

An Airline Application on Burnout Syndrome in Pilots

Pilotlarda Tükenmişlik Sendromu Üzerine Bir Havayolunda Uygulama

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Abstract

In the aviation industry, which is constantly growing and where competition is intense, airline companies should not lose their customer satisfaction and competitiveness. Achieving customer satisfaction and competitive advantage is possible with employees who are physically and mentally healthy. Occupational burnout is one of the factors that negatively affect employees. Employee burnout also negatively affects the future success of the business. At this point, companies need to work on reducing the burnout levels of their employees.

The aim of this study is to measure the burnout levels of pilots, which is of critical importance for airline companies, and to evaluate them according to demographic factors. In the study, firstly the concept of burnout and literature review were included, and then the findings of the research were presented. Analyzes for the research were carried out through questionnaires obtained from pilots working in a private airline company. The Maslach Burnout Scale was used to obtain the data, and the SPSSv23 program was used for statistical analysis. In the study, it was observed that low personal achievement levels increased as the age of the participants increased. It was determined that there was no significant difference in the burnout sub-dimensions of the participants who were married and had children, and that employees with more professional experience felt unsuccessful. In addition, it has been observed that there is no relationship between work status and burnout sub-factors, but burnout problems occur depending on the type of flight and the percentage of flights on that line.

Jel Codes: L93, M12, M51, M54

Keywords: Burnout, Pilot, Cockpit Crew, Civil Aviation.

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Öz

Sürekli büyüyen ve rekabetin yoğun olarak yaşandığı havacılık sektöründe, havayolu şirketlerinin müşteri memnuniyetini ve rekabet gücünü kaybetmemesi gerekir. Müşteri memnuniyetinin ve rekabet avantajının elde edilebilmesi de bedenen ve ruhen sağlıklı olan çalışanlarla mümkündür. Mesleki tükenmişlik, işgörenleri olumsuz yönde etkileyen faktörlerden biridir. Çalışanlarda tükenmişlik, işletmenin gelecekteki başarısını da olumsuz yönde etkiler. Bu noktada şirketler, çalışanların tükenmişlik düzeylerini düşürmeye yönelik çalışmalar yapmaları gerekmektedir.

Bu çalışmanın amacı havayolu şirketleri için kritik öneme sahip olan pilotların tükenmişlik düzeylerini ölçmek ve demografik faktörlere göre değerlendirmesini yapmaktır. Çalışmada öncelikle tükenmişlik kavramına ve literatür taramasına yer verilmiş, ardından araştırmaya dair bulgular sunulmuştur. Araştırmaya yönelik analizler, özel bir havayolu şirketinde görev yapan pilotlardan elde edilen anketler üzerinden gerçekleştirilmiştir. Verilerin elde edilmesi için Maslach Tükenmişlik Ölçeğinden yararlanılmış olup istatistiksel analizinde SPSSv23 programı kullanılmıştır. Çalışmada, katılımcıların yaşı ilerledikçe düşük kişisel başarı düzeylerinin arttığı görülmüştür. Evli ve çocuk sahibi olan katılımcıların tükenmişlik alt boyutlarında anlamlı farklılık olmadığı, mesleki deneyimi fazla olan çalışanların kendilerini başarısız hissettikleri tespit edilmiştir. Ayrıca çalışma statüsü ile tükenmişlik alt faktörleri arasında bir ilişki olmadığı ancak uçuş türüne ve o hattaki uçuş yüzdelerine bağlı olarak tükenmişlik sorunlarının ortaya çıktığı görülmüştür.

Jel Kodları: L93, M12, M51, M54

Anahtar Kelimeler: Tükenmişlik, Pilot, Kokpit Ekibi, Sivil Havacılık.

1. Introduction

Today; The rapid development of technology, challenging competition conditions and continuous improvement projects have shifted the business-employee relationship to a different plane. This new business relationship shaped by goals causes individuals to develop negative thoughts towards the institution they work for. This leads to feelings of weariness, alienation from customers, and failure. Employees are happy and satisfied to the extent that they can reach their expectations in working life. Employees, not only economically; At the same time, they want to be satisfied psychologically and expect to be perceived as different from a machine.

In today's business world, one of the main factors that reduces the productivity of employees is burnout. Burnout is seen especially in professional areas that serve people and where the quality of the work is directly proportional to human factors. An individual trying to adapt to today's society is likely to experience burnout at certain rates, regardless of demographic characteristics, and this possibility is increasing rapidly. Studies show that the feeling of burnout negatively affects the individual's performance, job satisfaction, quality service delivery and job commitment (Çevik and Özbalcı, 2020).

Long and irregular flights and ever-changing flight schedules increase the likelihood of pilots suffering from burnout. Pilots, who have been separated from their families and social circles for a long time due to work, are faced with physiological disturbances and mental fatigue while

doing this job. This situation can lead to family conflicts, increase in work stress and burnout syndrome over time.

In this study, the burnout levels of pilots, who have an important place in airline companies, are examined. In this context, it is discussed whether the dimensions of emotional exhaustion, depersonalization and low personal accomplishment, which are the sub-dimensions of burnout, differ according to various demographic variables (age, marital status, child status, experience, status) and flight type. In the piloting profession, which requires intense work pace and responsibility, the burnout factor should not be ignored. Therefore, it is thought that this study will contribute to the literature.

2. The Concept of Burnout

Burnout was seen as a social problem before it was accepted as a research area. In general, although the definitions put forward by those who expressed their opinions on the concept are similar, they differ in terms of expression. As the size and diversity of research on the concept of burnout expanded, this situation led to debates on the point of revealing the concept of burnout and its function (Çapri, 2006).

The feature that distinguishes burnout from other organizational stress sources is that it arises as a result of frequent and intense interactions that employees have with the people they are dealing with due to work. Those who believe that burnout is a problem not related to the people themselves, but to the social environment in which they work, argue that the way the workplace works shapes people's values and interactions and affects how they do their jobs. As a matter of fact, the probability of burnout is higher in workplaces that ignore the human side of the job (Kaçmaz, 2005).

Maslach and Jackson (1986) discussed the concept of burnout in three sub-dimensions. These dimensions are expressed as emotional exhaustion, depersonalization and low personal achievement. In this sub-dimension of burnout, symptoms such as fatigue, loss of energy and feeling emotionally worn out are observed in the employee. Emotional exhaustion dimension is expressed as the most critical and determining dimension of burnout in the literature. The person experiencing emotional exhaustion thinks that he/she does not treat the people he/she serves with as much care as before. An individual who is nervous with feelings of frustration does not want to go to work (Castro & Araujo, 2012). Depersonalization manifests itself when the individual exhibits attitudes and behaviors devoid of emotion to the people he serves. The individual exhibits a cynical attitude towards the people he serves, belittles them, is rigid in his feelings and thoughts, and has an indifferent attitude. He may display a distant, indifferent and allusive attitude towards both the people he serves and the institution he works for, and he does not feel uncomfortable about this situation (Çimen, 2000). In the low personal accomplishment dimension, the individual feels inadequate and thus develops a great sense of inadequacy. He doesn't fight for anything. Anything he achieves is meaningless to him. The individual does not trust his own abilities to make a difference, and when he loses self-confidence, other people also lose their confidence in him (Berber, 2011).

Personality traits significantly affect an individual's risk of experiencing burnout. Considering that each person has different personal characteristics, it can be said that it is not possible to analyze these factors clearly. In most businesses, different levels of burnout can be observed

in individuals working in the same job (Işıkkay, 2018). Factors such as demographic factors, type A personality trait, external locus of control, empathy ability and expectation level are individual factors that affect burnout (Arabacı ve Akar, 2010). In addition, there are many organizational factors that affect burnout. The structure of the organization, working hours, nature of the job, overtime, shifts, bans in the workplace, workload, low wage policy, role ambiguity, role conflict, education level, reward system, intra-organizational relations, organizational conflict, the idea that the individual is not appreciated enough Many factors such as lack of career opportunities, adverse physical conditions can be listed (Ozel & Hacıoglu, 2021). The individual who experiences burnout realizes that he/she has job dissatisfaction, he/she usually feels tired and does not want to go to work. They are intolerant to people and events, and exhibit behaviors that are not in line with their self-image (Kırlangıç, 1995).

Although burnout may seem psychological in nature, severe physical symptoms can also occur. Fatigue, loss of energy, prolonged colds and flus, frequent headaches, sleep disorders, drowsiness, difficulty in breathing, weight loss, high cholesterol, coronary heart disease, shortness of breath, stomach problems can be listed as. When these symptoms are evaluated one by one, they can bring to mind other problems besides burnout. However, when these symptoms are associated with the work done in the organizational environment, they can be perceived as signs of exhaustion in the individual (Sechko, 2021). Behavioral symptoms of burnout may appear as a desire to not go to work, being late for work, being skeptical about many issues, getting angry quickly, thinking that they are not appreciated, and being touchy. Moreover; increase in the use of substances such as alcohol and tobacco, decrease in self-esteem and self-confidence, introversion, feeling guilty, often discouraged, feeling helpless, crying easily, forgetfulness, difficulty concentrating, role conflict, distrust of authorities, loss of interest in the institution, Behavioral symptoms include procrastination or procrastination, avoiding discussing work with friends, blaming, and a sense of failure (Çam, 1991). Psychological symptoms of burnout are more difficult to notice than physical and behavioral symptoms. However, after a while, it becomes easily observable by both the individual and his/her family and social environment. The psychological symptoms of burnout are as follows: resistance to change, difficulty in problem solving, feelings of helplessness, decreased self-confidence and self-esteem, dissatisfaction, neglecting or quitting work, apathy and forgetfulness (Özyurt, 2004).

Knowing what burnout is and its symptoms will enable the person to recognize the situation early and seek a solution. Individuals should develop realistic goals and expectations for the job. If the individual knows the difficulties and risks of the work to be done before starting the work, it will be possible to take precautions by foreseeing the problems that he may encounter. For this reason, it will be beneficial for individuals to research the organization that they will start their business life before applying for a job, in order not to encounter any surprises. People should know that sharing their feelings and difficulties, asking for help when necessary, will provide a significant convenience in solving problems before the problems increase. Individuals should develop areas of their life outside of work. Undoubtedly, people who have hobbies and have rich social relations are better equipped against burnout (Kaçmaz, 2005). All kinds of measures that can be taken to improve organizational conditions have the effect of preventing burnout or reducing burnout in the organization. Organizational coping methods are more permanent than individual methods. To combat burnout at the

organizational level, employee job descriptions must be clear. Effective personnel planning should be done in accordance with the requirements of the job. Regular meetings should be held and problems should be evaluated as soon as they arise. An environment where managers support employees should be created. The individual needs of the employees must be met. Joint participation in the decisions taken should be ensured. Managers who are tolerant, fair, flexible, listen and value employees are extremely important in preventing and eliminating burnout (Yücel, 2021).

Mengenci (2014) analyzed the relationship between stress, job satisfaction and burnout by applying a questionnaire to 125 cabin and cockpit crews working in different airlines. In the study, it was concluded that there is a negative relationship between job satisfaction and stress, stress causes low personal accomplishment, and there is a negative relationship between emotional exhaustion and job satisfaction. Flight crews with high burnout are more likely to make mistakes. While the cockpit crews' exposure to burnout increases the risk of accidents, the burnout syndrome of the cabin crew may decrease the service quality and cause customer dissatisfaction. In the study of Jeeva and Chandramohan (2008), in which they dealt with the personality of the individual, experiences in business and private life, and physical stress, they concluded that the majority of pilots working in airline companies were exposed to moderate occupational stress. Therefore, in the study, the importance of stress sources and ways of coping with stress for the industry is emphasized, since piloting is a very risky profession.

Yücel (2021), in his master's thesis study named the effect of job stress and burnout perceptions of aviation sector employees on organizational commitment, a questionnaire study was applied to a total of 179 people working in enterprises operating in the aviation sector. It was concluded that there is a negative significant relationship between emotional exhaustion, which is the sub-dimension of the participants' burnout perception, and emotional commitment, which is the sub-dimension of organizational commitment. A positive and significant relationship was found between the participants' emotional exhaustion and continuance commitment, which is a sub-dimension of organizational commitment. Dursun (2021) examined the relationship between job satisfaction and burnout in employees in the aviation industry in his master's thesis. The sample group of the research consists of 388 people working in airline companies and cockpit and cabin crew. According to the results of the study, the emotional burnout levels of male participants are lower than female participants. Participants aged 24 and younger were found to feel more successful. Participants aged 55 and over were found to feel unsuccessful compared to participants aged 46-54. The levels of depersonalization and emotional exhaustion of the cabin chief and cabin crew were higher than the co-pilots, and it was observed that they felt more unsuccessful than the captains.

3. Methodology

3.1. Universe and Sample

The pilots of a leading private airline company operating in Antalya and Turkey constitute the universe of this study. As of 2022, the total number of pilots, including captain and co-pilot, is



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198. A total of 103 participants were given questionnaires and since 3 of the questionnaires were filled incompletely, 100 questionnaires were included in the analysis of the research.

3.2. Data Collection Tools

The data used in the research were collected by questionnaire method. The research questionnaire consists of two parts. The demographic characteristics section, which is the first part of the questionnaire, consists of a total of 6 items: age, marital status, child status, sector experience, employment status, and percentages of domestic and international flights. In this section, the question about "percentage of domestic-international flights" is open-ended, while the other questions are multiple-choice (closed-ended). The second part of the questionnaire, the burnout scale, is the Maslach Burnout Inventory developed by Maslach and Jackson. The scale, which consists of a total of 22 items, evaluates burnout in three sub-dimensions. There are 9 items in the first sub-dimension, "emotional exhaustion", 5 items in the second sub-dimension, "depersonalization", and 8 items in the third sub-dimension, "delusive sense of personal accomplishment". Statements were rated on a five-point Likert scale as "never, very rarely, sometimes, often, always".

3.3. Research Hypotheses

In accordance with the purpose of the research, the research hypotheses are defined as follows:

- H₁ There is a significant difference between the burnout levels of pilots and the age factor.
- H₂ There is a significant difference between the burnout levels of pilots and the marital status factor.
- H₃ There is a significant difference between the burnout levels of pilots and the child status factor.
- H₄ There is a significant difference between the burnout levels of pilots and the industry experience factor.
- H₅ There is a significant difference between the burnout levels of pilots and the working status factor.
- H₆ There is a significant difference between the burnout levels of pilots and the domestic-international factor.

3.4. Evaluation of Data

The study data were obtained by the survey technique, one of the quantitative analysis methods. Study data were evaluated through the statistical analysis program SPSSv23. The analysis of the study consists of frequency, reliability, validity analyzes and one-way analysis of variance. Explanatory factor analysis was performed. The results were interpreted statistically at the error level of 0.05. Cronbach's Alpha coefficient was used to measure the reliability of the scales. There are different classifications in the literature for the interpretation of the Cronbach's Alpha coefficient. There are different classifications in the literature for the interpretation of the Cronbach's Alpha coefficient. Classification according to the widely accepted approach; ≥ 0.9 excellent, $0.7 \leq \alpha < 0.9$ good, $0.6 \leq \alpha < 0.7$ acceptable, $0.5 \leq \alpha < 0.6$ poor, $\alpha < 0.5$ poor. (George ve Mallery, 2003). The reliability of the emotional exhaustion sub-dimension of the study was 0.838, the reliability of the depersonalization sub-

dimension was 0.812, and the reliability of the low personal achievement sub-dimension was 0.809. Since $\alpha > 0.80$ for the sub-dimensions of the burnout scale, the scales used in the research have a high level of reliability.

4. Findings

Table 1: Frequency Distribution of Demographic Variables

	Frequency (n)	Percent (%)
Age		
21-35	27	27,00
36-50	58	58,00
51-65	15	15,00
Total	100	100,00
Marital Status		
Single	34	34,00
Married	66	66,00
Total	100	100,00
Child Status		
None	45	45,00
Yes	55	55,00
Total	100	100,00
Sector Experience		
1-5 Years	50	50,00
6-10 Years	21	21,00
11 Years and More	29	29,00
Total	100	100,00
Employment Status		
First Officer	58	58,00
Captain	42	42,00
Total	100	100,00

Looking at Table 1, it is seen that 58% of the participants are in the age range of 36-50, 66% are married, 55% have children, 50% have 1-5 years of industry experience and 58% are first officers.

Table 2: Distribution of the Flights of the Participants as Domestic and International Flights

	Frequency (n)	Percent (%)
Domestic Flights		



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% 00-20	47	47,00
% 21-40	3	3,00
% 41-60	14	14,00
% 61-80	27	27,00
% 81-100	9	9,00
Total	100	100,00
International Flights		
% 00-20	17	17,00
% 21-40	27	27,00
% 41-60	6	6,00
% 61-80	10	10,00
% 81-100	40	40,00
Total	100	100,00

As can be seen in Table 2, the flight density of pilots mostly occurs on international routes. 40% of the pilots perform international flights with a rate of 81-100%. This rate corresponds to 9% of pilots on domestic flights, which is similar to the company's flight policy. In other words, international flights constitute the main activities of the company in the periods other than January, February and March.

Table 3: The Relationship between Age Variable and Sub-Factors of Burnout Levels

	Age	n	Average	St.	F	P	Description
Emotional Burnout	21-35	27	1,9091	0,79772	0,087	0,917	
	36-50	58	1,8448	0,84666			
	51-65	15	1,8061	0,84855			
	Total	100	1,8564	0,82637			
Desensitization	21-35	27	2,3630	0,47406	1,307	0,275	
	36-50	58	2,2138	0,50103			
	51-65	15	2,3867	0,42404			
	Total	100	2,2800	0,48492			
Low Personal Achievement	21-35	27	2,4259	0,68224	4,758	0,011*	There is a difference between the age groups of 21-35 and 51-65 and between the age groups of 36-50 and 51-65.
	36-50	58	2,4655	0,66795			
	51-65	15	3,0167	0,53841			
	Total	100	2,5375	0,67921			

When we examine the data in Table 3, we can say that there is a relationship between age groups and the "Low Personal Achievement" sub-dimension ($P < 0.05$), and this relationship stems from the 21-35 versus 51-65 and 36-50 and 51-65 groups.

Table 4: The Relationship between Marital Status and Sub-Factors of Burnout Levels

	Marital Status	n	Average	St. Deviation	t	P
Emotional Burnout	Single	34	1,8930	0,81357	0,317	0,752
	Married	66	1,8375	0,83845		
Desensitization	Single	34	2,2765	0,37502	-0,052	0,959
	Married	66	2,2818	0,53548		
Low Personal Achievement	Single	34	2,5956	0,67424	0,612	0,542
	Married	66	2,5076	0,68496		

As seen in Table 4, the marital status variable has no effect on the sub-dimensions related to burnout ($P > 0,05$).

Table 5: The Relationship between Child Status and Sub-Factors of Burnout Levels

	Child Status	n	Average	St. Deviation	t	P
Emotional Burnout	None	45	1,5333	0,81736	-1,657	0,101
	Yes	55	1,9134	0,81949		
Desensitization	None	45	2,2533	0,35024	-0,230	0,819
	Yes	55	2,2847	0,50651		
Low Personal Achievement	None	45	2,9833	0,67126	2,855	0,005
	Yes	55	2,4588	0,65334		

As seen in Table 5, although there is no relationship between having a child and the sub-dimensions of burnout levels ($P > 0.05$), a statistically unproven relationship can be mentioned in the "Low Personal Achievement" sub-dimension.

Table 6: The Relationship between Sector Experience and Burnout Sub-Factors

Sector Experience		n	Average	St. Deviation	F	P	Description
Emotional Burnout	1-5 years	50	1,8400	0,83027	1,449	0,240	
	6-10 years	21	2,1039	0,80149			
	11 years and more	29	1,7053	0,82417			
	Total	100	1,8564	0,82637			
Desensitization	1-5 years	50	2,3440	0,41412	0,872	0,421	
	6-10 years	21	2,2095	0,67372			
	11 years and more	29	2,2207	0,43865			
	Total	100	2,2800	0,48492			
Low Personal Achievement	1-5 years	50	2,4350	0,62640	3,236	0,044*	There is a difference between 1-5 years and 11 years and above, between 6-10 years and 11 years and above.
	6-10 years	21	2,4167	0,65828			
	11 years and more	29	2,8017	0,73003			
	Total	100	2,5375	0,67921			

In Table 6, it is seen that there are statistically significant differences in the "Low Personal Achievement" sub-dimension of those who have worked between 1-5 years and 11 years and more, and between 6-10 years and 11 years and more ($P < 0,05$).

Table 7: The Relationship between Working Status and Burnout Levels and Sub-Factors

Employment Status		n	Average	St. Deviation	t	P
Emotional Burnout	First Officer	58	1,8625	0,85666	0,138	0,890
	Captain	42	1,8347	0,72653		
Desensitisation	First Officer	58	2,3256	0,41543	1,792	0,076
	Captain	42	2,1182	0,66378		
Low Personal Achievement	First Officer	58	2,4936	0,68135	-1,220	0,225
	Captain	42	2,6932	0,66338		

Table 7 shows that there are no statistically significant differences between working status and burnout sub-dimensions ($p>0,05$).

Table 8: Relationships Between Flight Type and Burnout Sub-Dimensions

	Domestic		International	
	r	p	r	p
Emotional Burnout	0,189	0,049*	-0,189	0,049*
Desensitisation	-0,100	0,324	0,100	0,324
Low Personal Achievement	-0,130	0,198	0,130	0,198

Looking at Table 8, it is seen that the "Emotional Burnout" sub-dimension increased positively in parallel with the increase in the percentage of domestic flights of the first officers. Contrary to this situation, it is seen in the same table that when the percentages of international flights increase, the "Emotional Burnout" sub-dimension increases negatively, that is, the first officers are more satisfied ($P<0,05$).

5. Conclusion and Recommendations

It was observed that there was a statistically significant difference in the low personal achievement sub-dimension according to the age variable of the participants. The mean score of the 51-65 age group was higher than the 21-35 and 36-50 age group. It is seen that the sense of personal achievement decreases as the age of the employees increases. The reason for this can be interpreted as the fact that as the age of the employees progresses, they do not have a goal in terms of success.

While factors such as long and irregular working hours in the aviation industry, the lack of the concept of holidays and public holidays, and the inability to plan for private life much in advance, are expected to affect married employees more negatively, according to the results obtained, it is understood that the marital status variable does not have an effect on the sub-dimensions of burnout. Likewise, it was observed that there was no relationship between having a child or not and the sub-dimensions of burnout.

It is seen that there is a statistically significant difference in the low personal achievement sub-dimension according to the sector experience of the employees. Those who have worked for 11 years or more have low personal achievement levels compared to other years of experience. The reason why employees with a lot of industry experience feel unsuccessful compared to other participants can be interpreted as their lack of expectations from the industry. It was determined that there was no significant difference between working status (captain-first officer) and burnout sub-dimensions.

Depending on the type of flight (domestic and international) and the percentage of flights on that route, burnout problems of co-pilots also arise. While the level of emotional exhaustion increases depending on the percentage of increase in domestic flights, there is a reverse, positive improvement in the level of emotional exhaustion, depending on the percentage



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increase in international flights. International flights are usually in the form of commute. However, domestic flights are made four legs a day due to the short distance. This means more enforcement of flight procedures and rules and can therefore put more strain on the first officers.

In the aviation industry, where global competition is intense, companies should pay due attention to human resources in terms of efficiency, productivity and sustainable development. At the same time, airline companies should improve the working conditions of the cockpit crew as much as possible on issues such as workload, freedom of decision, use of knowledge and skills.

Authorities responsible for the realization of civil aviation activities and top managers of airline companies need to understand the expectations and needs of employees in order to ensure work-life balance, and be aware of the development of relevant policies. Raising this awareness will of course be in the interest of airline companies.

If a pilot who works in intense, stressful and irregular conditions starts to think negatively about his work or private life, it will be beneficial for him, his family, social and business environment to identify the source of this thought in time and get help from a specialist. On the other hand, it is very important to meticulously carry out psychiatric examinations during health checks at regular intervals, in terms of detecting situations where it is not appropriate for the individual to fly for flight safety. It should be taken into account by the airline management that the implementation of flexible working hours may allow pilots to devote more time to their private lives.

Since technical knowledge and flight experience are very important in the piloting profession, airline companies should appreciate the senior captains. They should implement a transparent policy, taking into account all the problems of senior captains. Pilots' flight schedule must be well adjusted. E.g; It would not be fair for one cockpit crew member to go on a 4-leg domestic flight and the other to go abroad. The team planning department should act as meticulously and fairly as possible in this regard. Based on the results of the study, studies for pilots working in more than one airline company can be recommended for future research.

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