

-RESEARCH ARTICLE-

**THE EFFECT OF DEMOGRAPHIC CHARACTERISTICS ON
EMPLOYEES' PERCEPTIONS OF FRAUD DIMENSIONS IN REMOTE
WORKING ENVIRONMENTS: THE CASE OF BURSA PROVINCE***

Yasemin ERTAN¹ & Elif YÜCELI² & Samet GEZER³

Abstract

This study examines how employees' perceptions of the fraud diamond dimensions (pressure, opportunity, rationalization, and capability) vary according to their demographic characteristics in remote work environments, which became widespread during the COVID-19 pandemic. The main aim is to understand the attitudes of remote employees toward fraud and identify which demographic factors are linked to higher tendencies for fraudulent behavior. The study evaluates relationships between factors such as age, education level, work experience, income, and sector, and the fraud diamond dimensions. Based on a survey of 398 remote employees, the findings revealed no statistically significant difference between gender and the fraud diamond dimensions. However, significant differences were found regarding age, education level, work experience, income, and sector. For instance, older employees and those with higher income levels feel more pressure to engage in fraud, while employees with higher education, longer work experience, and higher income show stronger tendencies toward rationalization, opportunity, and capability dimensions. Sector-based analysis revealed that finance sector employees had higher tendencies in rationalization and capability, while those in the textile sector showed the lowest tendency in rationalization and those in the service sector the lowest in capability. The research offers key recommendations for organizations to develop internal control and fraud prevention strategies tailored to remote workers. Specifically, the study highlights the importance of personalizing these strategies, as employees with different demographic characteristics may have different perceptions of fraud. The study provides valuable insights for managers seeking to minimize fraud risks in remote work settings and makes significant contributions to the existing literature.

Keywords: *Fraud, Employee Fraud, Fraud Diamond, Remote Working*

JEL Codes: *M10, M42, M49*

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¹ Doç.Dr., Bursa Uludağ Üniversitesi, İktisadi ve İdari Bilimler Fakültesi, İşletme Bölümü, Bursa, Türkiye, yasertan@uludag.edu.tr, ORCID: 0000-0002-9193-3396

² Doç.Dr., Bursa Uludağ Üniversitesi, İktisadi ve İdari Bilimler Fakültesi, İşletme Bölümü, Bursa, Türkiye, emugal@uludag.edu.tr, ORCID: 0000-0002-2708-6778

³ Bursa, Türkiye, 702014025@ogr.uludag.edu.tr, ORCID: 0009-0005-5786-4277

UZAKTAN ÇALIŞMA ORTAMLARINDA DEMOGRAFİK ÖZELLİKLERİN, ÇALIŞANLARIN HİLE BOYUTLARINA İLİŞKİN ALGILAR ÜZERİNDEKİ ETKİSİ: BURSA İLİ ÖRNEĞİ⁴

Öz

Bu çalışma, COVID-19 pandemisi ile yaygınlaşan uzaktan çalışma ortamlarında çalışanların hile elması boyutlarına (baskı, fırsat, rasyonalizasyon ve yetenek) ilişkin algılarının demografik özelliklerine göre nasıl farklılaştığını incelemektedir. Çalışmanın temel amacı, uzaktan çalışanların hileye yönelik tutumlarını daha iyi anlamak ve hangi demografik özelliklerin hile davranışına yönelik daha yüksek eğilimlerle ilişkili olduğunu ortaya koymaktır. Bu kapsamda, çalışanların yaş, eğitim seviyesi, çalışma süresi, gelir düzeyi ve çalıştıkları sektör gibi demografik faktörlerle hile elması boyutları arasındaki ilişkiler incelenmiştir. Araştırma, 398 uzaktan çalışan üzerinde yapılan bir anket çalışmasına dayanmaktadır. Çalışma sonucunda, cinsiyet ile hile elması boyutları arasında istatistiksel olarak anlamlı bir fark bulunmadığı görülmüştür. Ancak, yaş, eğitim düzeyi, çalışma süresi, gelir seviyesi ve sektör gibi diğer demografik değişkenlerin hile boyutları üzerinde belirgin farklılıklar yarattığı tespit edilmiştir. Örneğin, yaşça daha büyük çalışanlar ve daha yüksek gelir seviyesine sahip bireyler hile yapma doğrultusunda daha fazla baskı hissetmektedir. Buna karşılık, daha yüksek eğitim seviyesine, daha uzun çalışma sürelerine ve daha yüksek gelir seviyesine sahip olanların rasyonalizasyon, fırsat ve yetenek boyutlarına yönelik eğilimlerinin daha yüksek olduğu tespit edilmiştir. Sektör bazında yapılan analizlerde, finans sektöründe çalışanların rasyonalizasyon ve yetenek boyutlarında daha yüksek eğilimler sergilediği, tekstil sektöründe rasyonalizasyon boyutunda en düşük, hizmet sektöründe ise yetenek boyutunda en düşük seviyelerde eğilimler gözlemlenmiştir. Bu araştırma, örgütlerin uzaktan çalışanlarına yönelik iç kontrol ve hile önleme stratejilerini geliştirmeleri için önemli öneriler sunmaktadır. Özellikle, farklı demografik özelliklere sahip çalışanların hileye yönelik farklı algılara sahip olabileceği gerçeği, bu stratejilerin kişiselleştirilmesi gerektiğini vurgulamaktadır. Çalışma, uzaktan çalışma ortamlarında hile risklerini en aza indirmeyi amaçlayan yöneticilere değerli içgörüler sunmakta ve literatüre önemli katkılar sağlamaktadır.

Anahtar Kelimeler: Hile, Çalışan Hileleri, Hile Elması, Uzaktan Çalışma

JEL Kodları: M10, M42, M49

“Bu çalışma Araştırma ve Yayın Etiğine uygun olarak hazırlanmıştır.”

⁴ The Extended English Summary is located the end of the Article

1. INTRODUCTION

Fraud has existed since the earliest periods of human history, evolved into various forms with technological advancements, and remains a critical issue for businesses aiming to sustain their operations. According to the report published by the Association of Certified Fraud Examiners (ACFE) in 2022, fraudulent activities cost businesses a total of \$3.6 billion, with companies losing approximately 5% of their annual revenues to fraud each year. In addition, 86 percent of fraud cases involve employee fraud. While employee fraud is much less damaging to the business than financial statement fraud (ACFE, 2022), if not prevented, it is likely to grow like an avalanche and reach dimensions that threaten business operations. With the increase in remote working practices during the COVID-19 pandemic, there has been a dramatic increase in employee fraud (Steenkamp, 2021).

In the 21st century, work models and workforce dynamics have changed due to globalization and increased competition. These changes have brought the concept of flexible work to the forefront. The remote working model, which became widespread during the COVID-19 pandemic, has been adopted by many organizations. While remote working provides flexible hours and a better work-life balance, increasing employee satisfaction and productivity, it may also lead to inadequacies in internal control systems. This increases the importance of the control environment and introduces additional risks, such as ineffective management of remote employees and their failure to fulfill responsibilities. A weak internal control system may increase the likelihood of employees engaging in fraudulent activities (Kızıl et al., 2021).

Compared to the traditional working model, the remote working model also offers many advantages and disadvantages for remote workers. A notable positive impact is that employees, especially those residing in large and crowded cities, can save time that would otherwise have been spent commuting to their workplaces. Conversely, some employees may feel more isolated and helpless when away from the office, face challenges in expressing themselves in online environments, and find themselves working beyond regular hours (Ferreira et al., 2021). These circumstances can lead to increased pressure on employees, one of the critical factors identified in all fraud theories as encouraging fraudulent behaviour (Awaluddin et al. 2022). Considering the negative impact of employee fraud on businesses, it is necessary to understand the impact of remote working environments on fraudulent behaviours to prevent fraud. This study focuses on employees' fraudulent behaviour and examines whether there is a significant difference between the demographic characteristics of employees working in a remote work environment and the factors of the fraud diamond, namely pressure, opportunity, rationalisation, and capability. In the following sections of the study, we present the conceptual framework relating to employee fraud and remote working environments, followed by literature on employee fraud in remote working environments, the relationship between employee demographics and fraud, and the advantages and disadvantages of remote working environments. The methodology section provides information on the scope and method of the study. This is followed

by the results of the study, an analysis of the findings, limitations and suggestions for future research.

1.1. Conceptual Framework

International Standard on Auditing (ISA) 240 defines fraud as actions executed by management, employees, or third parties, intended to secure an unjust or illegal advantage. Occasionally, the concepts of fraud and error may be used interchangeably. However, from the standpoint of auditing literature, these two terms represent distinct concepts. Fraud is intentional and motivated by the desire to gain an advantage, whereas errors lack any intent or purpose to benefit. Errors stem from factors such as ignorance, negligence, carelessness, and inexperience (Adalı and Kızıl, 2017: 53).

Since 1996, ACFE has analysed over 20,000 fraud cases, classifying them into three groups under the 'Fraud Tree' system. These categories are fraudulent financial reporting, misappropriation of assets, and corruption. Fraudulent financial reporting is defined as manipulating financial statements to present a false financial position of the company. Misappropriation of assets is described as the theft or improper use of company assets and is typically carried out by company employees (Güredin, 2010: 134-135). Corruption involves an employee using their power and authority within the company to benefit themselves or others (Bozkurt, 2009, p.73). Employee fraud consists of schemes where the perpetrator directly benefits. Misappropriation of assets and corruption fall within the scope of employee fraud. Fraud, regardless of its type, adversely affects businesses and their stakeholders. The consequences can vary, including financial losses for the business, damage to its reputation, loss of investors, and loss of creditors (Perols and Lougee, 2017). Protecting businesses from these adverse effects of fraud is of utmost importance. Furthermore, preventing fraud is more cost-effective and efficient than detecting it post-occurrence (Kazan, 2021). Understanding who commits fraud, why, and when it is committed is crucial for reducing and preventing fraud (Napel, 2013). Therefore, businesses must manage fraud risks effectively to ensure sustainability. Fraud risk management is a systematic approach that identifies, analyses, and manages fraud elements according to the company's risk tolerance profile. Successful risk management requires participation from all organizational levels and a focus on the factors contributing to fraudulent activities, often referred to as the elements of fraud (Akdemir, 2010: 49).

Several theories address fraudulent behaviour, with the Fraud Triangle, developed by Donald R. Cressey in 1953, being the foundational model. It identifies three key factors: pressure, opportunity, and rationalization, which together can lead to fraud, particularly in environments with weak internal controls (Peterson and Zikmund, 2004: 30). In 2004, Wolfe and Hermanson introduced the Fraud Diamond Theory, adding 'capability' as a crucial factor, arguing that personal skills and attributes play a significant role in whether fraud occurs. They identified six attributes linked to these capabilities, including positioning, intelligence, creativity, ego, coercion, deceit, and stress. In 2012, Jonathan Marks expanded on these ideas with the Fraud Pentagon Theory, adding 'hubris' as a significant factor, especially among top executives in

modern, complex organizations. Marks noted that 89% of fraud cases involve senior executives with characteristics such as arrogance and greed, and he emphasized the need to consider these traits when assessing fraud risks.

Recent changes in the economic, social, political, and technological landscapes have transformed jobs and the ways they are performed, leading to the rise of flexible work models. Flexible work, including remote working, aims to manage human capital efficiently and adapt to changing demands (Tuna and Türkmenbaş, 2020: 3247). Remote work, which first emerged in 1979 and gained prominence with the spread of the internet in the 1990s, allows employees to work from various locations using technology like laptops, tablets, and smartphones (Bilginoğlu, 2021: 1103). The COVID-19 pandemic significantly accelerated the adoption of remote work, with the percentage of remote workers rising from 13% to 56%-74% of the workforce during the pandemic (Ozimek, 2020). Despite the lack of a universal definition, remote work generally refers to work performed outside the traditional workplace (İnal, 2021: 105). In the literature, the term "remote work" is considered to be a higher-level concept encompassing the concepts of "teleworking" and "working from home" (İnal, 2021; Süzek, 2022). In this study as well, the term "remote work" will be used as the overarching term.

1.2. Literature Review

Numerous studies have been conducted in the literature regarding the damages caused by fraud to businesses and the factors contributing to fraud. The widespread adoption of remote working during the pandemic and its continuation afterward has exposed businesses to different fraud risks compared to those previously existing. To our knowledge, there are no studies in the literature focusing specifically on the relationship between employee demographics and employee frauds. Furthermore, there are no studies examining the relationship between remote working environments and employee fraud. Therefore, it is not possible to include results from studies examining the impact of remote working environments on employee fraud in this section of the study. However, there are studies that investigate the fraud dimensions such as pressure, opportunity, rationalisation capability and arrogant influencing employee fraud. For example, in a 2020 study by Koomson et al., it was revealed that the pressures individuals face, their ability to conceal fraudulent acts, and their egos play a significant role in exploiting workplace resources. The study found that the perception of the strength of the internal control system significantly impacts the extent of resource misuse. Coenen (2008) argues that after deciding to commit fraud, employees start seeking opportunities. Coenen (2008) also notes that individuals with weak ethical principles easily surpass the rationalization dimension, not feeling any qualms or guilt when committing fraud. Tahmaz Mengi ve Doğan (2020) stated in their study that employees rationalize fraudulent actions with excuses such as "I was in great need, I had no other choice," "Everyone else is doing it, why shouldn't I?" "They were not paying me the salary I deserved, so I took it myself," "It's just one time; it won't make a difference," "I borrowed it; I will pay it back," "My company won't even notice the money I took," and "I didn't receive the loyalty and recognition

I deserved." These studies reveal that there are certain factors that cause people to engage in fraudulent activities.

Some studies have also examined the demographic characteristics of employees who commit fraudulent activities. According to the 2022 report published by the ACFE, which leads research on fraud, 73% of fraudulent activities are committed by men, while 27% are committed by women. The same report analysed the age distribution of fraud perpetrators and found that 54% of frauds are committed by individuals between the ages of 31 and 45. Additionally, it is stated that 65% of fraud perpetrators have a university degree or higher. When fraud activities are grouped by industry, the sectors with the highest number of fraud cases are banking and finance (351 cases), public administration (198 cases), and manufacturing (194 cases). According to the ACFE report (2022: 46), the perpetrator's tenure at the victim organization is also strongly related to the extent of the fraud. In a 2018 study by Ataman et al, it was revealed that fraudsters were mostly aged 26-45 and had 6-10 years of professional experience. In their study conducted in 2006, Yıldırım and Turgut, who examined the demographic characteristics of fraudsters, found that 95% of the fraudsters were male and that the potential for fraud increased as the income level of people increased. In all these studies, the concept of fraud has been examined to include both employee fraud and financial statement fraud. No specific research has been conducted solely on employee fraud and the impact of employees' demographic characteristics on these frauds.

The factors that have been shown to influence employee fraud in the literature vary depending on the work environment. Therefore, understanding the advantages and disadvantages that remote working environments present for both employees and businesses is crucial for combating employee fraud. There are various studies in the literature that highlight the advantages and disadvantages of remote working environments compared to traditional work settings. For example, Bolton and Hand (2002) indicate that the transition to the remote working model may pressure employees due to loneliness and lack of communication. Additionally, changes in the working model may create security gaps in businesses' control and auditing mechanisms, providing opportunities for fraudulent behaviours. Ozimek (2020) highlights the remote working model's advantages, such as eliminating commutes, fewer meetings, and increased productivity. From a business perspective, remote working removes geographical barriers to recruiting top talent. Yangın, Baycık ve Doğan (2021) note that the remote working model presents challenges in tracking work and rest hours, implementing occupational health and safety measures, protecting employer control while safeguarding employee privacy, and ensuring company data security and protection. Serinikli (2021) reveals that the remote working model's disadvantages include decreased social interactions, disrupted work-life balance, increased stress levels, decreased organizational commitment, and impacts on job satisfaction and performance. It also affects working mothers' concentration and increases workload for women. Ertürk, Ayanoğlu and Usul (2021) argue that remote working is crucial for adapting to changing customer expectations and evolving work styles. Their research in the banking sector shows no significant

difference between office and remote working regarding discipline, performance evaluation, and task completion. Becker, Belkin, Tuskey and Conroy (2022) state that some employees feel work-related loneliness during remote working, which may negatively impact both the employee and the business. They emphasize the importance of managers maintaining a sense of belonging among remote workers. Pokojski Agnieszka and Kister (2022) highlight that implementing remote working models in businesses poses challenges in controlling employee performance and providing necessary support. The business's attitude toward remote employees affects performance, and providing an office-like work environment enhances employee performance.

Remote working and its implications have been examined in several studies in Turkey. Başol and Çömlekçi (2021) investigated the relationship between remote work and social and demographic variables, highlighting that remote working has distinct impacts on different demographic groups, particularly in terms of job satisfaction and stress levels. Their findings suggest that individuals with higher income and education levels tend to have a more positive attitude towards remote work, whereas younger employees and those with lower incomes experience increased job-related stress. In a follow-up study, Başol and Çömlekçi (2022) explored the effects of remote work attitudes on life satisfaction, emphasizing the mediating role of job satisfaction. Their study underscores that while remote work can enhance work-life balance and job satisfaction for some employees, it also introduces new challenges related to social isolation and lack of direct supervision. Additionally, Yaman, Bağdoğan, and Keser (2023) analysed job stress, job satisfaction, and turnover intentions during remote work in the COVID-19 period. Their findings indicate that remote workers who experience high levels of stress are more likely to exhibit lower job satisfaction and higher turnover intentions. This study aligns with global literature suggesting that the effectiveness of remote work largely depends on individual and organizational factors.

By integrating these studies into the discussion, the current research further contributes to understanding the demographic dynamics of employee fraud in remote working environments. Unlike previous studies, which mainly focus on job satisfaction and stress, this research provides a novel perspective by linking demographic characteristics to fraud tendencies in remote work settings. Thus, it fills a significant gap in the literature by addressing how different demographic groups perceive and react to fraud risk factors under remote working conditions. In the literature, the number of studies focusing on employee fraud is quite limited. Additionally, there are no studies examining the dynamics that uncover employee fraud in remote working environments. As mentioned in the introduction of this study, the reason for this may be that employee fraud tends to cause lower financial losses for businesses compared to financial fraud. However, it is worth reiterating that if the necessary measures are not taken to prevent and detect fraud of any kind, these frauds can grow like an avalanche and reach dimensions that threaten the sustainability of businesses. This study investigates whether there is a difference between the demographic characteristics of employees working in remote working environments and their perceptions of fraud dimensions. It is hoped that this study will fill the gap

in the literature regarding the employees' demographic characteristics and employee fraud in remote working environment. The findings from this study will serve as a guiding resource for managers in preventing employee fraud within organizations by pointing managers who are more affecting by fraud dimensions in remote working environment.

2. METHODOLOGY

This study examines the differences in employees' perceptions of the fraud diamond dimensions (pressure, opportunity, rationalization, and capability) in remote working environments based on their demographic characteristics and identifies which demographics are associated with higher tendencies for fraudulent behaviour. The study aims to better understand employees' attitudes towards fraud in remote working environments. In this context, it investigates how demographic characteristics such as gender, age, education level, length of employment in the company, income level, and sector are related to the fraud dimensions within the dynamics of remote working environments. The research of this study was conducted among employees of companies in Bursa, the fourth largest city in Turkey, which boasts a significant remote working population. With its cosmopolitan structure, advanced industry, and population of 3,194,720, Bursa provides an ideal setting for this research. To achieve its objectives and considering the size of the population, a quantitative research method was selected, specifically the survey method. The survey questions were prepared based on a literature review (Śmiałek-Liszczyńska and Wojtkowiak, 2023; Koloh, 2022; Lew, 2022). The questionnaire is divided into two sections: the first section contains 8 closed-ended questions focusing on employees' demographic characteristics. These questions (demographic characteristics) were selected based on information from the literature review to capture a comprehensive range of demographic variables that could potentially influence employees' perceptions of fraud. The second section comprises 45 questions on a 5-point Likert scale (1- Strongly Disagree... 5- Strongly Agree), designed to measure the impact of remote working environments on fraud elements (pressure, opportunity, rationalization, ability). These questions were derived by the authors as a result of a literature review on the dimensions of fraud, employee fraud and remote working environments. The sample size was calculated using the Z distribution and set at 384. Random sampling was employed for sample selection, with a stipulation for only two individuals from each company to complete the questionnaire, ensuring comprehensive results. The dataset collected between 20.09.2023 and 20.12.2023. Data were analysed using the SPSS software. Additionally, to assess the construct validity of the survey, Confirmatory Factor Analysis (CFA) was conducted using AMOS software. This approach helped ensure that the measurement model was a good fit for the data, thereby enhancing the reliability and validity of the findings.

To verify the reliability of the questionnaire, a pilot study was conducted with 50 individuals. Following this, the reliability of the data was evaluated using the Cronbach Alpha coefficient, which yielded a value of 0.790 for the 45 Likert-scale questions. This value is considered acceptable; however, removing the question

"There is discrimination between remote and office workers in my company" increased the Cronbach Alpha to 0.82, suggesting improved reliability. Confirmatory factor analysis was conducted for the construct validity of the survey. The results of the analysis are presented in the findings section. Simple random sampling was used for sample selection and the questionnaire was administered face-to-face to 400 participants. Two participants did not respond to some questions; hence the analysis was conducted using 398 completed forms.

3. RESULTS

Initially, the demographic characteristics of the survey participants were evaluated. The findings regarding these characteristics are summarized in Table 1. The gender distribution of the survey participants was nearly equal, with approximately 51% female and 49% male. In terms of age distribution, about 36% of the participants were aged 19-29, and 32% were aged 30-39, indicating that the majority of the participants were relatively young. When examining the educational levels of the participants, the largest group, 48%, had completed university, followed by 37% who had completed high school. In terms of work experience, around 40% of the participants had been employed for less than a year, and approximately 34% had 1-5 years of work experience. Regarding income levels, about 87% of the participants reported earnings below 20,000 TL. The survey encompassed individuals from 10 different sectors.

Table 1. Demographic Characteristics of the Participants

AGE		GENDER	
19-29	36.2%	Female	51,3%
30-39	31.9%	Male	48,7%
40-49	24.1%	INCOME LEVEL	
50-59	7%	17.000-27.000 ₺	20,1%
59 <	0.8%	27.001-37.000 ₺	39,2%
EDUCATION		37.001-47.000 ₺	27,6%
		47.001-57.000 ₺	11,1%
Primary school	0,3%	57.000 ₺ <	2%
High School	37.4%	SECTOR	
Bachelor Degree	48%	Finance	12,8%
Master's Degree	13,6%	Retail / Trade	14,1%
Doctorate	0,8%	Automotive	16,3%
EXPERIENCE		Building	5,5%
		Electrical and Electronics	12,3%
0-1 Year	38,9%	Energy	12,6%
1-5 Year	34,4%	Textile	8%
5-10 Year	19,6%	Food	8,8%
10-15 Year	5,3%	Service	8,3%
15 Year <	1,8%	Software/ Advertising	1,3%

In addition to the questions asked to determine the demographic characteristics of the participants, in the first part of the survey, participants were asked whether they had received training in ethics and cybersecurity. 88% of the respondents reported having received training on ethical principles, while approximately 60% indicated they had received training in cybersecurity.

After establishing the distributions related to demographic characteristics, the 44 questions posed on the Likert scale were categorized using factor analysis. Nevertheless, it is essential to ascertain whether the data set is appropriate for factor analysis. To this end, the Kaiser-Meyer-Olkin (KMO) and Bartlett's tests were conducted as initial steps. The outcomes of the KMO test and Bartlett's test are displayed in Table 2.

Table 2. KMO and Bartlett Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		0.909
Bartlett's Test of Sphericity	Approx. Chi - Square	10919.646
	df	0.946
	Sig.	0.000

As illustrated in Table 2, the KMO test yielded a result of 0.909. This value, being above 0.5, signifies that the questions are appropriate for factor analysis. Furthermore, the significance level of Bartlett's test being less than 0.05 confirms that the results of the factor analysis are statistically significant (Williams et al., 2010; Vakili, 2018). After confirming the questions' suitability for factor analysis, the factors were identified. Factors with eigenvalues greater than 1 were deemed significant. Consequently, four factors were pinpointed. These factors collectively explained 52.372% of the total variance, indicating that they account for over half of the total variance observed. In naming these factors, analysis of the rotated factor matrix revealed a strong alignment with the dimensions of deceitfulness. Eight questions did not fall into any of the identified factors. The rotated factor matrix developed in this study is detailed in Table 3.

Table 3. Rotated Factor Matrix

	Factors			
	1	2	3	4
While working remotely, I find it more challenging to fulfil my responsibilities than working in the office.	.799	-.028	.006	-.306
In the remote working model, sharing my thoughts with managers is more difficult compared to the office environment.	.756	-.166	-.135	.097
I feel lonely when working remotely.	.744	-.114	.102	-.357
Maintaining work discipline is more difficult in the remote working model.	.738	-.143	-.195	.225
I struggle to achieve work-life balance while working remotely.	.723	-.069	.067	-.255

The remote working model negatively affects my stress level.	.718	.042	-.109	-.444
The remote working model has made me more disorganised.	.704	-.281	.074	-.277
The remote working model reduces employees' commitment to the company.	.661	-.416	-.089	-.022
While working remotely, I feel more exhausted and helpless.	.655	-.044	.114	-.566
Remote working environments increase the possibility of employees exhibiting inappropriate behaviour at work.	.612	-.545	.235	.093
The Equal pay for equal work policy is implemented in my company.	-.160	.773	.349	.061
There is a fair promotion policy in my company.	-.177	.765	.223	.034
Concentrating on work is more difficult in the remote working model.	-.137	.726	-.190	.014
I am satisfied with the salary I receive for the work I do.	-.366	.653	.139	.207
The salary I receive is sufficient to meet my needs.	-.369	.637	.197	.077
I consult my managers about ethical dilemmas I encounter.	.082	.602	.152	-.177
Complaints regarding employees are carefully evaluated in my company.	-.298	.597	.333	.193
My company funds employees to create suitable physical conditions for remote work (desk, computer, printer, etc.).	-.173	.525	-.047	.118
My company provides funds to cover the additional expenses incurred from remote working (utility bill increases, etc.).	-.023	.513	.031	.076
My company trusts all employees excessively.	.091	.126	.757	-.029
Inappropriate behaviours related to work are reported to managers.	.051	-.209	.721	.012
There is two-way and sincere communication between my superiors and me.	-.185	.093	.695	.256
Managers in my company value the opinions of employees.	-.063	.411	.690	.169
My managers trust me.	.077	.361	.661	.079
My company allows me to take initiative in various matters.	-.215	.298	.621	.387
What to do in the event of a fraud case is clearly defined by company procedures and instructions.	-.117	.084	.532	-.049
My company's technological infrastructure is suitable for a remote working model.	.050	.257	.525	.180
If I had committed fraud, I would not have been caught.	.101	.046	.085	.667
I would prefer to resign rather than permanently return to the office.	-.169	-.295	-.046	.628

The remote working model has positively affected my career goals.	-.271	-.090	.489	.544
My technological competence makes me indispensable to my company.	-.225	.325	.304	.533
Thanks to my technological knowledge, I can easily access all the data of the company.	-.261	.263	-.134	.519
My technological knowledge and expertise are sufficient for the remote working model.	-.057	.279	.245	.510

Exploratory Factor Analysis (EFA) is utilized in the development of measurement instruments (such as questionnaires and tests), while Confirmatory Factor Analysis (CFA) is applied to assess whether these developed models are validated within the sampled population. In this study, CFA was used to evaluate the construct validity and the fit of the prepared questionnaire. The goal of CFA is to verify that the theoretically identified factors are interconnected and consistently associated with the measured variables. The initial step in CFA involves defining the model. To this end, a four-factor model, reflecting the four dimensions of the fraud diamond, was devised. This model is depicted in Figure 1.

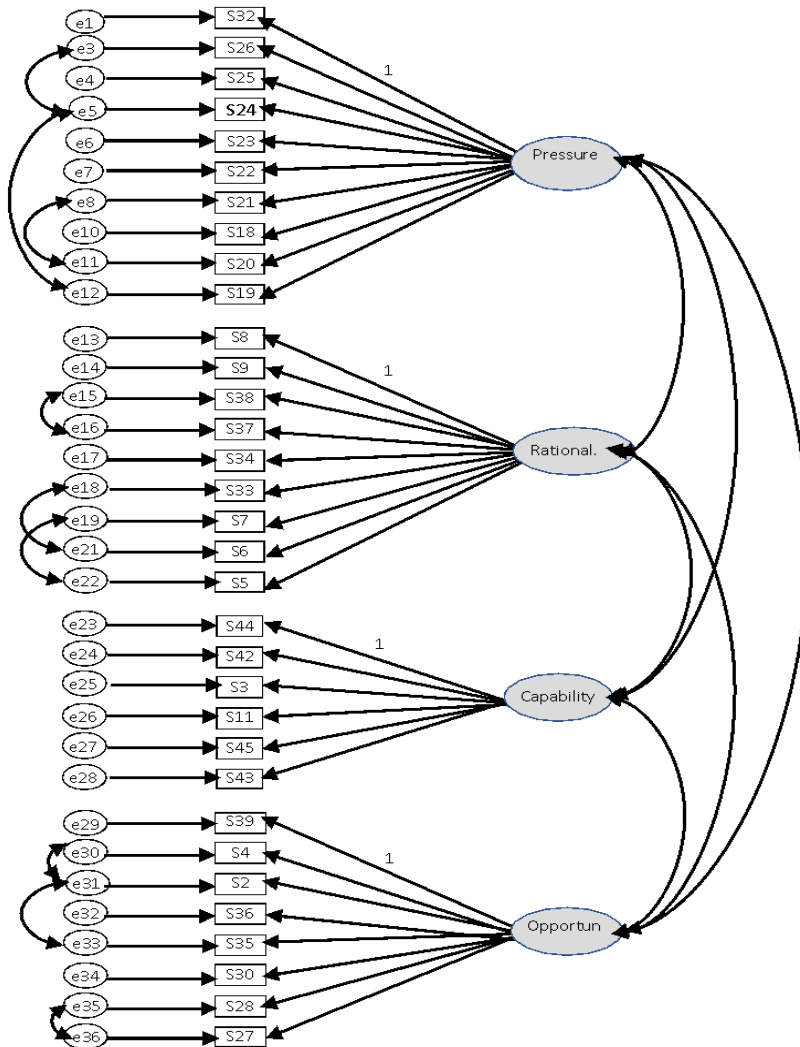


Figure 1: Multi-Factor Model Measuring the Relationship between Remote Working and the 4 Dimensions of Fraud

After developing the model with AMOS software, necessary adjustments were made. During this phase, three additional questions were removed from the model to satisfy the goodness-of-fit criteria. Following these modifications, the goodness-of-fit indices for the established four-factor model were evaluated. The indices applied to assess the model's fit are detailed in Table 4. These indices are widely recognized and frequently used in research literature (Bentler, 1990; Shevlin et al., 2000; Sun, 2005; Schreiber et al., 2006; Büyüköztürk, 2020).

Table 4. Goodness-of-fit Indices Associated with the Model

	$\Delta\chi^2/\text{df}$	RMSEA	CFI	NFI	GFI	AGFI	RMR
Default Model	1.657	0.081	0.909	0.837	0.898	0.885	0.092

Firstly, due to the chi-square value's sensitivity to sample size, the ratio of this value to the degrees of freedom ($\Delta\chi^2/\text{df}$) is taken into consideration. A ratio below 2 signifies a very high fit; for the confirmatory factor analysis model, the $\Delta\chi^2/\text{df}$ ratio was calculated to be 1.657. Another significant metric is the "Root Mean Square Error of Approximation (RMSEA)," which estimates the model's fit to the population and should be under 0.1. In the developed model, this figure was 0.081, falling below 0.1 and thereby deemed acceptable.

The "Comparative Fit Index (CFI)" evaluates how well the observed data matches the model, with a value above 0.9 indicating a good fit. In this model, the CFI exceeded 0.9. An alternative measure, the "Normed Fit Index (NFI)," assesses the model's fit compared to a null hypothesis and should also be between 0 and 1. For this model, the NFI was 0.837. The "Goodness-of-Fit Index (GFI)" is another essential indicator, measuring the covariance among observed variables within the sample, ideally surpassing 0.9. In this model, the GFI was 0.898, which is close to and considered acceptable. The "Adjusted Goodness-of-Fit Index (AGFI)" adjusts the GFI value based on the number of observed variables and should lie between 0 and 1. The AGFI for this model was 0.885.

Lastly, the Root Mean Square Residual (RMR) value, which should be under 0.1 for a better model fit, was below this threshold in the developed model. Thus, the modifications suggest that the model's values are within acceptable ranges, confirming the scale's four-factor structure.

After identifying the factors, the means of these factors were calculated. Subsequently, the normality of these factor means was assessed for hypothesis testing. Given the substantial size of our dataset, conventional tests such as the Shapiro-Wilk or Kolmogorov-Smirnov tests would not be appropriate, as they might not provide meaningful results. Therefore, the analysis focused on examining the kurtosis and skewness values. According to the data presented in Table 5, all factor means exhibit a normal distribution. The fact that the skewness and kurtosis values fall within the +1 to -1 range supports the presence of a normal distribution. Furthermore, in the context of large samples, it is considered acceptable if either skewness or kurtosis falls within the +1 to -1 range, while the other may be within the +2 to -2 range, as noted by George and Mallery (2003), Tabachnick and Fidell (2013), and Leech et al. (2015).

Table 5. Factor Means and Normality Test

	Mean	Std. Deviation	Skewness	Kurtosis
Pressure	2.6867	.94020	.564	-.849
Rationalisation	3.5396	.63368	-.640	-.190
Opportunity	3.3822	.76357	-.227	-.886
Capability	3.2495	.67812	-.047	-.247

Upon reviewing the factor means displayed in Table 5, it becomes apparent that remote working environments lessen the pressure on employees regarding fraud, enhance opportunities and capabilities, and enable rationalization. The primary objective of this study is to examine the effect of employee demographic characteristics on the fraud diamond perception. Consequently, the research hypotheses have been articulated as follows:

H₁: Gender has a significant impact on employees' perceptions on pressure dimension in remote working conditions.

H₂: Gender has a significant impact on employees' perceptions on rationalisation dimension in remote working conditions.

H₃: Gender has a significant impact on employees' perceptions on opportunity dimension in remote working conditions.

H₄: Gender has a significant impact on employees' perceptions on capability dimension in remote working conditions.

H₅: Age has a significant impact on employees' perceptions on pressure dimension in remote working conditions.

H₆: Age has a significant impact on employees' perceptions on rationalisation dimension in remote working conditions.

H₇: Age has a significant impact on employees' perceptions on opportunity dimension in remote working conditions.

H₈: Age has a significant impact on employees' perceptions on capability dimension in remote working conditions.

H₉: Educational level has a significant impact on employees' perceptions on pressure dimension in remote working conditions.

H₁₀: Educational level has a significant impact on employees' perceptions on rationalisation dimension in remote working conditions.

H₁₁: Educational level has a significant impact on employees' perceptions on opportunity dimension in remote working conditions.

H₁₂: Education level has a significant impact on employees' perceptions on capability dimension in remote working conditions.

H₁₃: Income level has a significant impact on employees' perceptions on pressure dimension in remote working conditions.

H₁₄: Income level has a significant impact on employees' perceptions on rationalisation dimension in remote working conditions.

H₁₅: Income level has a significant impact on employees' perceptions on opportunity dimension in remote working conditions.

H₁₆: Income level has a significant impact on employees' perceptions on capability dimension in remote working conditions.

H₁₇: Sector has a significant impact on employees' perceptions on pressure dimension in remote working conditions.

H₁₈: Sector has a significant impact on employees' perceptions on rationalisation dimension in remote working conditions.

H₁₉: Sector has a significant impact on employees' perceptions on opportunity dimension in remote working conditions.

H₂₀: Sector has a significant impact on employees' perceptions on capability dimension in remote working conditions.

H₂₁: Length of employment has a significant impact on employees' perceptions on pressure dimension in remote working conditions.

H₂₂: Length of employment has a significant impact on employees' perceptions on rationalisation dimension in remote working conditions.

H₂₃: Length of employment has a significant impact on employees' perceptions on opportunity dimension in remote working conditions.

H₂₄: Length of employment has a significant impact on employees' perceptions on capability dimension in remote working conditions.

For this purpose, the normal distribution of participants' demographic characteristics was analysed. As seen in Table 6, all values fall within the range of +1.5 to -1.5, indicating a normal distribution of the data. Therefore, it is appropriate to apply parametric hypothesis tests."

Table 6. Skewness and Kurtosis Values of Demographic Characteristics

	Skewness	Kurtosis
Gender	.050	-1.008
Age	.568	-.512
Education	.443	-.353
Sector	.243	-1.139
Income level	.549	.138
Length of employment	.867	.274

First, the Independent Sample T-Test was used to determine if a significant difference exists between gender and the dimensions under consideration. However, as indicated in Table 7, no significant difference was found. Therefore, the H₁, H₂, H₃ and H₄ hypothesis are rejected. This indicates that the perceptions of fraud pressure in remote working environments are similar for both male and female employees.

Table 7. Statistical Significance Levels of Gender Distribution and Difference with Factors (Independent Sample T – Test)

	Pressure	Rationalisation	Opportunity	Capability
Gender	0.639	0.063	0.059	0.863

The difference between other demographic characteristics and the factors was assessed using the One-Way ANOVA test. Firstly, the relationship between the age of employees and the dimensions of fraud in remote working environments was examined.

Table 8. Factor Averages According to Education Level and One-Way ANOVA Result

Age	Pressure	Rationalisation	Opportunity	One-Way ANOVA (Sig.)	
19-29	2.8208	3.3465	3.2153	Pressure	0.024
30-39	2.6606	3.5669	3.3278	Rationalisation	<0.001
40-49	2.675	3.6863	3.5924	Opportunity	<0.001
50-59	2.2143	3.881	3.7813	Capability	0.063
59 <	2.1333	3.7778	3.25		

As seen in Table 8, the analysis results indicate that there is a significant difference between the age of employees and the factors of pressure, rationalization, and opportunity in remote working environments. Therefore, the H5, H6, and H7 hypotheses are accepted, and the H8 hypothesis is rejected. Further analysis of the average age distribution reveals that the pressure factor decreases with increasing age, while the rationalization and opportunity factors increase. When analysing the difference between educational level and dimensions of fraud, a significant difference was found between educational level and the factors of opportunity and capability, as presented in Table 9.

Table 9. Factor Averages According to Education Level and One-Way ANOVA Result

Educational level	Opportunity	Capability	One-Way ANOVA (Sig.)	
Primary school	2,125	1	Pressure	0.100
High School	3,052	2,9252	Rationalisation	0.116
Bachelor Degree	3,5033	3,368	Opportunity	<0.001
Master's Degree	3,8218	3,7381	Capability	<0.001
Doctorate	4,5833	3,7619		

Consequently, the H₁₁, H₁₂ hypothesis are accepted and H₉ and H₁₀ hypothesis are rejected. As observed in Table 9, within remote working environments, an increase in the educational level of employees correlates with an increase in the factors of opportunity and capability.

Table 10. Factor Averages According to Income Level and One-Way ANOVA Result

Income level	Press.	Ration.	Opp.	Capab.	One-Way ANOVA (Sig.)	
17.000-27.000₺	2,8937	3,2083	2,9438	2,9089	Press.	<0.001
27.001-37.000₺	2,8468	3,354	3,3037	3,1429	Rational	<0.001
37.001-47.000₺	2,4373	3,8222	3,5273	3,4286	Opp.	<0.001
47.001-57.000₺	2,3273	4,0126	3,9006	3,7403	Capab.	<0.001
57.000 ₺ <	2,7833	3,9259	4,375	3,4762		

Furthermore, as presented in Table 10, a significant difference exists between the income levels of employees in remote working environments and all fraud factors. Consequently, the H₁₃, H₁₄, H₁₅ and H₁₆ hypothesis are accepted. Upon examining this table, it can be inferred that as the income levels of employees increase, the fraud factors increase as well.

Table 11: Factor Averages According to Sector and One-Way ANOVA Result

Sector	Press.	Rational.	Capab.	One-Way ANOVA (Sig.)	
Finance	2,5549	3,7908	3,549	Press.	0,002
Retail trade	2,8857	3,3829	3,0816	Rational.	0,004
Automotive	2,9892	3,5214	3,1165	Opportunity	0,164
Construction	2,15	3,7222	3,2792	Capability	<0,001
Electric and Electronics	2,7939	3,4785	3,3615		
Energy	2,566	3,6467	3,4229		
Textile	2,4719	3,2188	3		
Food	2,5686	3,5302	3,4531		
Service	2,8	3,5455	2,9307		
Software/Advertising	1,84	3,7778	3,1143		

The study also explored the difference between the sectors in which remote workers are employed and the dimensions of fraud, revealing a significant difference between sectors of operation and the dimensions of pressure, rationalization, and capability. Consequently, H₁₇, H₁₈ and H₂₀ are accepted and H₁₉ hypothesis is rejected. Examination of Table 11 revealed that while the pressure factor is generally low across sectors, it is most pronounced in the automotive sector and least prevalent in the software/advertising sector. Furthermore, the rationalization and capability factors are found to be most significant in the finance sector. The textile industry exhibits the lowest level of rationalization, and the service sector shows the lowest level of capability.

Table 13: Factor Averages According to Length of Employment and One Way ANOVA Results

Length of Employment	Rational.	Opportunity	One-Way ANOVA (Sig.)	
0-1 Years	3,2652	3,1065	Pressure	0.417
1-5 Years	3,6115	3,3786	Rational.	<0.001
5-10 Years	3,886	3,7853	Opportunity	<0.001
10-15 Years	3,6455	3,7262	Capability	0.241
15-20 Years	4,0317	4,0357		

The length of employment, especially in remote working environments, is a demographic characteristic that differs the elements of opportunity and rationalisation, as shown in Table 13. Therefore, the H_{22} and H_{23} hypothesis are accepted, H_{21} and H_{24} hypothesis are rejected. As the tenure of employees increases, the elements of opportunity and rationalisation also increase.

4. DISCUSSION

Throughout human history, fraud has increasingly pervaded the complex fabric of contemporary society, leading to significant losses for businesses. While financial statement fraud directly impacts profitability, employee fraud, albeit less directly, poses a more substantial threat to business sustainability. The shift towards remote working environments necessitates the evaluation of employee fraud dimensions to protect businesses from the negative effects of fraudulent activities. This study examines how employees' perceptions of the fraud diamond dimensions (pressure, rationalisation, opportunity and capability) in remote working environments differ according to their demographic characteristics. A survey of 398 individuals in Bursa, who have either experienced or are currently engaged in remote work, reveals that 88.4% of participants have undergone training in ethical principles. Such training serves as a preventive measure, mitigating ethical deviations. This suggests that a majority of the organizations involved recognize the importance of preventing employee fraud and are actively pursuing measures to this end. Furthermore, 60.6% of respondents have received cyber security training, underscoring the necessity of such education in digital-heavy remote work settings to prevent errors and fraudulent activities. However, the disparity between the proportions of participants trained in ethical principles (88.4%) versus cyber security (60.6%) indicates that organizations may prioritize ethical training over cyber security training.

As a result of the factor analysis conducted in this study, it was observed that the factors influencing employee fraud were grouped into four categories: pressure, opportunity, rationalization, and capability, aligning with the fraud diamond theory (Wolfe and Hermanson, 2004). Then, the study analysed the differences between the demographic characteristics of employees in remote working environments and their perceptions of fraud dimensions. When evaluating the findings of the study, it was determined that there is no significant difference between gender and the dimensions of fraud in remote working environments. Therefore, the H_1 , H_2 , H_3 and H_4 hypothesis are rejected. This indicates that the perception of fraud pressure in remote working environments is similar for both male and female employees. Although the literature has identified that male are more inclined to commit fraud compared to female (PWC, 2016; Yıldırım and Turgut, 2016; Ataman et al., 2018; KPMG, 2020; ACFE, 2022), this study has encountered a different result as it encompasses the impact of remote working environments, which differentiates it from the literature.

Significant difference was found between age and the dimensions of pressure, rationalisation and opportunity. With increasing age, perceptions of pressure decrease,

while perceptions of rationalisation and opportunity increase, supporting hypotheses H₅, H₆ and H₇. The analysis revealed that as the age of employees in remote working environments increases, the pressure they feel decreases. One of the disadvantages of remote working environments is the pressure felt by employees due to social isolation (Bolton and Hand, 2002; İnal, 2021; Serinikli, 2021; Berker et al., 2022). The reason younger employees may feel more pressure than older employees could be attributed to their greater need for social interaction. The negative statistical relationship between age and the tendency to commit fraud is consistent with the literature (Armstrong, 1987; Mirshekary and Carr, 2015; Yıldırım and Turgut, 2016; Sun et al., 2017; KPMG, 2020; ACFE, 2022; Elviani et al., 2024). However, the situation is different in the dimensions of opportunity and rationalization. According to the results of the study, as age increases, opportunities and rationalization also increase. Similarly, there is a positive and statistically significant relationship between tenure and the dimensions of opportunity and rationalization. Therefore, hypotheses H₇ and H₈ are accepted. This situation may be due to the fact that individuals who have worked in the company for many years are familiar with all the processes of the business, including its shortcomings. Studies in the literature also support findings that more senior employees are more likely to commit fraud (Goldstraw et al., 2005; Peltier-Rivest and Lanoue, 2012; Wells, 2002). The higher an employee's position, the greater the opportunity for committing fraud (Kennedy, 2018).

Similarly, perceptions of opportunity and capability increase with increasing levels of education, supporting hypotheses H₁₁ and H₁₂. Significant relationships were also found between income level and all fraud dimensions. As income level increases, so do perceptions of the fraud dimensions, supporting hypotheses H₁₃, H₁₄, H₁₅ and H₁₆. This situation mirrors the dynamics observed with education and income levels. Employees possessing higher educational qualifications often acquire more advanced knowledge, enabling them to occupy senior positions within the organization. As a consequence, their income levels are correspondingly higher and it has been observed that as individuals' income levels increase, their potential for fraud also increases accordingly (Yıldırım and Turgut, 2016). These well-acquainted employees, especially those knowledgeable about the gaps in the internal control system, are provided with ample opportunities to commit fraud. These findings align with the insights presented in the reports prepared by the PWC in 2016, KPMG in 2020 and ACFE in 2022, underscoring the critical role that education play in the landscape of organizational fraud.

In addition, significant relationships were found between sector and the pressure, rationalisation and capability dimensions. Specifically, employees in the financial sector have higher tendencies towards rationalisation and capability, supporting hypotheses H₁₇, H₁₈ and H₂₀. Previous studies also support that fraud is most commonly observed in the banking and finance sector. (PWC, 2016, ACFE, 2022). In particular, the pandemic period has significantly increased fraud risks in the finance sector due to high profitability and employees' enhanced technological competencies for remote work. Specifically, financial statement fraud, which is challenging to detect in remote settings, is an area where finance sector employees have the requisite

expertise to engage in fraud. Meanwhile, the textile industry shows the lowest level of rationalization, while the service sector exhibits the lowest capability for fraud.

CONCLUSION

This study provides significant outcomes on how demographic factors influence workers' perceptions of fraud dimensions within telecommuting work environments. By employing the fraud diamond model, the study demonstrates that age, education level, tenure, income level, and industry all play critical roles in defining fraud-related inclinations among telecommuting employees. Especially older and longer-service employees are more disposed to rationalization and opportunity, suggesting that experience and familiarity with organizational procedure create an increased sense of opportunity for fraud. Younger employees, however, experience greater pressure, perhaps because of social isolation and job insecurity in scattered locations.

One of the key contributions of this study is its empirical validation and application of the fraud diamond model in remote working contexts, which has not been studied in depth before. The findings contradict the popular belief that gender plays a significant role in fraud perception, proving that fraud dimensions in remote working contexts are not significantly influenced by gender. This indicates that fraud prevention programs need to focus on more organizational design and work environments than demographic assumptions. In addition, employees in the financial sector possess the highest levels of rationalization and ability, highlighting the significance of sector-specific fraud prevention programs. Practically, these findings provide organizations with actionable data. As employees with higher education and income levels possess higher fraud tendencies in terms of capability and opportunity, companies must have targeted internal control measures for senior personnel and management employees. Companies must also consider enhancing cybersecurity training because a large portion of the sample had received ethical training but not cybersecurity awareness, which may expose them to vulnerabilities in remote work settings.

In the construction of the future of fraud prevention, organizations should place emphasis on the development of strong internal controls particularly for different groups of employees and encouraging transparency and accountability within remote work behaviours. This study points to the need to link fraud risk management methods with evolving work environments in order to enable sustainability and integrity in the virtual work environment. Despite its advantages, this study has some shortcomings. The sample is restricted to Bursa-based workers, which may restrict generalizability to the broader populations. Additionally, although the basic demographic characteristics of age, education, tenure, income, and industry were examined, other variables like marital status, family responsibilities, or cultural influences were not employed. Subsequent studies should attempt to generalize the scope by looking at different geographic locations and applying qualitative methods, such as interviews or focus groups, in order to gain a deeper understanding of how workers perceive fraud in telecommuting environments.

UZAKTAN ÇALIŞMA ORTAMLARINDA DEMOGRAFİK ÖZELLİKLERİN, ÇALIŞANLARIN HİLE BOYUTLARINA İLİŞKİN ALGILAR ÜZERİNDEKİ ETKİSİ: BURSA İLİ ÖRNEĞİ (GENİŞLETİLMİŞ ÖZET)

1. GİRİŞ

COVID-19 pandemisinin tetiklediği uzaktan çalışma modeli, iş dünyasında köklü değişimlere yol açmış ve iş yapış biçimlerinde önemli dönüşümler meydana getirmiştir. Geleneksel çalışma modellerinin yerini hızla alan uzaktan çalışma, esnek çalışma saatleri, iş-yaşam dengesi ve artırılmış iş tatmini gibi avantajlar sunarken, aynı zamanda işletmelerin iç kontrol sistemlerinde zafiyetlere yol açabilmekte ve hileli davranışların artmasına zemin hazırlayabilmektedir (Kızıl, Kızıl and Dolaz, 2021). Hile, işletmelerin sürdürülebilirliğini tehdit eden en ciddi risklerden biri olarak kabul edilmektedir ve bu nedenle hile eğilimlerinin hangi demografik özelliklerle ilişkili olduğunu anlamak, bu risklerin yönetimi açısından büyük önem taşımaktadır. Bu bağlamda, bu çalışmanın amacı, uzaktan çalışma ortamlarında çalışanların hile elması teorisinin boyutlarına (baskı, fırsat, rasyonalizasyon ve yetenek) ilişkin algılarının demografik özelliklere göre nasıl farklılaştığını incelemektir.

2. YÖNTEM

Bu araştırmada, Bursa ilinde faaliyet gösteren ve uzaktan çalışma modelini uygulayan şirketlerde çalışan 398 kişi ile anket çalışması yapılmıştır. Araştırma kapsamında kullanılan anket, çalışanların demografik özelliklerini belirlemeye yönelik 8 kapalı uçlu soru ile hile boyutlarına ilişkin algılarını ölçmeye yönelik 45 Likert ölçekli sorudan oluşmaktadır. Anket soruları, ilgili literatür taraması doğrultusunda oluşturulmuş ve uzman görüşleri alınarak son hali verilmiştir (Śmiałek-Liszczyńska ve Wojtkowiak, 2023; Koloh, 2022). Verilerin analizi için SPSS ve AMOS yazılımları kullanılmıştır. Öncelikle, verilerin güvenilirliğini test etmek amacıyla Cronbach Alpha katsayısı hesaplanmış ve 0.82 gibi yüksek bir değer elde edilmiştir, bu da anketin güvenilir olduğunu göstermektedir. Ayrıca, yapısal geçerliliği sağlamak için doğrulayıcı faktör analizi (CFA) yapılmış ve dört faktörlü modelin iyi uyum indekslerine sahip olduğu belirlenmiştir.

3. BULGULAR

Araştırmanın bulguları, cinsiyet ile hile boyutları arasında istatistiksel olarak anlamlı bir fark olmadığını ortaya koymuştur. Ancak, yaş, eğitim düzeyi, çalışma süresi, gelir seviyesi ve sektör gibi demografik değişkenlerle hile boyutları arasında anlamlı farklılıklar tespit edilmiştir. Özellikle yaşın artmasıyla birlikte, çalışanların hissettikleri baskı azalmakta; buna karşın rasyonalizasyon ve fırsat algılarının arttığı gözlemlenmiştir. Bu durum, yaşça büyük çalışanların sosyal izolasyondan daha az etkilenmeleri ve iş süreçlerine daha hakim olmalarıyla açıklanabilir (Armstrong, 1987; Yıldırım ve Turgut, 2016). Eğitim düzeyinin yükselmesiyle birlikte, fırsat ve yetenek boyutlarına yönelik algıların da arttığı tespit edilmiştir. Yüksek eğitilmiş

çalışanların genellikle daha üst düzey pozisyonlarda bulunması ve bu pozisyonların getirdiği avantajların hile eğilimlerini artırabileceği öne sürülmektedir (PWC, 2016; ACFE, 2022). Ayrıca, gelir düzeyinin artmasıyla birlikte tüm hile boyutlarına ilişkin algıların belirgin şekilde yükseldiği saptanmıştır. Bu bulgu, yüksek gelirli çalışanların, daha yüksek pozisyonlarda bulunmaları nedeniyle hile yapma fırsatlarının artmasıyla ilişkilendirilebilir. Sektörel bazda yapılan analizlerde, finans sektöründe çalışanların rasyonalizasyon ve yetenek boyutlarında daha yüksek eğilimler sergilediği görülmüştür. Özellikle pandemi döneminde, finans sektöründe artan karlılık ve çalışanların uzaktan çalışma modelinde kazandıkları teknolojik yetkinlikler, bu sektörün hile risklerini artırdığı bilinmektedir (Koomson et al., 2020; Peltier-Rivest ve Lanoue, 2012). Bununla birlikte, tekstil sektöründe rasyonalizasyon boyutunda en düşük, hizmet sektöründe ise yetenek boyutunda en düşük seviyelerde eğilimler gözlemlenmiştir. Bu bulgular, farklı sektörlerin doğasından kaynaklanan iç kontrol mekanizmalarının etkinliği ve çalışanların hile yapma potansiyelleriyle ilgili önemli ipuçları sunmaktadır.

4. TARTIŞMA

Bu çalışmanın bulguları, uzaktan çalışma ortamlarında çalışanların hileye yönelik eğilimlerinin demografik özellikler temelinde önemli ölçüde farklılık gösterdiğini ortaya koymaktadır. Özellikle yaş, eğitim düzeyi ve gelir seviyesi gibi faktörlerin, çalışanların hile boyutlarına yönelik algılarını büyük ölçüde etkilediği saptanmıştır. Yaşça büyük çalışanların baskı algısının düşük olması, onların sosyal izolasyondan daha az etkilenmeleriyle açıklanabilirken, bu gruptaki çalışanların iş süreçlerine dair bilgi sahibi olmaları, fırsat ve rasyonalizasyon eğilimlerinin artmasına neden olabilir. Uzun süreli çalışanlar, şirket içindeki süreçlere daha hâkim olmaları nedeniyle, iç kontrol sistemlerindeki zafiyetlerden yararlanma olasılıkları daha yüksek olabilir. Eğitim düzeyinin ve gelir seviyesinin yüksek olması ise, çalışanların daha yüksek pozisyonlarda yer alması ve bu pozisyonların getirdiği avantajlar nedeniyle hile eğilimlerini artıran faktörler olarak değerlendirilebilir. Bu bulgular, PWC (2016), KPMG (2020) ve ACFE (2022) raporlarında sunulan hile eğilimlerinin demografik değişkenlerle olan ilişkisini doğrular niteliktedir.

SONUÇ

Bu çalışma, uzaktan çalışma ortamlarında demografik özelliklerin, çalışanların hile boyutlarına yönelik algılarını nasıl etkilediğine dair literatürdeki boşluğu doldurmayı amaçlamaktadır. Bulgular, işletme yöneticileri ve politika yapımcılar için hileyle mücadele stratejilerinin geliştirilmesinde rehberlik edebilecek önemli bilgiler sunmaktadır. Özellikle finans sektörü gibi hileye daha yatkın sektörlerde, çalışanların eğitim ve gelir düzeyleri göz önünde bulundurularak daha sıkı iç kontrol mekanizmalarının geliştirilmesi gerekliliği ortaya çıkmaktadır. Gelecek araştırmaların, Türkiye genelinde ve farklı sektörlerde yapılacak çalışmalarla bu bulguların genellenebilirliğini artırabileceği ve daha derinlemesine analizler sağlayabileceği öngörülmektedir. Ayrıca, farklı demografik değişkenlerin de araştırma kapsamına alınması, çalışanların hileye yönelik tutumlarının daha kapsamlı

bir şekilde anlaşılmasına olanak tanıyacaktır. Bu bağlamda, işletmelerin sürdürülebilirliğini korumak adına, hile risklerini minimize edecek stratejiler geliştirmeleri büyük önem taşımaktadır.

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KATKI ORANI / CONTRIBUTION RATE	AÇIKLAMA / EXPLANATION	KATKIDA BULUNANLAR / CONTRIBUTORS
Fikir veya Kavram / <i>Idea or Notion</i>	Araştırma hipotezini veya fikirini oluşturmak / <i>Form the research hypothesis or idea</i>	Yasemin ERTAN Samet GEZER
Tasarım / <i>Design</i>	Yöntemi, ölçeği ve deseni tasarlamak / <i>Designing method, scale and pattern</i>	Yasemin ERTAN Elif YÜCEL
Veri Toplama ve İşleme / <i>Data Collecting and Processing</i>	Verileri toplamak, düzenlenmek ve raporlamak / <i>Collecting, organizing and reporting data</i>	Yasemin ERTAN Elif YÜCEL Samet GEZER
Tartışma ve Yorum / <i>Discussion and Interpretation</i>	Bulguların değerlendirilmesinde ve sonuçlandırılmasında sorumluluk almak / <i>Taking responsibility in evaluating and finalizing the findings</i>	Yasemin ERTAN Elif YÜCEL Samet GEZER
Literatür Taraması / <i>Literature Review</i>	Çalışma için gerekli literatürü taramak / <i>Review the literature required for the study</i>	Yasemin ERTAN Samet GEZER