic conditions in the working environment,
- The posture of the employees while they are doing their jobs (posture),
- The ability of employees to adapt to the machines they work with,
- Informing them by providing adequate training about the work carried out by the employees and about the health and safety of the workers.

- The working system applied in the workplace,

- Not using personal protective equipment suitable for the work done during the activities of the employees at the workplace, can be listed as the most important causes of occupational accidents and occupational diseases.<sup>7</sup>

There are many reasons for occupational accidents in all sectors operating throughout the country. When the work accident data are examined, the construction sector, where the risky working environment is very high, comes first. The construction sector is followed by the agriculture and transportation sectors.

In the study, it is aimed to examine the effects of climatic conditions on occupational health and safety and employee performance. When we examine the data on work accidents and occupational diseases in our country, the transportation sector has come to the forefront as one of the professions with the highest rate of work accidents with a rate of 15%. One of the most important business lines in transportation activities is the Logistics sector. As a result of a detailed literature review, we observed that the studies generally focused on the construction sector. We decided that the studies on the logistics sector were insufficient and determined the field of study as the logistics sector.

## LİTERATURE REVIEW

Employees are directly affected by climatic conditions. climatic conditions affect the performance of employees physiologically and psychologically. High or low ambient temperature in the working environment, depending on both the work performed and the current climatic conditions, causes heat stress in the employees. In this case, it directly affects the productivity of the employees in the work done. All employees working in high or low temperature environments experience distraction and perception disorder. As a result of this situation, it has been stated in many studies that it causes an increase in the number of occupational accidents.

### **Effects of Climate Conditions on Occupational Health and Safety and Employee Performance**

The climatic conditions in the working environment affect the performance of all employees operating in this environment with physiological and psychological aspects. The fact that the temperature in the working environment is high or low brings along heat stress, which directly affects the productivity of the employees in the work done. All employees working in high or low temperature environments experience

distraction and perception disorder. As a result of this situation, it has been stated in many studies that it causes an increase in the number of occupational accidents.

In particular, the majority of the work done in the logistics sector, which we have determined as the working area, is directly affected by the climatic conditions. Therefore, the effects of climatic conditions on employee health are greater in the logistics sector than in other business lines. In this study, it will be tried to reveal the effects of heat stresses that develop depending on the climatic conditions in the environments where logistics activities are carried out. In the logistics sector, the effects of climatic conditions on the employees and their effects on the performance and health of the employees will be examined with examples. And as a result, recommendations will be made to prevent work accidents that may occur due to climatic conditions.

In order for the human body to perform its functions, the body must remain in a constant temperature balance. The most important task of the human body is to keep the required temperature constant for the internal organs and central nervous system at varying temperature values depending on climatic

conditions. In order for the human body to perform its functions, the body must remain in a constant temperature balance. Body temperature should generally be 36.5 °C. In cold weather, food is burned with oxygen to keep the body temperature balanced, and in hot weather it uses the sweating function to keep the body temperature in balance.<sup>8</sup>

The air temperatures in the working environment are Sitting down jobs 19°C, Heavy physical jobs 12°C, Offices 19°C, In standing jobs 18°C, Heavy duty standing 15-16°C keeping the work areas at the required temperature in line with these temperatures is very important both in terms of occupational health and safety and in terms of employee performance. The temperature of the working environment is a factor that is very effective on the employee. The fact that the ambient temperatures are below or above the temperatures determined in Table 1 affects the focus of the employees on their work. In this case, it will cause distraction and distraction in the employees. This distraction, which develops due to the temperature values in the employees, causes occupational accidents. This distraction, which occurs due to the temperature values in the environment, causes occupational accidents and a decrease in performance.

Heat stress develops in employees due to high and low temperature conditions in the working environment. Employees who are exposed to high temperatures during work also experience water loss due to sweating due to high temperature. and this is a condition that causes the salt balance of the metabolism to deteriorate. Situations like this, which develop due to climatic conditions, cause deterioration of the relations of the employees with their work and the deterioration of coordination with other employees.<sup>9</sup>

We can list the clinical conditions caused by high temperature in the working environment as follows:

- Simple Temperature Rash
- Temperature Cramps
- Heat Fatigue-Exhaustion

- Heatstroke

The clinical conditions caused by low levels of cold in the working environment can be listed as follows:

- Hypodermia
- Cold Bite
- Cold Redness and Swelling
- Respiratory Diseases

Employees must use protective equipment to prevent heat losses in extreme heat conditions. In particular, the hands, feet and face are more affected by heat stress than other limbs. It is necessary to ensure the protection of these limbs, which are more affected by heat stresses. Depending on the climatic conditions, extreme cold and icing conditions occur. Despite all the negativities that may be experienced in the areas where logistics activities are carried out, it is essential to use personal equipment suitable for the working areas. In addition, taking measures to eliminate all risks in the work area has an important place in the prevention of occupational accidents that may occur.<sup>10</sup>

As a result of a comprehensive literature review, it has been seen that the effects of climatic conditions on occupational health and safety and employee performance have been the subject of many studies, both at home and abroad.

Srinavin ve Mohamed (2003); In their study, they proposed a model that can reveal the productivity of workers under thermal stress. In their study, data on productivity values determined in an environment with a wide variety of climates were collected from four construction sites in the northeast of Thailand. These collected data were physically examined and they tried to model the relationship between productivity and thermal environment in construction sites, which revealed that workers can be affected in a high temperature environment and that the course of work can change.

Seeberg, Irene Levin ve Claudia Lenz (2013); In their work in 2013, they developed a new employee vest equipped with wireless

network technologies. This vest has the feature of measuring the temperature values and humidity of the environment. They have developed an application that supports employees in decision making. With these applications they have developed, they aimed to ensure the occupational safety of all individuals working in construction site conditions within a certain distance and area.

Uzun ve Müngen (2011); They briefly explained the fatigue factor in the working environment, climatic conditions, and ergonomics-related issues. They explained by making use of the legislation related to the measures to be taken in order to ensure occupational health and safety in closed areas and construction sites. While explaining the subjects, the relevant laws, statutes and regulations are also explained.

Coşkun Beyan, Alıcı, Bediz ve Çımrın (2017) ; They are defined as providing a comfortable working environment by keeping the thermal comfort at levels that will not disturb the employees in terms of temperature and humidity in the working environment. Based on this definition, the article evaluates the topics of temperature physiology, diseases related to temperature in the working environment and occupational health. They stated that the definition of thermal risks in the working environment is an important factor in the prevention of occupational diseases, work-related diseases and all occupational accidents that may occur. It revealed that there is a need for a national level guidance on the identification and control of thermal risks.

## MATERIALS AND METHODS

It is aimed to examine the effects of climatic conditions on occupational health and safety and employee performance. In the study, data on logistics companies in Kars and Adıyaman provinces were used. In the provinces of Kars and Adıyaman, information on the work accident data of the companies operating in the logistics sector in our country, the amount of work performed per month and the number of employees were obtained. In the light of the data obtained, the work accidents experienced in

the companies were examined in detail and tried to be explained. In our study, it is aimed to examine the effects of climatic conditions on employee performance with the data on the number of employees and the amount of monthly work performed in 2020. Performance evaluation was made according to the amount of work performed per person, which is obtained by dividing the amount of work performed by the number of personnel employed.

## RESULTS

In this part of our study, the information about the occupational accidents experienced in the logistics companies operating in the provinces of Kars and Adıyaman is explained in detail. The precautions taken after the accident and the things to be done in order to prevent the accidents are presented. In our study, in order to examine the effects of climatic conditions, which is another research topic, on employee performance; Performance evaluation was made according to the number of jobs performed per person, which is obtained by dividing the amount of work performed by the number of personnel employed. Necessary analyzes were made

and evaluated in order to determine the effects of climatic conditions on employee performance, together with the number of distributions per capita obtained.

### Effects of Climate Conditions on Occupational Health and Safety

The most important aim of occupational health and safety for employees and employers is to create a healthy and safe working environment. Establishing a safe working environment will maximize employee satisfaction. In this case, it will increase the performance of the employees.

As we have seen in the literature study we have done, occupational health and safety measures have a very important place in order to ensure job satisfaction among employees. It is an inevitable necessity to fulfill the occupational health and safety measures taken in order to further increase the performance of all personnel working in the workplace and to protect employee health.

There is a very important relationship between climatic conditions and occupational health and safety. Factors such as air temperatures, humidity and air currents in the environment where the employees are working affect the health of the employees. For this reason, it is essential to prevent the employees from being adversely affected by keeping the climatic conditions in the working environment at levels suitable for the nature of the work.

In the analysis we made on the logistics sector in Kars and Adıyaman provinces, occupational accidents experienced by months were determined and shown in Graph1. When the occupational accidents are examined, it is seen that the occupational accidents in Kars and Adıyaman provinces occur in connection with the climatic conditions prevailing in these two provinces.

The cold weather conditions prevailing in Kars province, especially in the winter months, and the increase in snowfalls cause frost events to occur, causing many risks. In addition, it creates many risks such as heat stress and frostbite that may develop in employees who are exposed to extreme cold. When the occupational accidents of the logistics company operating in Kars province are examined, it is seen that all of these accidents are caused by the adverse climatic conditions prevailing in the region. When the occupational accidents are examined, it has been determined that they occur as a result of falling as a result of the slippery ground with extreme cold, traffic accidents due to excessive icing, and occupational accidents due to excessive rain precipitation.

With this study we have done, we have reached results that show how right we are in all possibilities described as risk. Although three occupational accidents occurred in different years, they stand out as accidents that develop completely due to climatic conditions. After this situation, we are told that climatic conditions are very important for occupational health and safety and all the measures taken should be rearranged by taking into account the climatic conditions. The immediate implementation of all necessary additional measures for climatic conditions has emerged as an indispensable requirement for ensuring employee safety.

Climate conditions directly affect the employees and the working environment, so it should be at the top of the main factors to be considered in terms of occupational health and safety. It is a vital issue for companies operating in all branches of activity, especially in the logistics sector, to take all necessary precautions by considering climatic conditions. It is imperative that companies take the necessary steps to take into account the data on climatic conditions in all measures for occupational health and safety they implement.

### **Effects of Climate Conditions on Employee Performance**

In our study, the number of employees in 2020, the number of monthly distributions we obtained with the data on the amount of work performed on a monthly basis, and the effects of climatic conditions, which is our other research topic, on employee performance were examined.

### **Performance Measurement for a Logistics Company Operating in Kars Province**

In this study, data on logistics companies in Kars and Adıyaman provinces are used to examine the effects of climatic conditions on occupational health and safety and employee performance.

In order to examine the effects of climatic conditions, which is another research topic,

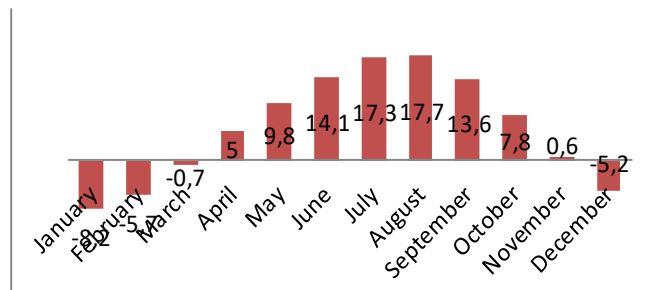
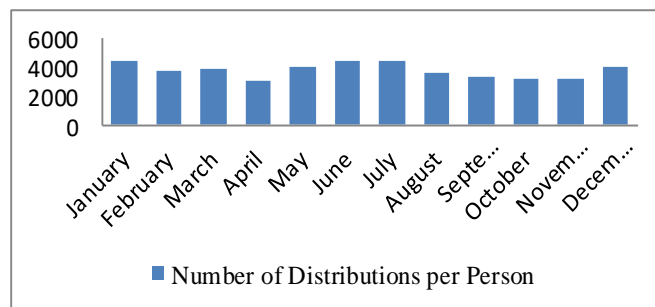
on employee performance, using the data of 2020 we obtained in our study, performance evaluation was made according to the number of jobs performed per person.

**Number of Distributions per Person = Total Pieces Distributed / Number of Employees**

**Table 1. Distribution numbers per person of the logistics company operating in Kars province.**

Months	Total Pieces Distributed	Numer of Employees	Number of Distributions per Persons
January	195.405	44	4441,02
February	135.788	36	3771,88
March	134.178	34	3946,41
April	93.734	30	3124,46
May	115.796	29	3992,96
June	139.609	31	4503,51
July	121.765	27	4509,81
Ağust	114.602	32	3581,31
September	133.160	39	3414,25
October	131.450	40	3286,25
November	132.839	42	3162,83
December	178.766	44	4062,86

Table 1 shows the number of distributions per person in 2020, belonging to the logistics company operating in Kars province. These obtained data will be arranged and graphed and compared with the graph containing the average temperature values of horses in 2020. By comparison, the effects of climatic conditions on employee performance were investigated.



**Graph 1. Monthly distribution numbers per person for 2020 of the logistics company operating in Kars province and Kars province monthly average temperature values in 2020.**

In Graph 1, per capita distribution amounts of the logistics company operating in Kars province in 2020 are given. In January and December, there was an increase in the number of cargoes due to the year-end and New Year's Eve. Therefore, an increase was observed in the number of distributions per person in these two months. In the months following these two months, the number of cargo continued in its normal course, and accordingly, the number of distribution per person reflected normal levels. In 2020, the number of distribution per person continued to increase from February to August. It is observed that it has started to decline since September. With the warming of the weather, an increase in the number of distributions per person has been observed. On the other hand, since September, when the air temperatures started to decrease, the number of distributions per capita started to decrease.

The air temperature values of Kars province in 2020 are shown in Graph 1. When these temperature values are examined, it is seen that the temperature values reflecting the seasonal normals are realized in 2020. During the winter months, the air temperatures have decreased, and with



the spring season, the temperatures have started to increase. The highest temperatures were observed in June, July and August, while the lowest temperatures were observed in November, December and January.

Graph 1, which includes the graph of the temperature values, and which includes the per capita distribution data of the logistics company operating in Kars province, were compared. When these two graphs are examined, it is seen that they follow a similar course after ignoring December and January due to the density experienced in the number of cargoes. As can be seen in the graphics, an increase is observed in the number of distributions per person in the months when the temperature values increase. It is seen that there is a decrease in the number of distributions per person in the months when the temperature values decrease. It is seen that there is a change in the performance of the employees depending on the climatic conditions and the employees are affected by the temperatures depending on the current climatic conditions. The number of distributions per person decreased in the months when the temperature levels decreased, and there was a noticeable increase in the distribution levels per capita in the months when the temperature levels increased. As can be seen from the graphics, climatic conditions emerge as an important factor affecting the performance of the employees in the logistics company that carries out logistics activities in Kars.

### Performance Measurement for Logistics Company Operating in Adıyaman Province

In this study, it will be tried to be explained by using data on logistics companies in Adıyaman in order to examine the effects of climatic conditions on occupational health and safety and employee performance.

In our study, data on the number of employees and the amount of work performed on a monthly basis for 2020 will be used. In order to examine the effects of

climatic conditions on employee performance, the number of distributions per person will be calculated. Performance evaluation will be made according to the number of distributions per person obtained.

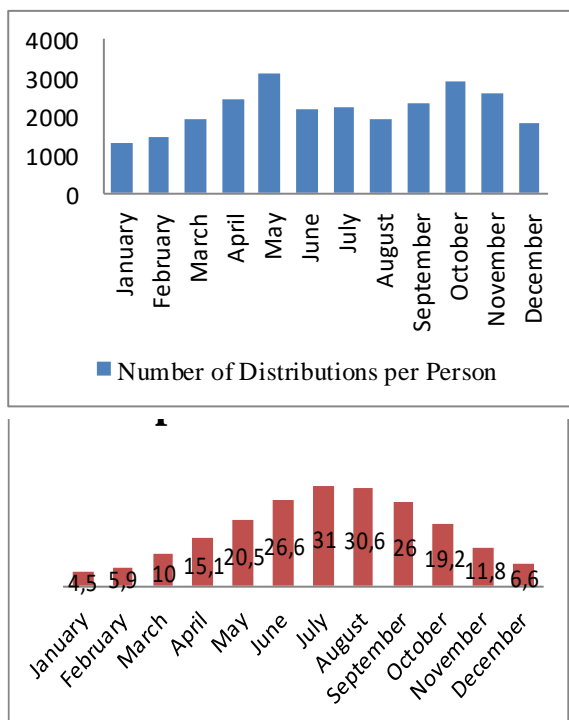
$$\text{Number of Distributions per Person} = \frac{\text{Total Pieces Distributed}}{\text{Number of Employees}}$$

Table 2. Distribution numbers per person belonging to the logistics company operating in Adıyaman province.

Months	Total Pieces Distributed	Number of Employees	Number of Distributions per Persons
January	9301	7	1328,71
February	10174	7	1453,42
March	9735	5	1947,00
April	12250	5	2450,00
May	12504	4	3126,00
June	15231	7	2175,85
July	13497	6	2249,50
Ağust	11633	6	1938,83
September	11627	5	2324,8
October	14475	5	2895,00
November	15504	6	2584,00
December	12706	7	1815,14

Table 2 shows the per capita distribution numbers of the logistics company operating in Adıyaman province in 2020. These obtained data were arranged and graphed. This graph will be compared with the graph of monthly average temperature values in 2020. By comparison, the effects of climatic

conditions on employee performance will be investigated.



**Graph 2. Monthly distribution numbers per person for 2020 of the logistics company operating in Adiyaman province and Monthly average temperature values of Adiyaman province in 2020.**

In Graph 2, the distribution amounts per person in 2020 belonging to the logistics company operating in Adiyaman province are given. There has been an increase in the number of distributions per person in the spring and autumn months of 2020. In summer and winter months, it is seen that there is a noticeable decrease in the number of distributions. The number of distributions per person started to increase as of March. Distribution numbers per capita reached the highest level in May. With the month of June, the number of distributions per person started to decline. In the summer months when the weather is extremely hot, the number of distributions per person decreased.

The temperature values of Adiyaman province in 2020 are shown in Graph 2. When these temperature values are

examined, it is seen that the temperature values reflecting the seasonal normals are experienced in 2020. In the winter months, the air temperatures have decreased and with the spring season, the temperatures have started to increase. The highest temperatures were observed in June, July and August, while the lowest temperatures were observed in December, January and February.

When Graph 2 of Adiyaman province is compared with Graph 2 of the logistics company operating in Adiyaman province, it is seen that they do not follow a similar course. As can be seen in the graphs, decreases are observed in the number of distributions per person in the months when the temperature values increase, and it is observed that the number of distributions per person starts to increase from the months when the temperature values begin to decrease. As can be seen in the graphics, the temperature values of Adiyaman province continue at very high levels, especially in the summer months, extreme temperatures are experienced. While there is a noticeable decrease in the number of distributions per person with the increase in temperatures in the summer months when the temperature is extreme, an increase is observed in the number of distributions per person in the months when the effect of the felt temperatures decreases. It is seen that there is a change in the performance of the employees depending on the climatic conditions and the employees are affected by the climatic conditions. The number of distributions per capita decreased in the months when the temperature levels increased, and there was a noticeable increase in the distribution levels per capita in the months when the temperature levels decreased. In this case, climatic conditions have emerged as an important factor that affects the performance of the employees in the logistics company that carries out logistics activities in Adiyaman.

## RESULTS AND DISCUSSION

The right to live and work is one of the most fundamental rights of all people living

in the world. In this context, in today's business life, many activities have been

implemented by the state and the employer to ensure occupational health and safety. Despite the measures taken, unfortunately, the increase in work accidents continues with each passing day. Along with many legal measures enacted by the state, employers' commitment to occupational health and safety practices that should be taken in order to protect existing employees, raising awareness of all employees in business life about occupational health and safety, and their complete compliance with all the rules in the legislation and given in the trainings prevent occupational accidents.

The most important purpose of occupational health and safety for employees and employers is to maximize employee satisfaction and performance by creating a healthy and safe working environment, ensuring that all personnel working in the enterprise feel safe. As we have seen in the literature study we have done, occupational health and safety measures have a very important place in order to ensure job satisfaction among employees. The fulfillment of occupational health and safety measures taken in order to further increase the performance of all personnel working in the workplace and to protect employee health has come to the fore as an inevitable necessity.

It comes to the forefront as a dynamic business line in which information, technology and automation factors are included and regulated together during the fulfillment of the activities in the logistics sector, and activities that require human power to complete the work done to a large extent. The perspective on occupational accidents in the logistics sector, the importance given and the implementation of the measures to be taken to reduce the work accidents that may occur, together with the reduction in labor costs, cause all personnel to feel safe in line with the measures taken and, accordingly, to provide motivation. It is obvious that with the increase of motivation in terms of employees, it will contribute to the increase of productivity and efficiency and to increase the prestige of the enterprise

both within the field of activity and throughout the country.

When the occupational accidents of the logistics company operating in Kars province are examined, it is seen that all of these accidents are caused by the adverse climatic conditions prevailing in the region. Especially with the cold weather conditions and snowfall prevailing in the winter months, it reveals many risks such as heat stress and frostbite that may develop in employees exposed to extreme cold. With the study we have done, results have been reached that show how right we are in all possibilities described as risk. In this context, all of the occupational accidents experienced were directly related to the climatic conditions. Although the 3 occupational accidents occurred in different years, they stand out as accidents that develop completely due to climatic conditions. This situation shows us that climatic conditions are in a very important place in terms of occupational health and safety. It has emerged as an important requirement to ensure employee safety by reviewing all measures taken to ensure occupational health and safety, depending on climatic conditions, and by implementing all necessary additional measures immediately. Climate conditions are among the most important factors affecting the employees and the working environment. climatic conditions should be one of the main factors to be considered in terms of occupational health and safety. Considering the climatic conditions of the enterprises operating in the logistics sector, together with all their branches of activity, taking all necessary precautions comes to the forefront as a matter of vital importance for both the personnel and the company. It is important for companies to take the necessary steps by considering the data on climatic conditions in all measures for occupational health and safety they implement, in terms of preventing work accidents and occupational diseases.

Another issue that we will focus on in our research is the effects of climatic conditions on employee performance. In this context,

data belonging to logistics companies operating in Kars and Adıyaman provinces were obtained, arranged and interpreted. In the light of the results obtained, it has been observed that the amount of work per person between two cities with different climatic conditions varies according to the climatic conditions. In the province of Kars, a decrease was observed in the number of distributions per capita due to the cold climate conditions during the winter months, while an increase was observed in the number of distributions per capita in the summer months due to the warming of the weather. In line with the occupational health and safety measures taken to the employees of the logistics company operating in Kars, the provision of clothes and personal protective equipment suitable for the work and climate conditions is in an important place in order to prevent all possible accidents and occupational diseases. In order to reflect this awareness within the enterprise and to be accepted by the employees, it should be aimed to minimize all the negativities that may be experienced by establishing both trainings and control mechanisms. Business plans should be rearranged by keeping the cold weather conditions prevailing in Kars province in the foreground, risks should be minimized by taking all necessary precautions. Along with these measures, it is ensured that the awareness of the employees is constantly kept dynamic and that the employees are less affected by the adverse climatic conditions they face in the workplace environment. It is clearly understood that the measures taken will result in an increase in productivity.

Depending on the hot weather conditions prevailing in Adıyaman province, a decrease was observed in the number of distributions per capita with the extreme heat in the summer months, while it was determined that

there was a significant increase in the number of distributions per person, especially at temperatures between 10 degrees and 20 degrees in winter months. Provision of clothing and personal protective equipment suitable for work and climatic conditions in Adıyaman has a very important place for both occupational health and safety and increasing the performance of employees. Business managers should choose clothes that will keep employees cooler in times of extreme heat, and taking all necessary measures to meet the wather needs of employees will increase the motivation of employees and this will contribute positively to employee productivity.

As a result, managers of logistics companies operating in Kars and Adıyaman provinces must prioritize climatic conditions and implement occupational health and safety measures suitable for climate conditions in order to increase employee performance. With the continuous supervision of these measures, a safe working environment will be provided in the workplace, and this will lead to an increase in the motivation of the employees. As a result, it has been revealed as an important fact that causes noticeable increases in productivity as employees will do their work more willingly and in a safer environment.

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