IBN HALDUN UNIVERSITY
SCHOOL OF GRADUATE STUDIES
DEPARTMENT OF AIR TRANSPORT MANAGEMENT

MASTER THESIS

THE EFFECTS OF AGE, GENDER, AND CULTURAL DIVERSITY IN THE AVIATION INDUSTRY

BERNA ŞEN ŞENOL

THESIS SUPERVISOR
PROF. MUSTAFA KEMAL YILMAZ

ISTANBUL, 2024

IBN HALDUN UNIVERSITY
SCHOOL OF GRADUATE STUDIES
DEPARTMENT OF AIR TRANSPORT MANAGEMENT

MASTER THESIS

THE EFFECTS OF AGE, GENDER, AND CULTURAL DIVERSITY IN THE AVIATION INDUSTRY

by
BERNA ŞEN ŞENOL

A thesis submitted to the School of Graduate Studies in fulfillment of the requirements for the degree of Master of Science in Air Transport Management

THESIS SUPERVISOR
PROF. MUSTAFA KEMAL YILMAZ
THESIS JURY MEMBERS
ASIST. PROF SÜMEYYE KUŞAKCI
PROF. MİNE AKSOY KAVALCI

ISTANBUL, 2024

APPROVAL PAGE

This is to certify that we have read this thesis and that, in our opinion, it is fully adequate, in scope and quality, as a thesis for the degree of Master of Science in Air Transport Management.

Thesis Jury Members

Title - Name Surname	Opinion	Signature
_____	_____	_____
_____	_____	_____
_____	_____	_____

This is to confirm that this thesis complies with all the standards set by the School of Graduate Studies of Ibn Haldun University:

Date of Submission Seal/Signature

ACADEMIC HONESTY ATTESTATION

I hereby declare that all information in this document has been obtained and presented in accordance with academic rules and ethical conduct. I also declare that, as required by these rules and conduct, I have fully cited and referenced all material and results that are not original to this work.

Name Surname: Berna Şen Şenol

Signature:

ÖZ

HAVACILIK SEKTÖRÜNDE YAŞ, CİNSİYET VE KÜLTÜR ÇEŞİTLİLİĞİNİN ETKİLERİ

Şen Şenol, Berna
Hava Taşımacılığı Yönetimi Yüksek Lisans Programı
Öğrenci Numarası: 224038019
Open Researcher and Contributor ID (ORC-ID): 0009-0001-4010-7553
Ulusal Tez Merkezi Referans Numarası: 10659841

Tez Danışmanı: Prof. Dr. Mustafa Kemal Yılmaz
Kasım 2024, 78 Sayfa

Havacılık sektöründe çeşitlilik, havayolu şirketlerinin kurumsal itibarını, yetenek edinimini, inovasyonu ve firma karlılığını etkilemektedir. Bu itibarla çeşitlilik, kurumsal performansı artırabilmekte, deneyim paylaşımı yoluyla daha yüksek katma değer yaratılmasına imkân vermektedir. Farklı yaşa, cinsiyete, kültüre ve deneyime sahip çalışanlar, firmalarda süreçlerin etkin yürütülmesine katkı sağlayabilmektedir. Çeşitliliğin boyutları belli başlıklar altında ele alınsa da her sektörde farklı izdüşümleri olabilmektedir. Bu açıdan şirketler çeşitlilik ile ilgili atacakları adımlara öncelikle çalışanların çeşitliliğe ilişkin algılarını ölçerek başlamalıdırlar. Bu çalışmanın amacı, havacılık sektörü çalışanlarının demografik yapıları üzerinden iş ortamında çalışanların çeşitlilik ile ilgili algılarını ölçmektir. Çalışmada çeşitlilik boyutu olarak yaş, cinsiyet ve kültürel çeşitlilik kullanılmış ve çalışanların ilgili çeşitliliğe atfettikleri avantajlar ya da zorluklar üzerinden her boyut için algıları belirlenmeye çalışılmıştır. Çalışmada çevrimiçi anket yöntemi kullanılarak 203 pilota ulaşılmıştır. Elde edilen sonuçlar, çalışanların cinsiyetlerinin çeşitlilik algılarını etkilemediğini, ancak yaş ve iş tecrübesinin çeşitlilik algısında önemli etkiler yarattığını göstermiştir. Yaş ilerledikçe çalışanlar çeşitliliğin avantajlarını ve zorluklarını fark etmekte ve çeşitliliğe karşı duyarlıklılıkları artmaktadır. Bu açıdan çalışma, havacılık sektöründe faaliyet gösteren şirketlerin çeşitliliği nasıl yönetmeleri gerektiğine ilişkin değerli bilgiler sunmaktadır.

Anahtar Kelimeler: Cinsiyet, Çeşitlilik, Havacılık Sektörü, Kültürel Çeşitlilik.

ABSTRACT

THE EFFECTS OF AGE, GENDER, AND
CULTURAL DIVERSITY IN THE AVIATION INDUSTRY

Şen Şenol, Berna
MSc in Air Transport Management
Student ID: 224038019
Open Researcher and Contributor ID (ORC-ID): 0009-0001-4010-7553
National Thesis Centre Reference Number: 10659841

Thesis Supervisor: Prof. Mustafa Kemal Yılmaz
November 2024, 78 Pages

Diversity in the aviation industry enables airlines to increase customer engagement, corporate reputation, talent acquisition, innovation, and financial performance. It contributes to improving value creation through diversity of thoughts and experiences, as employees with different ages, genders, and cultures can provide different perspectives on how tasks should be carried out. Firms that intend to get the support of employees for a diverse environment should include them in these efforts. Although the diversity covers similar dimensions, its perception differs from industry to industry. Firms should shape their efforts for diversity by evaluating the perceptions of the employees on that construct. This study aims to analyze the perception of diversity in the aviation industry by examining the demographics of employees and their perceptions of diversity. We covered age, gender, and cultural diversity in the study. We explore whether the related diversity in airlines offers an efficient environment by considering their advantages and challenges. We used an online survey and reached 203 pilots. The results show that there is no relationship between gender and the perception of the employees on diversity. However, there is a significant relationship between age and diversity perception. As the age increases, the awareness of the advantages and challenges of diversity rises. The findings provide valuable insights for the airlines to draw a path to enhance age, gender, and cultural diversity to improve flight safety and customer engagement.

Keywords: Age Diversity, Aviation Industry, Cultural Diversity, Gender Diversity.

DEDICATION

I dedicate this thesis to my family, who spared our precious time together to support my challenging journey, and give me all the effort I needed to contribute to creating something meaningful for our environment.

ACKNOWLEDGEMENT

I want to acknowledge the support of Professor Mustafa Kemal Yilmaz as my thesis supervisor. I would never have achieved this challenging work without his constant support and encouragement. His supervision was unique. He guided me through the entire process of improving my work. I also acknowledge the enlightenment that I received from my valuable instructors throughout all the modules of the Air Transport Management Program, which motivated me to conduct my research.

I cannot miss to acknowledge the support of my entire family members, who encouraged me to work hard and gave precious advice and moral support.

Finally, I would like to acknowledge my dear friends for the time they spent helping me with the final editing and organization of the thesis and who were there for me whenever I needed a signal to know that I was on the right path to my target.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

LIST OF SYMBOLS AND ABBREVIATIONS

AA	American Airlines
ACI	World Airport Traffic Forecasts
ASK	Available Seat Kilometers
BALPA	British Airline Pilots Association
CAPA	Centre for Aviation
CRM	Crew Resource Management
DEI	Diversity, Equity, and Inclusion
EASA	European Union Aviation Safety Agency
FAA	Federal Aviation Administration
IATA	The International Air Transport Association
IBM	International Business Machines
ICAO	The International Civil Aviation Organization
IFALPA	The International Federation of Air Line Pilots Associations
ISWAP	The International Society of Women Airline Pilots
IVR	Indulgence vs. Restraint
JAA	European Joint Aviation Authority
LOFT	Line-Oriented Flight Training
LTO	Long-Term Orientation vs. Short-Term Normative Orientation
MAS	Masculinity vs. Feminity
NASA	National Aeronautics and Space Administration
NTSB	National Transportation Safety Board
PDI	Power Distance Index
SPSS	Statistical Package for the Social Sciences
TALPA	Turkiye Airline Pilots Association
UAE	United Arab Emirates
UAI	Uncertainty Avoidance Index
UK	United Kingdom
UK CAA	United Kingdom Civil Aviation Authority
UN	United Nations
US	United States of America

CHAPTER I

INTRODUCTION

1.1. Background of the Study

Global companies in different industries have diverse workforces in international business environments to boost customer engagement, corporate reputation, talent acquisition, innovation, and financial performance. Hence, diversity contributes to drive value creation through the diversity of thoughts and experiences, as employees with diverse ages, genders, cultures, experiences, and expertise provide different opinions for the execution of tasks in the workplace (Hunt et al., 2018). The Prioritising Racial and Ethnic Equity Business Report published by the World Economic Forum (2023) also highlights the economic benefits of accelerating a diverse workforce, claiming that it allows for multifaceted skills and experience, a better understanding of customer needs, and broadening creativity and problem-solving.

Diversity and inclusion are also considered top priorities across the aviation industry as airlines compete for the next generation of talent to deliver the benefits of global connectivity. According to the latest ACI World Airport Traffic Forecasts (2022), 2019 (pre-pandemic), global passenger volumes are expected to double by 2039 to 18.3 billion. The availability of a strong and diverse workforce to accommodate this future demand is important. The significant restrictions experienced on resource availability could negatively impact service quality, operational performance, and the aviation capacity to meet growth.

Diversity and inclusion are no longer an add-on to human resources management but serve as an essential pillar to sustainability framework. It drives innovation, improves decision-making, and optimizes to long-term business viability (IATA, 2023). The aviation industry encompasses a wide range of jobs, from pilots and air traffic controllers to airport staff and maintenance crew and they all play an important role in

ensuring that the entire aviation ecosystem performs efficiently. By its nature, human resources in the aviation industry are dynamic and move among aviation companies due to fierce competition. In this challenging environment, companies should wisely use crew resource management (CRM) to create an equitable working environment for staff from different nationalities, genders, cultures, experiences, and ages. This is vital to prevent the devastating effects of human errors in the aviation industry. In this context, aviation companies should increase the participation of staff with diverse backgrounds to ensure their presentation in brainstorming, problem-solving, and decision-making by disregarding their gender, age, and other identifying characteristics for promoting an innovative environment. In this respect, the efforts to manage diversity should go beyond removing the barriers, making every staff feel equal and valuable in the entity.

The management of diversity primarily focuses on interpersonal communication, leadership, and decision-making. In this respect, CRM concentrates on the root causes of aircraft accidents due to human factors and tries to address the social interactions of flight crew to reduce human errors, diminish cultural conflicts, and achieve safe flight operations (Driskel & Adams, 1992; Peksatici, 2018). Statistics for airplane accidents from 1959 to 1989 indicated that flight crew actions were the primary cause of more than 70% of accidents (Helmreich & Foushee, 2010). Therefore, it is vital to investigate the diverse characteristics of the flight crew to bring more viable solutions to accidents related to human errors due to lack of communication, cultural differences, and crew interaction. Besides providing mandatory training, airlines should manage diversity by examining its sub-dimensions, as each sub-dimension may have a different impact on operational performance. For instance, according to the statistics by Datausa (2022), 85.3% of US airline pilots and flight engineers are white, while women make up fewer than 20% of the US workforce in most aviation occupations.

The study aims to examine whether the diversity in the aviation industry creates advantages or challenges for aviation companies. In exploring the answer to this question, this research uses age, gender, and cultural diversity. It employs an online survey to get the feedback from the employees working in the aviation companies.

1.2. Motivation of the Study

Diversity in the workplace refers to the total makeup of the working workforce and the diversity it contains. It includes differences in personal characteristics such as age, gender, race, nationality, experience, education, and many other things. Having a diverse workforce is essential for creating an inclusive environment that values the contributions of all employees. It fosters a sense of belonging and enables everyone to reach their full potential. Companies that prioritize diversity are better equipped to respond to challenges, attract top talents, and meet the needs of diverse customer bases.

Diversity in business is an important factor that significantly affects growth and success. A diverse workforce enables people to develop their skills. Exposure to a range of ideas and expertise allows individuals to learn from each other. Diversity can also increase problem-solving abilities, happiness, and productivity, leading to creative solutions. For instance, employees with different cultures can offer new ideas. A diverse firm can better adapt to changing conditions and technological development. Diversity fosters empathy and compassion. Understanding different cultural norms and values helps individuals relate to others on a deeper level. Compassion is essential for building strong interpersonal relationships and creating a supportive environment. In this sense, diverse firms prepare employees for the international arena and broaden their views, helping them approach global challenges with an inclusive mindset.

Diverse teams also understand different customer segments. Therefore, they can adapt new products or services to meet various needs. Customers appreciate firms that value diversity. Embracing diversity is not only about social responsibility, but also it is a strategic advantage for businesses and attracts people from different backgrounds. Successful diversity management enables firms to outperform those lacking it. It can foster a corporate culture where employees feel more included and have the resources to advocate for themselves. This improves employee experience. Effective diversity management can also increase productivity, employee retention, and job satisfaction. Some companies hire diversity and inclusion coordinators to prioritize and guide action plans to help leaders manage diversity.

In industries where diversity is considered sensitive, it is important to discuss how the dimensions of diversity are perceived by the employees and management. In the aviation industry, diversity is particularly important, given the critical role that airlines play in facilitating global travel and commerce. It is vital that the airline workforce serves in an efficient way to ensure that all passengers feel safe and valued. With this argument, this study aims to examine diversity and diversity management in the aviation industry. It also tries to determine the perceptions of the airlines about the groups that are most excluded in business life and the reasons behind this exclusion. Thus, it provides valuable insights for the development of diversity practices in the airline industry.

1.3. Scope of the Study and Research Objectives

This study aims to examine how the degree of diversity in aviation companies affects the corporate environment from the employees' perspective. We defined the dimensions of diversity, i.e. age, gender, and cultural diversity, and asked the employees to identify their perceptions on the diversity dimensions in terms of their demographic characteristics of age, gender and working experience in the working environment. We also explore the employees' perceptions about the level of diversity of the firms and the attitude of the management towards diversity.

We employed a structured survey to conduct this study. We run an online survey for the members of two separate pilot associations, i.e., the British Airline Pilots Association (BALPA) and Turkey Airline Pilots Association (TALPA), to create a meaningful dataset in the aviation industry. We collected data from 203 pilots. We developed a scale to measure the employees' perceptions of the diversity in aviation companies. The scale consists of age, gender, nationality, place of occupation, educational level, duration in the industry, duration in the firm, and job title. We also used the cultural mindset of power distance and individualism vs. collectivism in Hofstede's cultural dimensions theory to identify cultural diversity as a factor of age and gender. We used factor and reliability analyses and chi-square analysis. The findings provide valuable insights for the airlines, assisting them in formulating effective policies to manage the diversity in their firms.

1.4. The Structure of the Study

This thesis is organized into five chapters:

Chapter 1 provides the motivation and scope of the study and research objectives.

Chapter 2 gives the conceptual and theoretical background about the diversity and provides the literature review about the effects of diversity in the aviation industry.

Chapter 3 presents the data and methodology and gives information about the sample.

Chapter 4 provides the empirical findings and identifies potential areas for improvement in the diversity policies of aviation companies.

Chapter 5 concludes and discusses the implications of the study for the relevant parties. It also addresses the limitations of the study and proposes future research avenues.

CHAPTER II

LITERATURE REVIEW

2.1. An Overview of Diversity and Inclusion

During the last two decades, the world has become more integrated, leading to an increase in the interaction of companies and other market players (Briscoe, Schuler & Tarique, 2012). The growth in economic activities has also increased the diversity in entities, influencing the attitudes of employees in multinational companies (Alfes & van Engen, 2017). In this environment, several facets of individuals' identity, such as gender, age, and nationality affect work life (Atewologun, Sealy, & Vinnicombe, 2016; Thatcher, Hymer & Arwine, 2023). A meta-analysis by van Dijk, van Engen, and van Knippenberg (2012) reveals that diversity leads to positive effects, i.e., creativity and problem-solving, on firm performance. Thus, it is vital to manage diversity in the working environment as it empowers teamwork and fosters productivity (Mahat, 2024).

Diversity, equity, and inclusion (DEI) refers to the efforts to promote the involvement of a wide range of individuals from diverse backgrounds, experiences, and skills to achieve corporate goals (Kiliç & Yanikoğlu, 2023). Having DEI provides equal opportunities for everyone by addressing disparities in hiring and promoting people from different backgrounds (Shen et al., 2009). Different viewpoints and experiences can enable individuals to learn from each other, leading to increased effectiveness in corporate performance (Rosenzweig, 1998).

Creating a working environment where employees feel valued not only enhances employee engagement and motivation but also boosts the firm reputation (Ali & Konrad, 2017). These initiatives also support corporate sustainability by improving the problem-solving and decision-making skills of workers and diminishing the costs associated with high turnover rates (Yang & Konrad, 2011). By embracing diversity,

firms can attract individuals with innovative perspectives and backgrounds and cultivate a culture, ultimately leading to a more dynamic workplace. In order to develop a roadmap, it is essential to start with identifying the diversity layout of the company and analyzing the perceptions of the employees towards diversity.

2.2. Diversity in the Aviation Industry

2.2.1. The Working Environment in the Aviation Industry

In the aviation industry, companies work in close cooperation with each other. Since airlines operate in an international environment, they are bound by global rules set by international organizations, i.e., the International Civil Aviation Organization (ICAO) and the International Air Transport Association (IATA). ICAO has 193 member countries, while IATA has 320 member airlines. They provide standards and policies to help countries work together, cooperate and share their skies for the mutual benefit of all members.

The aviation industry requires a skilled and experienced workforce. Pilots are the most essential element of the operations and should have particular certifications required by the international authorities. The business environment is closed and interactive, with a lot of information flowing inside the pilots' community. One of the biggest international pilot communities is the International Federation of Air Line Pilots Associations (IFALPA), representing more than 110,000 pilots in the member associations of nearly 100 countries worldwide. Due to the international nature of the aviation industry, the airlines are subject to strict international laws and international licensing procedures, job titles are standardized, employees are licensed, and operations are audited by the international authorities. Therefore, airlines end up with multinational, multi-gender, and multi-generation working environments. In this study, we ran an online survey for the pilots who are members of the Turkiye Airline Pilots Association (TALPA) and British Airline Pilots Association (BALPA), which are members of IFALPA. TALPA has 5,000 members, and BALPA has 10,000.

2.2.2. Historical Development of Diversity in the Aviation Industry

During the 1970s, a significant number of human factors led to a series of aircraft disasters, leading NASA and the National Transportation Safety Board (NTSB) in the US to investigate the behavioral interactions between pilots. The major problems confronted in these accidents were associated with poor group decision-making, ineffective communication, and lack of situation awareness (Helmreich & Foushee, 2010). These problems were related to the non-technical or cognitive skills of flight crew (Flin, Martin, Goeters, Hoermann, Amalberti, Valot, & Nijhuis, 2003; Peksatici, 2018). In the aviation industry, the term non-technical skills was first expressed as Crew Resource Management (CRM) by the European Joint Aviation Authority (JAA) (Kanki et al., 2010). It is the management of resources, i.e., information, equipment, and people, to achieve safe flight operations (Driskel & Adams, 1992; Lauber, 1984).

Assessing the attitudes of pilots towards CRM is vital for flight safety since the attitudes play a vital role in the engagement of proper CRM behaviors (O'Connor et al., 2002; Salas, Wilson, Burke, Wightman, & Howse, 2006). Since CRM mainly involves social interactions, it depends on cultural values. Peksatici (2018) revealed that cultural differences among cockpit crew affect CRM. Many studies found that culture strongly affects the nature of communication and social interaction among flight crews and influences the behaviors of pilots that may jeopardize safety (Al Romaithi, 2014; Merritt, 1993). In terms of operational efficiency, a variety of perspectives and problem-solving approaches from a diverse workforce can lead to more innovative solutions (NToumi, 2020). A workplace that respects diversity tends to have a friendly atmosphere that supports employee satisfaction and helps airlines achieve firm goals (Cocis, Batrancea & Tulai, 2021). Thus, a strong commitment to DEI can enhance an airline’s reputation, attract a broader customer base, improve employee morale, and ultimately lead to better financial performance.

2.2.3. Diversity Dimensions and Measurements in the Aviation Industry

In a recent study, Kilic and Yanikoglu (2023) examined DEI practices of the top 10 airlines with the highest Available Seat Kilometers (ASK) and revealed that gender diversity was the most frequently discussed issue, followed by race/ethnicity and age.

They categorized the airlines based on their DEI practices using the DEI scores as shown in Table 2.1, Figure 2.1 and Figure 2.2. The top airlines in terms of diversity scores are American Airlines (AA), Southwest Airlines, and United Airlines.

Table 2.1. The Diversity Scores of the Airlines

	Gender	Disability	Gender Identity	Race /Ethnicity	Nationality	Age & Generation	Veterans	Culture	Language	SCORE
American	1	1	1	1	1	1	1	1	0	8
Southwest	1	1	1	1	0	0	1	1	0	6
United	1	1	1	1	0	1	1	0	0	6
Delta	1	0	1	1	0	0	1	0	0	4
China Eastern	1	0	0	1	1	1	0	0	0	4
Ryanair	1	0	0	0	1	0	0	0	1	3
Turkish Airlines	1	1	0	0	0	1	0	0	0	3
Qatar	1	0	0	0	1	1	0	0	0	3
China Southern	1	0	0	0	0	0	0	0	0	1
Emirates	1	0	0	0	0	0	0	0	0	1
Toplam	**10**	**4**	**4**	**5**	**4**	**5**	**4**	**2**	**1**	

Reference: Kiliç and Yanikoğlu (2023).

Diversity scores of airlines are based on their efforts to address various diversity categories such as race, gender, ethnicity, age, sexual orientation, and physical abilities. For example, AA has been recognized for its DEI efforts by receiving a perfect score on the Corporate Equality Index for 20 years and has been named the best place to work for disability inclusion. These scores reflect the commitment of the airline to create a diverse and inclusive workforce that mirrors the demographics of their passengers. Diverse teams are better equipped to understand and meet the needs of a diverse clientele, leading to improved customer satisfaction.

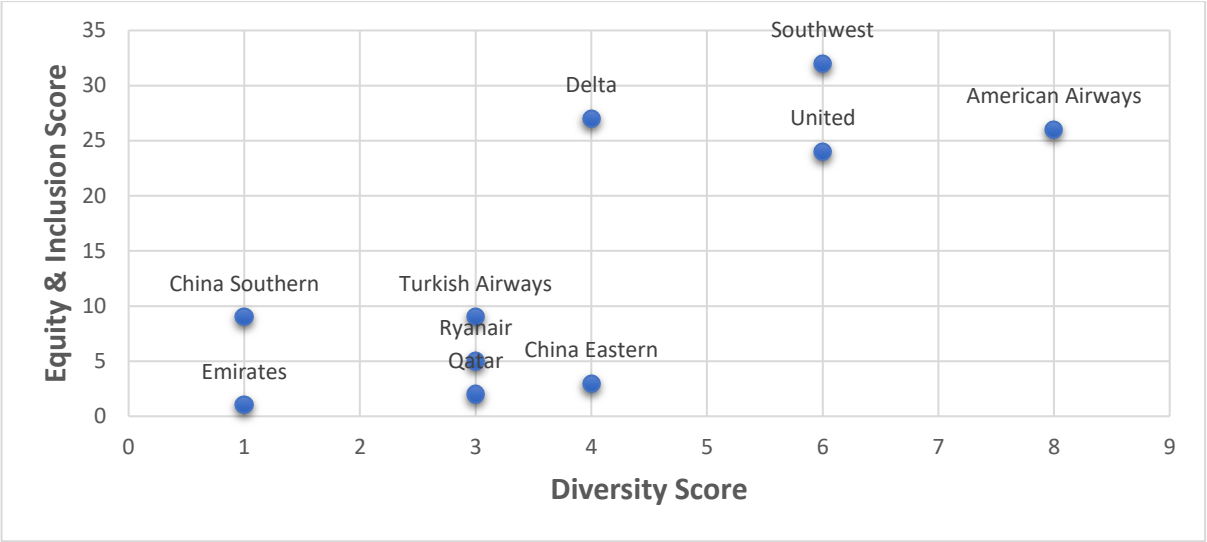

Figure 2.1. The DEI Scores of the Airlines

Reference: Kilic and Yanikoglu (2023)

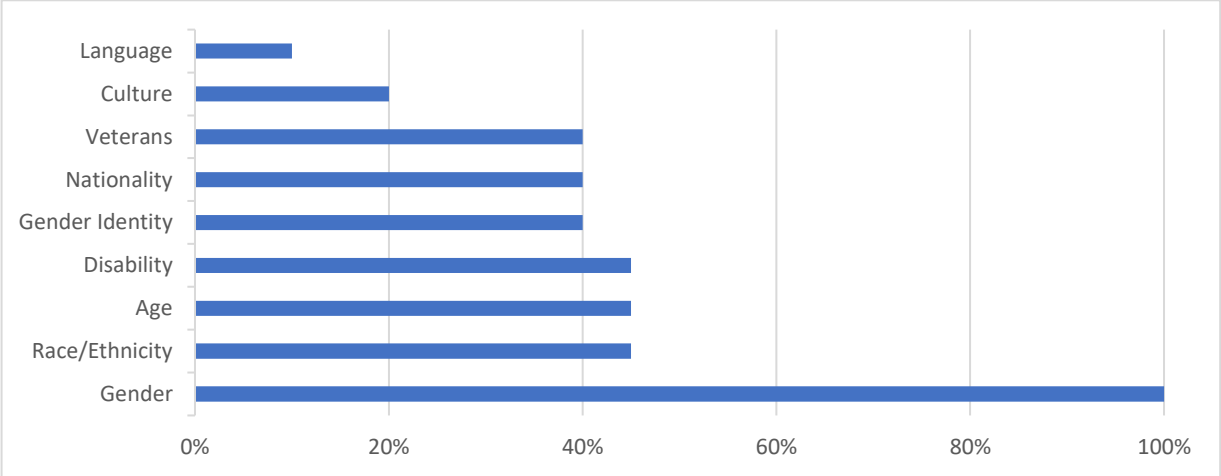

Figure 2.2. The Percentage of the Airlines Addressing Each Diversity Item

Reference: Kilic and Yanikoglu (2023)

Airlines were categorized according to their DEI practices. Figure 2.1 displays the DEI scores of each company. The scores indicate the number of DEI practices an airline has adopted. A score of 1 point per item was awarded for each diversity item and each equity and inclusion practice. For instance, if an airline only addresses gender and racial diversity, it would receive a score of 2. The final score of each airline is the sum of all DEI scores for each diversity category.

2.3. The Dimensions of Diversity and Hypotheses Development

In this study, we adopted a new approach by describing the dimensions of diversity from the perspective of the employees in the aviation industry. We only focused on three dimensions of diversity, i.e., age, gender and culture. To explore the cultural dimension more accurately, we divided it into its sub-dimensions with the aid of Hofstede's Culture Dimensions Theory.

2.3.1. Age Diversity

Age diversity shows the differences in age groups in an entity (Ricee, 2023). Demographic diversity is mainly determined by age and gender (Luu et al., 2019; Profili et al., 2017). Kunze et al. (2013) revealed that firms that respect age diversity handle age discrimination better, leading to more satisfactory work engagement. Generational differences originate from different values and mindsets and foster creativity and innovation. Age diversity brings different perspectives and experiences together. For instance, old workers may have more experience in a particular field, while young workers may bring fresh ideas, leading to more innovation and creativity in the workplace.

By valuing the contributions of people from different age groups, a firm can build a corporate culture that promotes mutual respect and understanding. It also creates an environment where young employees may have the opportunity to learn from more experienced professionals. Having a diverse age range in a team may lead to greater job satisfaction and productivity, helping firms stay competitive (Ricee, 2023). Age diversity is usually positively related to firm performance (Li et al., 2021). Diversity climate theory claims that individual attitudes are influenced by age diversity in the workplace (Cox,1994; McKay et al., 2007, 2008).

In the aviation industry, airlines encounter a diverse environment regarding age differences. Taylor et al. (2007) stressed that pilots of higher ages show better scores in flight summaries and aviation communications. As there are age limitations to receiving a pilot license according to the regulations set up by the international aviation authorities, i.e., Federal Aviation Administration (FAA) and European Union Aviation

Safety Agency (EASA). The earliest age to become a pilot is 18 years, and pilots may continue their professional career until 65 and sometimes continue flying as simulator instructors after 65. That makes the range of the ages of pilots even more diverse. Table 2.2. shows the age diversity of pilots in the United Kingdom (UK). The majority of license holders in the UK are in the range of 30 to 60 ages, and there is a noticeable decline in license holders above the age of 60 due to retirement or reduced flying activity.

There are challenges regarding age diversity in the aviation industry. Maintaining quality of life while balancing an aviation career and family responsibilities is difficult. Young individuals may lack guidance and visible role models in the industry. The aviation sector competes with other industries for qualified professionals, and certain policies may prevent diverse age groups from joining or advancing into the industry. These challenges require attention to ensure a diverse workforce in the airlines.

Table 2.2. The UK CAA Flight Crew Licence Age Profile (2021)

Age	Issued Licence Type			Total	Percentage (%)
	ATPL	CPL	MPL		
18-25	66	651	95	812	5.5
26-35	2075	2475	369	4919	32.5
36-45	2873	1217	84	4174	27.6
46-55	2856	634	0	3490	22.7
56-65	1382	239	0	1621	10.7
65+	72	67	0	139	1,0

Reference: UK Civil Aviation Authority (CAA)

To overcome these difficulties, airlines should focus on multicultural competence and reducing biases, using platforms to gain insights into the DEI and identify areas for improvement. They should implement unbiased processes to correct diversity gaps, creating an innovative working environment free of bullying and discrimination during recruitment, training, and promotion. They should involve their employees in shaping diversity policies, acting as partners in the DEI strategy, and ensuring that diversity policies are reflective of the needs and aspirations of the workforce.

2.3.2. Gender Diversity

Gender diversity refers to the existence of people who exhibit a range of gender identities in an organization (Turlapati, Ajit, Natarajan, Adithya, Mishra, & Lenin, 2024). Since men and women have different viewpoints, ideas, and market insights, a gender-diverse workforce enables better problem-solving. A study held by Gallup finds that hiring a gender-diverse workforce allows a firm to serve a diverse customer base (Badal, 2014).

Gender-diverse companies benefit from increased customer satisfaction (Herring & Cedric, 2009). Gender diversity in aviation is vital in terms of various ideas, mindsets, and attitudes (Florida Tech Online, 2020). Pulusumamidi et al. (2024) stated that women are an untouched and valuable source in terms of human capital. Aviation industry is male-dominated (Mattson, Johnson, Olson, & Ferguson, 2007; Rietsema, 2003; Turney, 2000). Women who work in male-dominated industries face barriers (Germain et al., 2012). Frome et al. (2006) stated that while women are not prone to pursue careers in male-dominated industries, their likelihood of giving up is high. Carr et al. (2003) stressed that women experience many barriers in pursuing career opportunities, such as becoming leaders.

Even if more women exist in workplaces in the last decades, gender diversity in the aviation industry is not fast-growing (Opengart & Germain, 2018). Lyness (2002) stated that even though there is an increase in the number of women, they still encounter underrepresentation in managerial roles at large firms. Since it is important for companies to draw in and keep workers in a fiercely competitive environment, senior management must pay close attention to creating a women-friendly environment. Pulusumamidi et al. (2024) indicated that encouraging gender diversity has a positive impact on creativity and innovation. Fortune 500 companies that have a higher proportion of female board members generate higher profits. Bibi (2016) claimed that female managers possess greater creativity and adeptness in teamwork. Increasing gender diversity in firms also helps highlight the importance of issues related to corporate culture, create support systems, and eliminate discriminative approaches. Openagart and Germain (2018) stated that female pilots face obstacles in gender-related issues while pursuing their careers.

Recently, international organizations in the aviation industry have developed unique projects focusing on diversity and inclusion. The IATA supports gender diversity, and recently proposed a program on Advancing DEI with 25by2025 in 2019. This commitment emphasizes the significance of adopting the best practices to foster greater DEI and gender balance in the aviation industry (IATA, 2024).

The percentage of women in senior and technical roles in the aviation industry is comparatively low. Only 22-25 of the IATA member airlines have female CEOs, and 4% of the pilots are female. More than 111 signatories representing airlines all over the world and responsible for 50% of the global air traffic have signed up for 25 by 2025. Fully 36 signatories have joined the initiative since the IATA Annual General Meeting in Boston in October 2021. Every quarter, the 25by2025 signatories meet to share best practices and discuss how they could integrate DEI into their business practices.

The IFALPA released a Position Paper on September 30th, 2021, on the topic of why DEI matters for women in the aviation industry. This paper stated that IFALPA should develop and support a diverse and inclusive pilot group through its member associations, where women are valued and respected. The main deterrents for young women considering careers in aviation are lack of mentorship, lack of visible role models, associated costs, and exclusionary policies. Bias and discrimination are two primary discouraging factors for women joining and remaining in the piloting profession. Thus, airlines must remove barriers that preclude women from seeking careers in the aviation industry.

The analysis by the Centre for Aviation (CAPA) in 2023, with the FAA reports, shows that the percentage of female pilots worldwide varies from 4% to 6%. Global aviation addresses the challenge of the underrepresentation of women in pilot positions. The share of women pilots in the US grew from 3.3% in 2002 to 4.9% in 2022. Women comprised 5.8% of pilots among airlines surveyed by the International Society of Women Airline Pilots (ISWAP) in 2021, compared to 5.2% in 2018. According to the ICAO, the female cohort of pilots has increased from 3.6% in 2016 to 4.1% in 2021. In the UK, the share of women pilots has increased from 4.3% in 2016 to 4.9% in 2021.

In gender performativity theory, gender is treated as a concept that people construct with the help of culture (Devinney & Björklund, 2022). In this frame, examining the different characteristics that gender diversity brings to the industry is important. In this study, we run an online survey for pilots who belong to the communities of BALPA and TALPA to examine their attitudes toward diversity. Information in the UK CAA about the UK licensed pilots as of 31.12.2021 given in Table 2.3. Male dominance continues in the number of license holders. The gender distribution across different types of the UK CAA flight crew licences varies with some licence types showing a more balanced distribution than others.

Table 2.3. The UK CAA Flight Crew Licence Holder Gender Profile (2021)

Gender/License	ATPL	CPL	MPL	Total	%
Female	484	339	38	861	5.6
Male	9,239	4,844	439	14,522	94.6

Reference: UK CAA.

According to the ICAO's latest global survey, the participation of women holding positions as pilots, air traffic controllers, and maintenance technicians has increased from 4.5% globally in 2016 to 4.9% in 2021. Various aviation institutions have implemented programs to encourage the role of women in the aviation industry. For instance, India emerged as a leading country, with 12.4% of pilots being female in 2022. These efforts reflect the growing importance of gender diversity in the industry (ICAO, 2023). The share of FAA pilot certificates held by women has increased over the years. Figure 2.3 shows that the share of female airline pilots in the US has increased from 4.8% in 2002 to 8.2% in 2022. The FAA indicates that the number of women with the FAA certification as airline pilots in the US has increased by 71% from 2002 to 2022, compared to a 15% increase for all pilots.

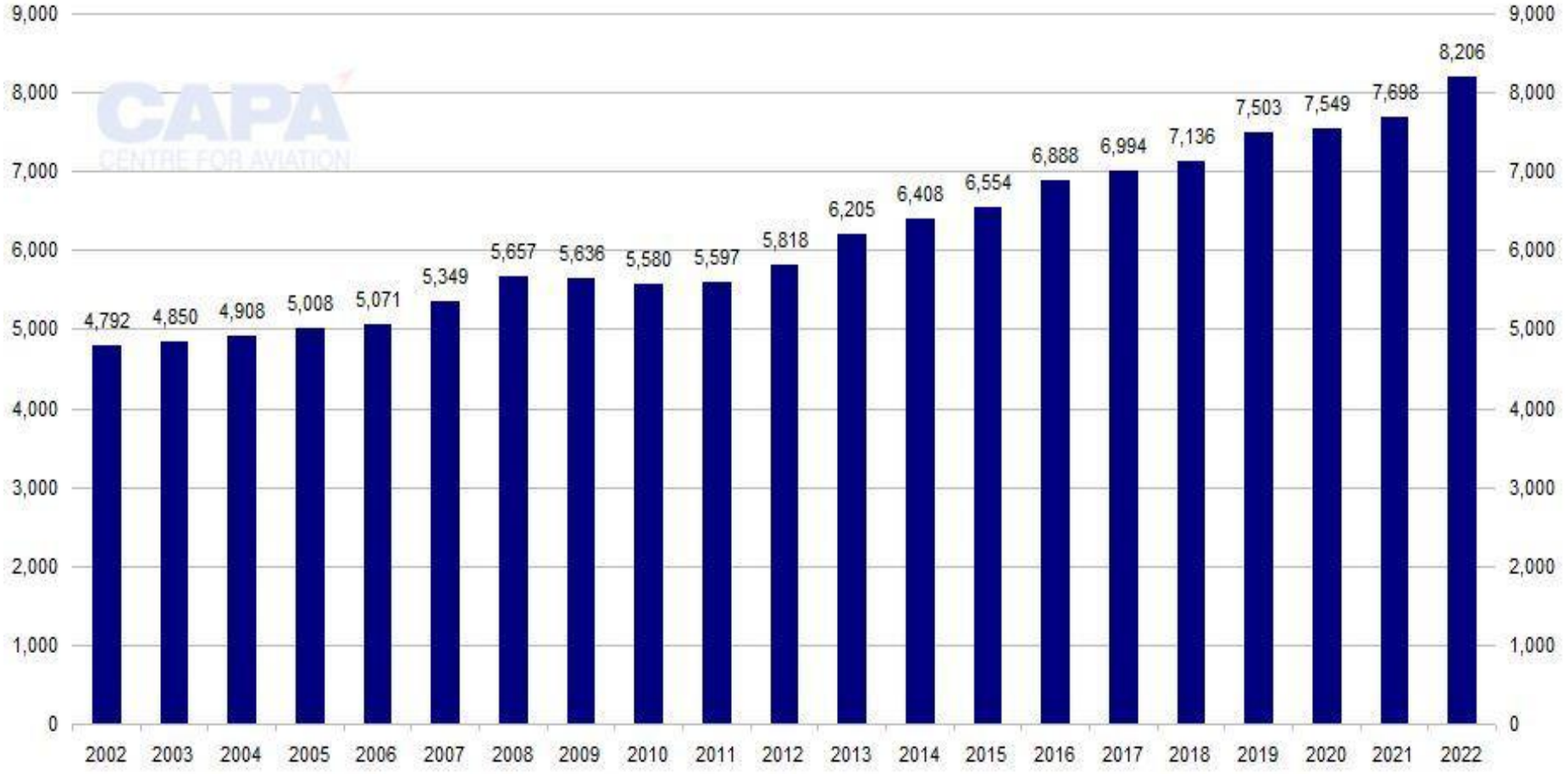

Figure 2.3. The Share of the FAA Pilot Certificates Held by Women (2002 -2022)

Reference: CAPA and FAA.

Airlines can encourage more women to pursue careers in the aviation industry through several strategies. Showcasing women in diverse aviation roles to inspire others, providing uniforms that are comfortable for women, establishing clear policies and support systems, offering training programs for women, implementing family-friendly policies to support work-life balance, creating mentorship opportunities with female role models, providing scholarships for women in aviation schools can help increase female representation in the aviation (Australian Goverment, 2024; Bryan, 2022).

IATA pinpoints the progress made toward better female representation in its announcements. It remarks that when its project 25 by 2025 was launched in 2019, it was a rallying call for the industry to look at gender imbalances and take steps to address them**.** Three and a half years after launching the project, improvements across the industry have been made against the key metrics. At the end of 2022, there were 176 signatories to the pledge, including 23 from Africa /Middle East, 36 from the Americas, 25 from Asia-Pacific, 12 from North Asia, and 80 from Europe. As part of the ongoing effort to monitor DEI, IATA continues to collect data from all 25 by 2025 signatories yearly. The data shows that the number of women in aviation increased by 42% in 2022 and the number at senior levels by 28%, a nearly 15% increase in 2021. The most visible change is in technical roles where 18% of the jobs are occupied by women compared with 12% in 2021. The percentage of women on the flight deck is at 5% level, representing a 23% increase over the last year. The total number of women CEOs among IATA member airlines reached 28. IATA also encourages member airlines to increase their women representatives by 25% inside their firms and to raise female nominations for the IATA governance roles to a minimum of 25%.

2.3.3. Cultural Diversity

Culture is defined as the values, beliefs and practices that a group shares with others (Peksatici, 2018). It is influenced by the language, education, and customs of the group. An individual from a particular culture may perceive a particular situation completely differently than an individual from another culture. Cultural diversity encapsulates the recognition of differences, encompassing aspects such as ethnicity, race, nationality, religion, gender, sexual orientation, and socioeconomic background (Himashi, 2024). A society that embraces cultural differences cultivates a sense of

belonging, contributing to greater resilience in bringing solutions to diverse challenges (Hofstede, 1980). Cultural diversity serves as a catalyst for creativity and innovation, enabling the development of more effective solutions (Peksatici, 2018). The ability to tap into a variety of skills and cultural competencies enhances a society's capacity to adapt, learn, and overcome challenges, contributing to long-term stability. This commitment promotes successful employee engagement and facilitates cross-cultural collaboration, fostering innovation through the fusion of diverse views (Himashi, 2024).

In the highly regulated aviation industry, cultural diversity is quite important due to constantly increasing personnel shortages and multinational workforce. In many cases, the aviation industry reveals a concern with the inclusion of different cultural groups but fails to truly benefit from its full potential (D'Oliveira, 2010). Turney and Maxant (2004) claim that no comprehensive solution to the problems of cultural diversity in the aviation industry has been developed. Interpersonal relations were identified as a key area by accident investigations and safety concerns. Training initiatives such as CRM are used to strengthen the safety system and create more resilience. The industry recognizes the magnitude and the influence of cultural diversity but lacks the true integration of it into its operations. CRM and line-oriented flight training (LOFT) activities may raise awareness of cultural diversity, but specific interventions must be shaped to fully integrate cultural differences into the operations (D'Oliveira, 2010).

Cultural diversity is essential in the aviation industry since airlines hire employees from different nationalities and cultures. Cultural differences among cockpit crew may create serious operational challenges. These challenges include inadequate communications and distorted interactions that lead to unclear understandings (Hoermann, 2001; Peksatici, 2018; Zajdband, 2020). It is crucial to make sure that the synthesis of different cultures among flight crew is successful in ensuring flight safety and the well-being of flight crew (Groppe & Brock, 2022). Thus, airlines should use cultural intelligence to handle culture-diverse situations (Ng & Earley, 2006; Charoensukmongkol, 2020; Seriwatana & Charoensukmongkol, 2021).

Merritt (1993) noted that the flight crews' communication styles and social interactions are affected by cultural differences. The behaviours of pilots might also

be influenced by cultural beliefs and attitudes, leading to the disruption of flight safety (Al-Romaithi, 2014). Communication quality can be reduced due to language difficulties caused by cultural differences among flight crew and may create a danger to flight safety (Helmreich, 1999). The adaptive capacities to function effectively in culturally diverse contexts are associated with cultural intelligence, which is relevant not only to those with international responsibilities but also to those in culturally diverse domestic settings (Van Dyne, Ang & Koh, 2009).

Cultures provide norms that allow the diversity of mankind to coexist, but they can also restrain flexibility, narrow scope, and obstruct necessary changes. International airlines are cultivated to traverse political, ethnic, and social boundaries while offering products and services of uniform quality regardless of market setting. Cultural influences can be leveraged to mitigate risk and improve effectiveness (Van Dyke, 2006). In this study, the dynamics of the scientific model formed by Geert Hofstede in 1980 are used to evaluate the cultural differences in the aviation industry.

2.3.3.1. Hofstede's Cultural Dimensions Model

Hofstede's cultural dimensions theory, developed by Geert Hofstede (1980), is a framework for cross-cultural psychology. It shows the effects of a society's culture on the values of its members and how these values relate to behavior, using a structure derived from factor analysis (Lawrence, 2014). This model provides a comprehensive framework for understanding and comparing cultural differences and helps develop strategies that are culturally sensitive by identifying six dimensions of culture, as shown in Figure 2.4:

- Power Distance Index (PDI)
- Individualism vs. Collectivism
- Masculinity vs. Feminity (MAS)
- Uncertainty Avoidance Index (UAI)
- Long-Term Orientation vs. Short-Term Normative Orientation (LTO)
- Indulgence vs. Restraint (IVR)

Figure 2.4. Hofstede's Cultural Dimensions

Reference: Hofstede (1980)

In the aviation industry, the accident rates differ in different regions of the world. Asia and Africa have higher accident rates than Europe and America. The regional differences in accident rates suggest that there might be something further beneath simple human error in aviation operations (Jing, Lu & Peng, 2001). By implementing human factors analyses, issues concerning inadequate supervision at high managerial levels and suboptimal organizational processes were likely to be implicated in the accidents in the Eastern countries (Li, Harris & Chen, 2007).

FAA-certified aircraft mechanics in Asian countries display greater power distance from superiors than their US counterparts working for the same airlines. This finding tends to confirm Hofstede's findings (1984) as well as the replications of Hofstede's work among pilots by Helmreich & Merritt (1998). However, the divergence from Hofstede's strong correlation between high power distance and collectivist values is also detected in the sample of airline mechanics. These findings show that mechanics, regardless of national origin, tend to be more individualistic than Helmreich & Merritt's international sample of pilots, who are considerably more individualistic than Hofstede's sample of IBM employees. This divergence is explained by the combination of occupational and organizational factors. In this study, we examine only

two dimensions of the culture, i.e., power distance and individualism vs. collectivism, which are considered the most essential factors in the aviation industry.

2.3.3.1.1. Power Distance Dimension

Power distance (PD) is described as the scope of which less powerful people of a group in a country accept the distribution of power inequalities (Hofstede, 1980). High PD societies accept and normalize paternal leadership, while low PD societies tend to normalize autonomous leadership styles and equal power distribution (Eylon & Au, 1999). Low PD societies prefer more relaxed atmospheres, whereas high PD societies are accustomed to working in places where a person in a higher position tells them what to do.

According to Hofstede (2001), PD is a measure of the interpersonal power between a superior and a subordinate. The most prominent issue related to PD is the disparity between equality that may occur in areas such as social status, respect, prosperity, power, and physical and mental characteristics. Powerful individuals typically look to increase their PD, while less powerful people tend to decrease PD between them and more powerful persons. PD does not always have to be examined from a disparaging viewpoint. For instance, an unequal distribution of power over members in a workplace can be the essence of a successful firm (Keller et al., 2015).

The Power Distance Index (PDI) is used to measure the extent of PD. If the index shows a high level, this means hierarchy is visible; if the index shows a low level, this indicates that people question hierarchy (Darsono et al., 2021). In the aviation industry, Chinese pilots show higher PD than their Western colleagues, who show low PD (Liao, 2015). These kinds of results can vary and many difficulties may arise in culturally diverse environments. For instance, if the captain pilot shows a higher level of PD, while the first officer shows the opposite, the captain might feel that he is not getting the respect he expects (Orasanu et al., 1997). In a study conducted by Helmreich et al. (2001) on more than 15,000 pilots from 22 nations, they found differences in PD scores of the pilots that affect their CRM skills. They discovered that in the countries with the highest PD scores, i.e., Morocco, the Philippines, Taiwan, Japan, and Brazil, the co-pilots were unlikely to question the decisions of the captains. On the other hand in

countries including Ireland, Denmark, Norway, and the US where there are low PD scores, the pilots accepted a consultative leadership style, and they were more willing to question the decisions of the senior crew members.

2.3.3.1.2. Individualism vs. Collectivism Dimension

Individualism and collectivism are two concepts that are used to define the elements of cultures (Oyserman et al., 2002). Individualism is the individual himself, and societies happen to help boost the prosperity of individuals (Oyserman & Lee, 2008). Individualists act according to the benefits they gain through social interactions. If the balance in the relationship does not meet their expectations, they choose to leave. As expected, individualism is often seen as the contradiction of collectivism (Hui, 1988). In the US, as an individualistic culture, people are more bothered about themselves and their closest circle (Keller, Wang, Cooney, Erstad, & Lu, 2015). Soeters and Boer (2000) found that more individualist cultures show a low probability of loss accidents.

Collectivism, on the other hand, is the group itself and individuals are expected to create societies by fitting in and building connections (Oyserman & Lee, 2008). In collectivism, groups are supposed to connect and constrain individuals (Oyserman et al., 2002). In collectivistic cultures, people share mutual values and expectations, while individuals are seen as an integral part of the group (Triandis, 1995). Oyserman et al. (2002) indicated that collectivism is assigned to a wide variety of beliefs and approaches. Individuals tend to lead and guide the groups they belong to in collectivistic societies, and they do it with the feeling of loyalty (Keller et al., 2015).

North Americans have higher scores in individualism and lower scores in collectivism compared to other countries. In aviation industry, individualism is more remarkable than collectivism when aviation safety is the issue (Li, Harris, Li, & Wang, 2009). Aircraft designs and the essence of safety regulations are affected by individualism. In a study by Keller et al. (2015), aviation students from China responded more to collectivistic traits. Song (2018) indicated that a collectivistic culture may prevent Asian pilots from reporting violations they experience. This may be one of the reasons why the collectivist cultures exhibited a greater chance of accidents. (Li et al., 2009).

Some societies promote individualism, while others feel it should be avoided. Decisions and feelings differ depending on which orientation society chooses to accept (Brewer & Venaik, 2011). Individualism favors independence, whereas collectivism favors the well-being of the group. The US is categorized as an individualistic country, while in the Eastern nations individualism is treated as a negative attribute.

Building on these arguments, we explore the following research questions:

i. How does the demographic age profile of the employees affect their perceptions of the diversity dimensions of age, gender, and culture?
ii. How does the demographic gender profile of the employees affect their perceptions of the diversity dimensions of age, gender, and culture?
iii. How does the demographic work experience profile of the employees affect their perceptions of the diversity dimensions of age, gender, and culture?
iv. How do the demographic profiles of the employees, i.e. age, gender, and work experience, affect their perceptions of the diversity profile of the company, i.e., age diversity, gender diversity, work experience diversity, and management support for diversity?

CHAPTER III

DATA AND METHODOLOGY

3.1. Data Sample

In this study, we selected two separate pilot associations to create a meaningful dataset in the international aviation industry. Our sample covers the members of the British Airline Pilots Association (BALPA) and Turkey Airline Pilots Association (TALPA). We chose this sample as the members of these associations fly in different countries all around the world and have different levels of diversity. According to the data published by BALPA and TALPA on their official websites, there are about 15,000 pilots. We collected the data by running an online survey of 203 pilots.

3.2. Research Methodology

We ran an online survey of the members of BALPA and TALPA from March to July 2024 to collect primary data. In the first part of the survey, we asked demographic questions on age, gender, nationality, education level, length of working time in the aviation industry, and length of working time in the company. In the second part, we asked six questions to the respondents to measure their perception of the diversity structure of their companies. In the third part, we asked questions to the participants to identify their diversity perceptions for each dimension, i.e., age, gender, and culture, as advantages and/or challenges. We examined cultural diversity by covering only two dimensions of Hofstede's cultural dimensions theory, i.e., power distance and individualism vs. collectivism. The survey is given in the Appendix.

In this study, we first ran the reliability and factor analysis to test the survey. Then, we employed the chi-square test to assess the relationship between the categorical variables. This test compares the observed frequencies with the expected frequencies

to determine if there is a significant relationship between the variables. The test includes the following steps:

Step 1: Determination of the null and alternative hypotheses:
H_0 (Null Hypothesis): There is no relationship between the variables.
H_1 (Alternative Hypothesis): There is a relationship between the variables.

Step 2: Calculation of the expected frequencies:
We calculated the expected frequencies for each cell by multiplying the total frequencies and dividing them by the total number of observations.

Step 3: Calculation of the chi-square value:

$$\chi 2=\sum Ei(Oi-Ei)2$$

Here, (O_i) is the observed frequency, and (E_i) is the expected frequency.

Step 4: Determination of the degree of freedom:

$$df=(r-1)\times(c-1)$$

Here, (r) is the number of rows, and (c) is the number of columns.

Step 5: Calculation of the P-Value and Decision Making: The p-value is found by using the calculated chi-square value and degrees of freedom. If the p-value is less than the specified significance level, the null hypothesis is rejected. This test is especially useful when working with categorical data, such as surveys.

CHAPTER IV

EMPIRICAL FINDINGS

4.1. Descriptive Statistics

Table 4.1. gives the descriptive statistics for demographic information, Table 4.2 and Table 4.3 show the nationality and the occupation place of the respondents.

Table 4.1. Descriptive Statistics for Demographic Information

		Count	Percent
Age	Less than 35 age	67	33,3%
	36-45 age	46	22,9%
	46+ age	88	43,8%
Gender	Male	171	85,1%
	Female and other	30	14,9%
Education Level	High School	47	23,4%
	Undergraduate	119	59,2%
	Postgraduate (Master) and Doctorate	35	17,4%
Working Experience in the Aviation Business	Less than 5 years	42	20,9%
	6-10 years	30	14,9%
	11-20 years	40	19,9%
	21-30 years	54	26,9%
	More than 30 years	35	17,4%
Working Experience in the Company	Less than 5 years	95	47,3%
	6-10 years	39	19,4%
	More than 11 years	67	33,3%
Title at the Company	Captain	137	68,2%
	First Officer, Senior Cabin Crew, and Other	64	31,8%

In our sample, 43.8% of the respondents are in the age group of 46 and over, 33.3% are under 35, and 22.9% are between the ages of 36-45. In terms of gender, 85.1% of the respondents are male, while 14.9% of them are female or other gender groups. At

the education level, 59.2% are university graduates, 23.4% have a college degree, and 17.4% have a postgraduate degree. When we look at the work experience in the aviation industry, 26.9% of the respondents have 21-30 years of experience, 20.9% have 5 years or less experience, 19.9% have 11-20 years of experience, 17.4% have 30 years and above experience, and 14.9% have 6-10 years of experience. In terms of length of service in their company, 47.3% of the respondents have been working for 5 years or less, 33.3% for 11 years or more, and 19.4% for 6-10 years. In our sample, 68.2% of the participants are pilots, and 31.8% are first officer and senior cabin crew.

Table 4.2. Descriptive Statistics for the Nationality of the Participants

		Count	Percent
Nationality	Turkish	96	47,7%
	Italian	18	9,0%
	British	12	6,0%
	Spanish	12	6,0%
	Irish	7	3,5%
	Argentinian	6	3,0%
	Dutch	6	3,0%
	French	6	3,0%
	English	5	2,5%
	Brazilian	5	2,5%
	German/British-German	5	2,5%
	Holland	3	1,5%
	Portugues	3	1,5%
	Ukrainian	3	1,5%
	Indian/Indian-British	3	1,5%
	Greek	2	1,0%
	American	1	0,5%
	Ethiopian	1	0,5%
	Mexican	1	0,5%
	Norwegian	1	0,5%
	Scottish	1	0,5%
	South African-British	1	0,5%
	Spanish-British	1	0,5%
	Swedish	1	0,5%
	Taiwanese	1	0,5%
	Total	201	100,0%

Among the participants, 47.7% are Turkish, 9.0% Italian, 8.5% British, 6.0% Spanish, 3.5% Irish, 3.0% Argentinian, 3.0% Dutch, 3.0% French, 2.5% Brazilian, and 2.5% German. The remaining 11.3% of the respondents are from other nationalities. When we examine the place of occupation for the respondents, 47.3% of them work in the UK, 35.8% in Turkey, 5.0% in Europe, and 2.5% in Ireland. The remaining 9.4% practice their professions in other districts.

Table 4.3. Descriptive Statistics for the Place of Occupation

		Count	Percent
Place of Occupation	UK	95	47,3%
	Turkey	72	35,8%
	Europe	10	5,0%
	Ireland	5	2,5%
	Ethiopia	3	1,5%
	The US	3	1,5%
	The UK-Ireland	3	1,5%
	Africa	2	1,0%
	Middle East	2	1,0%
	Qatar	2	1,0%
	Germany	1	0,5%
	Oman	1	0,5%
	South Africa	1	0,5%
	Spain	1	0,5%
	Total	201	100,0%

4.2. Explanatory Statistics for Diversity in the Airlines

This section provides the frequency and percentage distributions, mean and standard deviation values of the level of agreement among airline employees regarding the view that age, gender, nationality, and work experience diversity reflects a diverse environment in the company and the level of agreement on whether the company management supports diversity.

Table 4.4. Explanatory Statistics for the Level of Agreement between the Diversity Statements and the Existence of Diverse Working Environment

		Count	Percent	Mean	Standard Deviation
Age Diversity	Disagree	2	1,0%	4,375	0,705
	Neither agree nor disagree	20	10,0%		
	Agree	79	39,5%		
	Strongly agree	99	49,5%		
Gender Diversity	Strongly disagree	8	4,0%	3,235	1,116
	Disagree	52	26,0%		
	Neither agree nor disagree	55	27,5%		
	Agree	55	27,5%		
	Strongly agree	30	15,0%		
Nationality Diversity	Disagree	20	10,0%	4,159	1,002
	Neither agree nor disagree	27	13,4%		
	Agree	55	27,4%		
	Strongly agree	99	49,3%		
Work Experience Diversity	Disagree	9	4,5%	4,279	0,801
	Neither agree nor disagree	17	8,5%		
	Agree	84	41,8%		
	Strongly agree	91	45,3%		
Diversity Supported	Strongly disagree	6	3,0%	3,771	0,968
	Disagree	14	7,0%		
	Neither agree nor disagree	44	21,9%		
	Agree	93	46,3%		
	Strongly agree	44	21,9%		
Diversity to be Improved	Strongly disagree	20	10,0%	2,677	1,058
	Disagree	84	41,8%		
	Neither agree nor disagree	49	24,4%		
	Agree	37	18,4%		
	Strongly agree	11	5,5%		

As shown in Table 4.4, 49.5% of the participants strongly agree, and 39.5% of them agree that age diversity reflects a diverse environment in the firm. The mean value confirms this result ($\underline{X}$=4.375±0.705). In gender diversity, 27.5% of the participants neither agree nor disagree that gender diversity in the firm creates a diverse environment, 27.5% of them agree, and 26.0% of them disagree with this statement. The mean value supports this result ($\underline{X}$=3.235±1.116). For nationality, 49.3% of the

participants strongly agree, and 27.4% of them agree that nationality diversity reflects a diverse working environment. The mean value reflects this result ($\underline{X}$=4.159±1.002).

Table 4.5. The Results of How Airlines Should Improve Diversity

		Count	Percent
Improvement Methods	No answer	25	52,1%
	National diversity should be supported	4	8,3%
	Employing more female pilots	3	6,3%
	Diversity should be approached with an open mind	2	4,2%
	Providing opportunities for candidates in recruitment and training	2	4,2%
	Employing younger cockpit crew	1	2,1%
	Supporting women and cabin crew pilot program	1	2,1%
	Shorter management periods and widespread position opportunities	1	2,1%
	More expat workers	1	2,1%
	Improvements should be made on a sectoral basis	1	2,1%
	Producing campaigns on diversity	1	2,1%
	Firm culture should be improved	1	2,1%
	Retirement and loyalty bonus opportunities	1	2,1%
	Communicating with more employees	1	2,1%
	Employing more nationalities	1	2,1%
	Ensuring diversity management	1	2,1%
	Ensuring cultural diversity	1	2,1%
	Total	48	100,0%

Among the participants, 45.3% strongly agree and 41.8% of them agree that work experience diversity reflects a diverse environment in the firm. The mean value supports the level of agreement ($\underline{X}$=4.279±0.801). Among the respondents, 21.9% of them strongly agree and 46.3% agree that their firm management supports diversity.

The mean value for this statement is $\underline{X}$=3.771±0.968. Surprisingly, 41.8% of the respondents do not agree that diversity in their firm should be improved. The mean value is ($\underline{X}$=2.677±1.058).

Interestingly, when the participants were asked to answer how airline management should improve diversity, 52.1% of them preferred not to answer this question. Among other participants, 8.3% asserted that national diversity should be supported, 6.3% asked for higher employment of female pilots, 4.2% claimed that diversity should be approached with an open mind, and 4.2% asked more opportunities for candidates in the recruitment and training.

4.3. The Results of the Factor Analysis and Reliability Analysis

In the first phase, we applied the factor analysis for the 14 variables. Table 4.6 shows the results. In the factor analysis, we reached the value of 0.915 for the Kaiser-Meyer-Olkin Measure of Sampling Adequacy (KMO), which is very close to 1, indicating that the variables in the survey are suitable for the factor analysis. The results show that the 14 variables can be categorized into two sub-sections:

- At one factor area, the eight variables, i.e. the advantages and challenges of age diversity, the advantages and challenges of gender diversity, the advantages and challenges of PD diversity and the advantages and challenges of IvsC diversity are gathered as shown in Table 4.6. We named this group of variables as *"Perceived Diversity Impact".*

- At the other factor area, the six variables, i.e. age diversity, gender diversity, nationality diversity, work experience diversity, management support for diversity, and the need for diversity improvement are gathered as shown in Table 4.6. We named this group of variables as *"Diversity Emphasis".*

Table 4.6. The Results of the Factor Analysis: Pattern Matrix

Pattern Matrix		
	Component	
	1	2
The Age diversity level of the company		.667
Gender diversity level of the company		.481
Nationality diversity level of the company		.623
Work experience diversity level of the company		.756
Management support level of the company		.661
Diversity improvement needs of the company		-.590
The advantages of age diversity	.910	
The advantages of gender diversity	.945	
The advantages of PD diversity	.956	
The advantages of IvsC diversity	.948	
The challenges of age diversity	.944	
The challenges of gender diversity	.940	
The challenges of PD diversity	.966	
The challenges of IvsC diversity	.965	

After completing the factor analysis, we did a reliability analysis. We executed three different runs with three different sets of variables and calculated Cronbach's Alpha:

- In the first run, we included all 14 variables, and we calculated Cronbach's Alpha value as 0.828.
- In the second run, we ran the test for the eight variables generated in the factor analysis as the group named "Perceived Diversity Impact" and calculated Cronbach's Alpha value of 0.981. The variables are:
  - The advantages of age diversity
  - The advantages of gender diversity
  - The advantages of PD diversity
  - The advantages of IvsC diversity
  - The challenges of age diversity
  - The challenges of gender diversity
  - The challenges of PD diversity
  - The challenges of IvsC diversity

- In the third run, we ran the test for the five variables generated in the factor analysis as the group named “Diversity Emphasis.” We extracted the 6th variable, i.e., the diversity improvement need level of the company, because of its negative result of -0.590 in the factor analysis. We calculated Cronbach's Alpha value as 0.631. The five variables are:

  - The Age diversity level of the company
  - Gender diversity level of the company
  - Nationality diversity level of the company
  - Work experience diversity level of the company
  - Management support level of the company

4.4. The Results of the Chi-Square Analysis

We run the chi-square analysis in two parts for the two groups in the factor analysis. In the first part, for the first group in the factor analysis named “Perceived Diversity Impact,” we examined the relationships between the demographics of employees and their perceptions about the advantages and challenges of the diversity dimensions. In this context, we selected the related demographic properties and the advantages and challenges of the diversity dimensions listed below:

- Demographic properties: Gender, age, years in aviation (work experience)
- Perceptions of the employees about the diversity dimensions
  - Advantage to work with people having different age
  - Advantage to work with people having different gender
  - Advantage to work with people having different PD
  - Advantage to work with people having different IvsC
  - Challenge to work with people having different age
  - Challenge to work with people having a different gender
  - Challenge to work with people having different PD
  - Challenge to work with people having different IvsC

Table 4.7. The Results of Chi-Square Analysis for the Gender vs. Diversity Dimensions

Variables	Chi-Square	Cramer's V	Major Responses
Gender vs. Age Advantage	.889	Not Important	Not Important
Gender vs. Gender Advantage	.886	Not Important	Not Important
Gender vs. PD Advantage	.714	Not Important	Not Important
Gender vs. IvsC Advantage	.724	Not Important	Not Important
Gender vs. Age Challenge	.220	Not Important	Not Important
Gender vs. Gender Challenge	.871	Not Important	Not Important
Gender vs. PD Challenge	.642	Not Important	Not Important
Gender vs. IvsC Challenge	.873	Not Important	Not Important

Table 4.7 shows that there is no significant relationship between gender and the perception of the employees about the diversity dimensions.

Table 4.8 shows that there is no significant relationship between age and the perception of the challenges about the age and gender diversity dimensions. On the other hand, there is a significant relationship between age and all other perceptions about the diversity dimensions.

Table 4.8. The Results of Chi-Square Analysis for the Age vs. Diversity Dimensions

Variables	Chi-Square	Cramer's V	Major Responses
Age vs. Age Advantage	.030	.218	Agree
Age vs. Gender Advantage	.018	.232	Agree
Age vs. PD Advantage	.045	.213	Agree
Age vs. IvsC Advantage	.022	.222	Agree
Age vs. Age Challenge	.120	Not Important	Not Important
Age vs.Gender Challenge	.055	Not Important	Not Important
Age vs. PD Challenge	.015	.226	Agree
Age vs. IvsC Challenge	.010	.230	Agree

- **Age vs. Age Diversity Advantages**

The chi-square value of this variable is 0.030 in Table 4.8. As shown in Table 4.9, the majority of the participants (86.7%) believe that working with people of different ages has advantages. When the age increases, the perceptions of the employees about the advantages of age diversity increase and reach the top level (93.4%) at the age group of 46-55 age. In the aviation industry, the age scale of 46-55 is the period where pilots have been already upgraded to captains and have been performing instructing roles. This age scale may be defined as the most awareness term for the pilots who may have the potential to be open to learning from others.

Table 4.9. The Relationship between Age and the Advantages of Working with People of Different Ages in the Airlines

		AGE Diversity Advantage					Total
		Strongly disagree	Disagree	Neutral	Agree	Highly Agree	
Age		0	0	0	1	0	1
	18-25	0	0	4	16(%69.6)	3(%13)	23
	26-35	2	3	4	27(%60)	9(%20)	45
	36-45	0	1	4	24(%52,2)	17(%37)	46
	46-55	0	3	1	24(%39,3)	33(%54,1)	61
	56-65	0	0	2	14(%73,7)	3(%15,8)	19
	65+	0	0	1	3(%15)	4(%20)	8
Total		2	7	16	109(%53,4)	69(%29,6)	203

- **Age vs. Gender Diversity Advantages**

The chi-square value of this variable is 0.018 in Table 4.8. As shown in Table 4.10, the majority of the respondents believe that working with people of different genders has advantages. Table 4.10 also shows the relationship between the age group and the belief in the advantage of gender diversity. The sum of participants who agree that gender diversity has advantages is 77.3%. The percentage of the participants, who agree that gender diversity has advantages, starts with lower percentages at the early age range of 18 to 35 (66.2%), then increases at the middle ages of 36 to 55 (85%). The middle age scale is the period where pilots carry out management roles like captains or instructor pilots. In this period, they become more aware of the importance of inclusion in problem-solving

Table 4.10. The Relationship between Age and the Advantages of Working with People of Different Genders in the Airlines

		Gender Diversity Advantage				Total
		Disagree	Neutral	Agree	Highly Agree	
Age		0	0	1	0	1
	18-25	2	5	15(%65,2)	1(%4)	23
	26-35	6	10	24(%53,3)	5(%11,1)	45
	36-45	5	3	23(%50)	15(%32,6)	46
	46-55	3	5	28(%45,9)	25(%41)	61
	56-65	1	5	11(^)	2	19
	65+	1	0	6	1	8
Total		18	28	108 (%53,2)	49(%24,1)	203

- **Age vs. PD Diversity Advantages**

The chi-square value of this variable is 0.045 in Table 4.8. As shown in Table 4.11, the majority of the respondents believe that working with people having different PD has advantages. 95 of the respondents (46.8%) believe that working with people having different PD has advantages and 62 of the participants (30.5%) do not believe that working with people having different PD has advantages.

It is interesting to note that there is again a disagreement between the previously mentioned age groups. In the youngest age group (18-35 age), 26.5% of them believe that working with people having different PD has advantages, whereas 45.6% disagree with this belief. In the middle age group (36-55 age), 59.8% of the employees believe that working with people having different PD has advantages, whereas 19.6% disagree with this belief. Thus, it may be inferred that as age increases, the PD differences are perceived as advantages. As the pilots bear managerial positions in the aircraft, they tend to be more open to learning from others, having different PD perceptions.

Table 4.11. The Relationship between Age and the Advantages of Working with People of Different PD Mindsets in the Airlines

		PD Diversity_Advantage					Total
		Strongly disagree	Disagree	Neutral	Agree	Highly Agree	
Age		0	0	1	0	0	1
	18-25	1(%4)	9(%39)	8	4(%17,4)	1(%4)	23
	26-35	5(%11,1)	16(%35,6)	11	12(%26,7)	1(%2)	45
	36-45	3(%6,5)	6(%13)	11	19(%41,3)	7(%15,2)	46
	46-55	3(%5)	9(%14,8)	11	32(%52,5)	6(%10)	61
	56-65	1(%5)	8(%42)	3	6(%31,5)	1(%5)	19
	65+	1	0	1	5	1	8
Total		14(%6,9)	48(%23,6)	46	78(%38,4)	17(%8,4)	203

- **Age vs. IvsC Diversity Advantages**

The chi-square value of this variable is 0.022 in Table 4.8. As shown in Table 4.12, the majority of the respondents believe that working with people having different IvsC has advantages. 43.8% of the employees believe that working with people with different IvsC has advantages, whereas 35% disagree with this belief. It appears that in the youngest groups of 18-25 and 26-35**,** most of the participants disagree that working with people having different IvsC has advantages. As the age increases, the perception about the advantages of IvsC gets higher. At the age groups of 36-45 and 46-55, most of the group members believe that working with people having different IvsC has advantages. Hence, as the age and experience of the pilots increase, they have more communication skills that affect their perception of cultural diversity in terms of IvsC. The management role of pilots in the elderly age also demands that they include all crew with different perspectives in operations to run a safe flight.

Table 4.12. The Relationship between Age and the Advantages of Working with People of Different IvsC Mindsets in the Airlines

		IvsC Diversity Advantage							Total
		Strongly disagree	Disagree	Strongly disagree & disagree	Neutral	Agree	Highly Agree	Agree & highly agree	
Age		0	0		1	0	0		1
	18-25	1	12	13 (%56,5)	5	4	1	5 (%21,7)	23
	26-35	5	17	22 (%48.8)	11	11	1	12(%26,7)	45
	36-45	3	7	10 (%21,7)	13	15	8	23 (%50)	46
	46-55	3	11	14 (%22,9)	10	29	8	37 (%60,6)	61
	56-65	1	9	10 (%52,6)	3	5	1	6 (%31,5)	19
	65+	1	1	2(%35)	0	5	1	6 (%75)	8
Total		14(%7)	57 (%28)	71 (%35)	43	69(%34)	20(%10)	89 (%43,8)	203

- **Age vs. PD Diversity Challenges**

The chi-square value of this variable is 0.022 in Table 4.8. As shown in Table 4.13, the majority of the respondents believe that working with people having different PD has challenges. The age group of 65 and above, who are only authorized to fly in simulator flights, has the highest percentage of 87.5%. Among the active flight crew, the highest score of 82% comes from the 46-55 age group. The age group of 36-45 follows them with a percentage of 80.4%. On the other hand, the youngest age group of 18 to 25 disagrees with this comment by the percentage of 56.5%. These results indicate that there is a big difference in the percentage of young and old groups. In the early ages, the pilots mostly concentrated on themselves and learned more about aircraft and procedures. At the middle age, they have the experience and energy to teach others. At the elderly age, they get tired of doing similar things and give up teaching and learning. At the early ages, pilots are not aware of the importance of diversity since they are not in the position to lead the groups. In the middle age, as they become leaders, they realize the importance of inclusion and diversity to cover more insights for flight operations. At the elderly age, they are extensively experienced, and they assume they don’t need to consult with others.

Table 4.13. The Relationship between Age and the Challenges of Working with People of Different PD Mindsets in the Airlines

		PD Diversity Challenge							Total
		Strongly disagree	Disagree	Sum and % of Strongly disagree & disagree	Neutral	Agree	Highly Agree	Sum and % of Highly agree & agree	
Age		0	0	0	0	1	0	1	1
	18-25	0	4	4 (%17,4)	6	12	1	13 (%56,5)	23
	26-35	2	8	10 (%22,2)	9	21	5	26 (%57,8)	45
	36-45	0	7	7 (%15,2)	2	24	13	37 (%80,4)	46
	46-55	0	4	4 (%6,6)	7	27	23	50 (%82)	61
	56-65	0	2	2 (%10,5)	7	8	2	10(%52,6)	19
	65+	0	1	1 (%12,5)	0	6	1	7 (%87,5)	8
Total		2	26	28 (%13,8)	31	99	45	144 (%71)	203

- **Age vs. IvsC Diversity Challenges**

The chi-square value of this variable is 0.010 in Table 4.8. As shown in Table 4.14, the majority of the respondents believe that working with people having different ages has challenges. It occurs that the middle age group again performs the high percentage for the challenges of IvsC, as they had for the advantages of IvsC. This indicates that the same elderly age groups are more aware of the advantages and the challenges of IvsC.

Table 4.14. The Relationship between Age and the Challenges of Working with People of Different IvsC Mindsets in the Airlines

		IvsC Diversity Challenge					Total
		Strongly disagree	Disagree	Neutral	Agree	Highly Agree	
Age		0	0	0	1	0	1
	18-25	0	4(%17)	5	13(%56,5)	1(%4)	23
	26-35	2(%4,4)	8(%18)	9	21(%46,7)	5(%11,1)	45
	36-45	0	7(%15,2)	2	21(%45,6)	16(%34,8)	46
	46-55	1(%1,6)	3(%5)	5	26(%42,6)	26(%42,6)	61
	56-65	0	2(%10,5)	6	9(%47)	2(%22,2)	19
	65+	0	1 (%12,5)	0	6(%75)	1(%12,5)	8
Total		3(%14,8)	25(%12,3)	27	97(%47,8)	51(%24,6)	203

Table 4.15. The Results of Chi-Square Analysis Regarding the Years in Aviation vs. Diversity Dimensions

Variables	Chi-Square	Cramer's V	Major Responses
Years in Aviation vs. Age Adv.	.035	.201	Agree
Years in Aviation vs. Gender Adv	.013	.221	Agree
Years in Aviation vs. PD Adv.	.009	.217	Agree
Years in Aviation vs. IvsC Adv.	.105	Not Important	Not Important
Years in Aviation vs. Age Clng.	.066	Not Important	Not Important
Years in Aviation vs. Gender Clng.	.065	Not Important	Not Important
Years in Aviation vs. PD Clng.	.014	.212	Agree
Years in Aviation vs. IvsC Clng.	.003	.227	Agree

Table 4.15 shows that 5 out of 8 variables have significant values. There is no significant relationship between the time of working experience in aviation and the perception of the advantage of the IvsC and the challenge about the age and gender diversity dimensions. On the other hand, there is a significant relationship between the years spent in aviation and all other perceptions about the diversity dimensions.

- **Years in Aviation vs. Age Diversity Advantages**

The chi-square value of this variable is 0.035 in Table 4.15. As shown in Table 4.16, the majority of the respondents believe that working with people of different ages has advantages. There is a significant relationship between the length of working time in the airline business and the level of belief that there are advantages to working with people of different ages. 90% of those working in the airline business for 11-20 years, 85.7% of those working for 6-10 years, and 88% of those having 1-5 years believe that there are advantages of working with people of different ages, and 88.5% of those with 21-30 years of experience has the same belief. As the working experience increases, the belief about the advantages of the age diversity increase. This means that the experience allows the pilots to see age diversity in the working environment as an advantage in handling the problems.

Table 4.16. The Relationship between Working Experience and the Advantages of Working with People of Different Ages in Airlines

		AGE Diversity Advantage					Total
		Strongly disagree	Disagree	Neutral	Agree	Highly Agree	
Years in Aviation	Less than 1 year	0	0	2	2 (%50)	0	4
	1-5	2	0	3	30 (%71,4)	7 (%16,6)	42
	6-10	0	2	2	17 (%60,7)	7 (%25)	28
	11-20	0	1	3	19(%47,5)	17(%42,5)	40
	21-30	0	2	4	25(%46,3)	23(%42,5)	54
	More than 30 years	0	2	2	16(%45,7)	15(%42,8)	35
Total		2	7	16	109	69	203

- **Years in Aviation vs. Gender Diversity Advantages**

The chi-square value of this variable is 0.013 in Table 4.15. As shown in Table 4.17, the majority of the respondents believe that working with people having different genders has advantages. This belief is mostly shared by the participants having the work experience of 1-5 years. Thus, the younger generations are more inclined to see different genders as an advantage.

Table 4.17. The Relationship between Working Experience and the Advantages of Working with People of Different Genders in the Airlines

		Gender Diversity Advantages				Total
		Disagree	Neutral	Agree	Highly Agree	
Years in Aviation	Less than 1 year	1	2	1	0	4
	1-5	3	3	33	3	42
	6-10	3	7	13	5	28
	11-20	3	4	18	15	40
	21-30	5	7	23	19	54
	More than 30 years	3	5	20	7	35
Total		18	28	108	49	203

- **Years in Aviation vs. PD Advantages**

The chi-square value of this variable is 0.009 in Table 4.15. As shown in Table 4.18, the majority of the respondents believe that working with people having different PD has advantages. 57.5% of those working in the airline business for 11 to 20 years and 60% of those working for more than 30 years believe that there are advantages of working with people of different PD. On the other hand, the percentage drops below 50% in the less experienced groups. This result is reasonable since PD diversity mostly affects decision-making processes. In the early years, the employees need a usual management approach to feel comfortable about knowing what is expected from them. As the years pass, the employees become involved in leadership roles and decision-making, and they observe different opinions as an advantage to make better decisions.

Table 4.18. The Relationship between Working Experience and the Advantages of Working with People of Different PD in the Airlines

		PD Diversity Advantages					Total
		Strongly disagree	Disagree	Neutral	Agree	Highly Agree	
Years in Aviation	Less than 1 year	1	2	1	0	0	4
	1-5	2(%4,8)	8(%19)	20	11(%26)	1(%2,4)	42
	6-10	3(%10,7)	12(%42,9)	3	8(%28,6)	2(%7,1)	28
	11-20	2(%5)	6(%15)	9	18(%45)	5(%12,5)	40
	21-30	3(%5,6)	13(%24,1)	9	22(%40,7)	7(%13)	54
	More than 30 years	3(%8,6)	7(%20)	4	19(%54,3)	2(%5,7)	35
Total		14(%6,9)	48(%23,6)	46	78(%38,4)	17(%8,4)	203

- **Years in Aviation vs. PD Challenges**

The chi-square value of this variable is 0.014 in Table 4.15. As shown in Table 4.19, the majority of the respondents believe that working with people with different PD has challenges. There is a significant relationship between the length of time working in the airline business and the level of belief that there are challenges in working with people of different PDs. 80% of those working in the airline business for 11 to 20 years, 79% of those having 1-5 years experience, 70.3% of those with 21 to 30 years experience, and 53.6% of those working for 6-10 years believe that there are challenges of working with people of different PD. At the period of 1-5 years, pilots get trained to fly their type of airplanes and to be captains. In those periods, they meet different cultures of training pilots, so they are active learners, leading to challenges for them most of the time. In the years of 11-20, pilots, having their instructor roles, give training to multinational groups, so they experience challenges, being in an active trainer.

Table 4.19. The Relationship between Working Experience and the Challenges of Working with People of Different PD in the Airlines

		PD Diversity Challenges					Total
		Strongly disagree	Disagree	Neutral	Agree	Highly Agree	
Years in Aviation	Less than 1 year	0	2	1	1	0	4
	1-5	2	3	4	30	3	42
	6-10	0	5	8	10	5	28
	11-20	0	5	3	18	14	40
	21-30	0	7	9	22	16	54
	More than 30 years	0	4	6	18	7	35
Total		2	26	31	99	45	203

- **Years in Aviation vs. IvsC Challenges**

The chi-square value of this variable is 0.003 in Table 4.15. As shown in Table 4.20, the majority of the respondents believe that working with people with different experiences has challenges. There is a significant relationship between the length of working time in the airline business and the level of belief that there are challenges in working with people of different IvsC. 81% of those having 1-5 years, 80% of those having 11-20 years of experience, 76 % of those having 21-30 years of experience, and 53.6% of those working for 6-10 years believe that there are challenges of working with people of diverse IvsC.

Table 4.20. The Relationship between Working Experience and the Challenges of Working with People of Different IvsC in the Airlines

		IvsC_Diversity Challenge					Total
		Strongly disagree	Disagree	Neutral	Agree	Highly Agree	
Years in Aviation	Less than 1 year	0	2	1	1	0	4
	1-5	2	3	3	31	3	42
	6-10	0	5	8	10	5	28
	11-20	0	5	3	17	15	40
	21-30	1	6	6	20	21	54
	More than 30 years	0	4	6	18	7	35
Total		3	25	27	97	51	203

In the second part, for the second group in the factor analysis named "Diversity Emphasis", we examine the relationships between the demographics of the employees and their perceptions of the diversity profile of their company. In this context, we selected the related demographic properties and the perceived diversity profile status of the company listed below:

- Demographic properties: Gender, age, years in aviation (work experience)
- Perceptions of the employees about the diversity profile status of the company:
  - Age diversity of the company
  - Gender diversity of the company
  - Nationality diversity of the company
  - Work experience diversity of the company
  - Management support level of the company

Table 4.21. The Results of the Chi-Square Analysis for Gender vs. Company Diversity Profile

Variables	Chi-Square	Cramer's V	Major Responses
Gender vs. Age diversity level of the company	.887	Not Important	Not Important
Gender vs. Gender diversity level of the company	.135	Not Important	Not Important
Gender vs. Nationality diversity level of the company	.114	Not Important	Not Important
Gender vs. Work experience diversity level of the company	.056	Not Important	Not Important
Gender vs. Management support level of the company	.986	Not Important	Not Important

Table 4.21. shows that there is no significant relationship between the gender and the perceptions about the diversity profile of the company.

Table 4.22. The Results of the Chi-Square Analysis for the Age vs. Company Diversity Profile

Variables	Chi-Square	Cramer's V	Major Responses
Age vs. Age diversity of the company	.350	Not Important	Not Important
Age vs. Gender diversity of the company	.156	Not Important	Not Important
Age vs. Nationality diversity of the company	.002	.256	Highly agree
Age vs. Work experience diversity level of the company	.150	Not Important	Not Important
Age vs. Management support level of the company.	.262	Not Important	Not Important

Table 4.22. shows that there is a significant relationship between the age and the perception of the employees about the national diversity of the company. On the other hand, there is no significant relationship between the age and all other perceptions about the diversity profile of the company.

- **Age vs. Nationality Diversity Level of the Company**

The chi-square value of this variable is 0.002 in Table 4.22. As shown in Table 4.23, the majority of the respondents (77%) believe that there is a diverse environment in their company in terms of nationality. The findings reveal that individuals aged 18 to 25 differ significantly in their perceptions compared to those aged 36 to 45. While the youngest group has the highest percentage of 96%, the middle age has the lowest percentage amongst the other age groups. The age group of 65 and above, who are not authorized to fly for commercial airlines due to age restriction, has the lowest percentage of 25%, believing that there is national diversity in their company. This may be explained by the fact that their workplace is a simulator environment.

Table 4.23. The Relationship between Age and the Nationality Diversity Level of the Company

		Age vs. Nationality Diversity Level of the Company					
		Disagree	Neutral	Agree	Highly agree	Agree & Highly agree	Total
Age		0	0	0	1		1
	18-25	0	1	7	15	22 (%96)	23
	26-35	0	7	12	26	38 (%84)	45
	36-45	12	5	12	17	29 (%63)	46
	46-55	5	7	17	32	49 (%80)	61
	56-65	1	3	7	8	15 (%80)	19
	65+	2	4	0	2	2 (%25)	8
Total		20(%9,8)	27	55	101	156(%77)	203

Table 4.24. The Results of the Chi-Square Analysis for the Work Experience vs. Company Diversity Profile

Variables	Chi-Square	Cramer's V	Major Responses
Years in Aviation vs. Age diversity level of the company	.819	Not Important	Not Important
Years in Aviation vs. Gender diversity level of the company	.273	Not Important	Not Important
Years in Aviation vs. Nationality diversity level of the company	.173	Not Important	Not Important
Years in Aviation vs. Work experience diversity level of the company	.469	Not Important	Not Important
Years in Aviation vs. Management support level of the company	.288	Not Important	Not Important

Table 4.24 shows that there is no significant relationship between the work experience and the perceptions about the diversity profile of the company.

CHAPTER V

CONCLUSIONS AND DISCUSSIONS

The integration of the world economy has increased the interaction of employees in the companies, stimulating concerns about how to manage the diversity to achieve corporate goals. The management of diversity is also important for airline companies, since they execute critical operations that require quick and precise coordination among workforce having diverse characteristics. Therefore, they should monitor and carefully manage the diversity of the employees to ensure flight safety, operational efficiency, and brand reputation.

The presence of people from different age groups in the aviation industry ensures that experience and new ideas come together. Young employees can quickly adapt to new technologies, while more experienced ones may contribute with their knowledge and experience to the working environment. Gender diversity is also important in the aviation industry. Although the presence of women in the sector has started to rise in leadership positions and technical roles, it is still not at the desired level. Women generally work in cabin and ground services and customer relations departments. To restore this imbalance, airlines should pursue more gender diversity-oriented policies to leverage the power of gender groups. The findings in this study reflect that only 42.5% of the participants believe that their firm has gender diversity. This result is not surprising since male pilots still dominate the aviation industry.

Cultural diversity in terms of power distance and individualism vs. collectivism dimensions is critical in the aviation industry. Power distance shows the interaction between superiors and subordinates and is important for flight safety. When power distance is high, subordinates may avoid expressing their ideas and be reluctant to participate in decision-making. This may lead to consequences that may endanger flight safety. On the other hand, the diversity between individualism and collectivism can have a significant impact on employee performance and job satisfaction.

Individualism encourages employees to focus on their own talents and individual success, whereas excessive individualism can make cooperation difficult. Collectivism, on the other side, emphasizes teamwork and achieving common goals. This can increase cooperation and solidarity but can limit individual creativity.

The study aims to examine the perceptions of the pilots on how the age, gender, and cultural diversity in the airlines affect the working environment. In this context, it tries to identify the perception levels of the advantages and challenges of each diversity dimension from the perspective of pilots and their perception of the level of support given to diversity by their companies. We run an online survey to the pilots that are members of BALPA and TALPA. For cultural diversity, we employ power distance and individualism vs. collectivism dimensions of Hofstede's cultural dimensions theory. We collected data from 203 respondents and analyzed the results.

The results show that there is a significant relationship between age and the perceptions of the employees on the diversity dimensions, i.e., age, gender, and culture. The findings reveal that individuals aged 18 to 25 differ significantly in their perceptions compared to those aged 46 to 55, suggesting that younger employees view the advantages and challenges of diversity differently than their older counterparts. Additionally, we observed significant differences between the 26-35 age group and the 36-45 and 46-55 age groups. As the age of the participant increases, the belief in having advantages and challenges increases. This finding shows that the employees become more sensitive to diversity as they get older.

The findings also show that there is no significant relationship between gender and the perceptions of the employees on the diversity dimensions, i.e., age, gender, and culture. Thus, the gender of the participants does not affect the advantages and challenges perceptions of the diversity measures. On the other hand, the results indicate that there is a significant relationship between work experience and the employees' perceptions of the diversity dimensions. As work experience increases, the susceptibility of diversity increases. Thus, with the increase in seniority level, the employees become leaders of the groups, and they support inclusion and diversity for better decision making.

The findings about cultural diversity show that power distance diversity has the lowest scores of advantages among all other diversity measures. The respondents who express that PD diversity has advantages are mostly those with high work experience. Thus, the seniors leading to decision-making processes perceive that PD diversity is an advantage, whereas the juniors believe that PD diversity is not advantageous. The results also indicate that in terms of individualism vs. collectivism diversity, when firm management includes people with different experiences and nationalities, this diversity dimension may lead to better decision-making by providing different views for different situations. It also empowers innovation by enabling employees to come up with new ideas.

Finally, the results indicate that gender and work experience have no effect on the perceptions of the employees on the diversity profile of the company, while age is a significant demographic factor influencing perceptions and attitudes toward diversity in the workplace. Therefore, airlines should tailor diversity-related policies and communication strategies to address the varying perspectives of different age groups, ensuring inclusivity and engagement across all generations in the company.

5.1. Implications of the Study

The study is unique as there are few studies that have investigated the effects of diversity in the aviation industry from the perspective of pilots. The findings provide valuable insights to the airlines, as they may use the results to put more emphasis on implementing effective diversity strategies to improve operational performance by analyzing the advantages and challenges of diversity. They may also introduce new initiatives to promote the upsides benefits and mitigate the downsides risks of diversity. Policymakers may also use the findings to encourage airlines to implement diversity-oriented policies.

5.2. Limitations of the Study and Future Research

We acknowledge that this study has some limitations. First, we used a limited sample size consisting of the members of the BALPA and TALPA that represent a small part of the IFALPA. Future studies may collect data from a large sample size to increase

the validity of the findings. Second, we analyzed only two dimensions of Hofstede's cultural dimensions theory, i.e., power distance and individualism vs. collectivism, and we ignored other dimensions. Future studies may cover all dimensions of the Hofstede's theory to provide a more complete picture. Finally, we do not include questions that answer how to mitigate the challenges associated with the lack of age, gender, and cultural diversity in the survey. Future research may include questions that would gather information about the perception of the employees on the mitigation methods of the challenges for minimizing diversity risks and maximizing the advantages of the diversity in ensuring the safety of the operations in the airlines.

REFERENCES

ACI. (2022). Airports Council International (ACI) World Airport Traffic Forecasts (WATF) 2022 Annual Report.

Ali, M., & Konrad, A.M. (2017). Antecedents and consequences of diversity and equality management systems: The importance of gender diversity in the TMT and lower to middle management. European Management Journal, 35(4), 440–453.

Al-Romaithi, S.A.K. (2014). National culture: Understanding the impact of cross-culture on airline pilots' safety performance in the Middle East and North Africa Region. (Doctoral dissertation). Embry-Riddle Aeronautical University, Daytona Beach, U.S. Retrieved from http://commons.erau.edu/cgi/viewcontent.cgi?article=1151&context=edt.

Alfes, K., & van Engen, M.L. (2017). Moderating the effect of nationality diversity on engagement. Tilburg University. https://arno.uvt.nl/show.cgi?fid=142789.

Atewologun, D., Sealy, R., & Vinnicombe, S. (2016). Revealing intersectional dynamics in organizations: Introducing intersectional identity work. Gender, Work and Organization, 23(3), 223-247. https://doi.org/10.1111/gwao.12082.

Australian Government. (n.d.). Women in the aviation industry initiative. https://www.infrastructure.gov.au/infrastructure-transport-vehicles/aviation/women-aviation-industry-initiative, 16.06.2024.

Badal, S.B. (2014). The business benefits of gender diversity. Gallup.com. https://www.gallup.com/workplace/236543/business-benefits-gender diversity.aspx

BALPA. (2022). Available from: www.balpa.org.

Bibi, N. (2016). Role of gender diversity in organizational effectiveness and its implications. International Review of Management and Marketing, 6(4), 80-85.

Brewer, P., & Venaik, S. (2011). Individualism–collectivism in Hofstede and the globe. Journal of International Business Studies, 42(3), 436-445. http://dx.doi.org/10.1057/jibs.2010.62.

Briscoe, D.R., Schuler, R.S., & Tarique, I. (2012). International human resource management policy and practice for multinational enterprises. Routledge.

Bryan, V. (2022). The advisory board sets out a new flight plan to help encourage women in aviation. https://www.aerotime.aero/articles/30578-wiaab-recommendations-women-in-aviation 16.06.2024.

CAPA. (2023). Woman airline pilots: numbers are growing, but still a pitiful percentage: Center for Aviation (CAPA). https://centreforaviation.com/analysis/reports/women-airline-pilots-numbers-are-growing-but-still-a-pitiful-percentage-655755.

Carr, P.L., Szalacha, L., Barnett, R., Caswell, C., & Inui, T. (2003). A ton of feathers: gender discrimination in academic medical careers and how to manage it. Journal of Women's Health, 12(10), 1009-1018.

Charoensukmongkol, P. (2020). The efficacy of cultural intelligence for adaptive selling behaviors in cross-cultural selling: The moderating effect of trait mindfulness. Journal of Global Marketing, 33(3), 141–157. doi:10.1080/08911762.2019.1654586.

Cocis, A.D., Batrancea, L., & Tulai, H. (2021). The link between corporate reputation and financial performance and equilibrium within the airline industry, Mathematics, 9(17), 2150.

Cox, T.H., Jr. (1994). Cultural diversity in organizations: Theory, research, and practice. Berrett-Koehler.

D'Oliveria, T.C. (2010). Cultural intelligence, diversity, and management: Implications for aviation. 29th Conference of the European Association for Aviation Psychology. Budapest, Hungary.

Darsono, S.N.A.C., Wong, W.K., Thai, N.T., Jati, H.F., & Dewanti, D.S. (2021). Cultural dimensions and sustainable stock exchange returns in the Asian region. Journal of Accounting and Investment, 22(1). DOI: 10.18196/jai.v22i1.9965.

Datausa. (2022). Available from:https://datausa.io/profile/cip/airline-professional-pilot-flight-crew

Devinney, H., Björklund, J., & Björklund, H. (2022). Theories of "gender" in NLP bias research. In Proceedings of the 2022 ACM conference on fairness, accountability, and transparency (pp. 2083-2102).

Driskel, J., & Adams, R. (1992). Crew resource management: An introductory handbook. US Federal Aviation Administration Report No. DOT/FAARD-92/26. PDF) Crew Resource Management and Cultural Differences Among Cockpit Crew - the Case of Turkey. Available from: https://www.researchgate.net/publication/325273456_Crew_Resource_Management_CRM_and_Cultural_Differences_Among_Cockpit_Crew_-_the_Case_of_Turkey [accessed Aug 11, 2024].

Eylon, D., & Au, K.Y. (1999). Exploring empowerment cross-cultural differences along the power distance dimension. International Journal of Intercultural Relations, 23(3), 373-385.

Flin, R., Martin, L., Goeters, K.-M., Hörmann, H.-J., Amalberti, R., Valot, C., & Nijhuis, H. (2003). Development of the non-technical skills system for assessing pilots' CRM skills. Human Factors and Aerospace Safety, 3(2), 95–117.

Florida Tech Online (2020). Increasing diversity in aviation: Why and how. Retrieved from https://www.floridatechonline.com/blog/aviation-management/increasing-diversity-in aviation-why-and-how/.

Frome, P.M., Alfeld, C.J., Eccles, J.S., & Barber, B.L. (2006). Why don't they want a male-dominated job? An investigation of young women who changed their occupational aspirations. Educational Research and Evaluation, 12(4), 359-372.

Germain, M.L., Herzog, M.J.R., & Hamilton, P.R. (2012). Women employed in male-dominated industries: Lessons learned from female aircraft pilots, pilots-in-training and mixed-gender flight instructors. Human Resource Development International, 15(4), 435-453.

Groppe, M., & Brock, I. (2022). Cross-cultural interactions on the flight deck: applying a socio-ecological model to acculturative stress. Transportation Research Procedia, 66, 240-252.

Helmreich, R.L. (1999). Building safety on the three cultures of aviation. In Proceedings of the IATA Human Factors Seminar (pp. 39- 43). Bangkok, Thailand, August 12, 1998.

Helmreich, R.L. & Foushee, H.C. (2010). Why CRM? Empirical and theoretical bases of human factors training, In Crew Resource Management (pp. 3-57), Academic Press.

Helmreich, R. L., & Merritt, A. C. (1998). Culture at work: National, organizational, and
professional influences. Aldershot, United Kingdom: Ashgate.Helmreich, R. L., & Merritt, A. C. (1998). Culture at work: National, organizational, and professional influences. Aldershot, United Kingdom: Ashgate.

Herring, C. (2009).: Does diversity pay?: Race, gender, and the business case for diversity. American Sociological Review, 74(2), 208-224.

Himashi, G (2024). Cultural diversity and inclusion. Innovative Research in the Modern World: Theory and Practice, 3(1), 49-62.

Hoermann, H.J. (2001). Cultural variation of perceptions of crew behaviour in multi-pilot aircraft. Le Travail Human, 64(3), 247-68. doi:10.3917/th.643.0247.

Hofstede, G. (1980). Culture's consequences. Sage Publications.

Hofstede, G. (1984). The cultural relativity of the quality of life concept. Academy of

Management Review, 9(3), 389–398. https://doi.org/10.5465/amr.1984.4279653

Hofstede, G. (2001). Culture's consequences. Sage Publications.

Hui, C.H. (1988). Measurement of individualism–collectivism. Journal of Research in Personality, 22, 17–36.

Hunt, D.V., Yee, L., Prince, S., & Dixon-Fyle, S. (2018). Delivering through diversity. Retrieved from: https://www.mckinsey.com/capabilities/people-and-organizational-performance/our-insights/delivering-through-diversity

IATA. (2023). Annual Review 2023 of International Air Transport Association. International Air Transport Association. Available from:https://www.iata.org/contentassets/c81222d96c9a4e0bb4ff6ced0126f0bb/annual-review-2023.pdf

IATA. (2024). Annual Review 2024 of International Air Transport Association. International Air Transport Association. Available from: https://www.iata.org/contentassets/c81222d96c9a4e0bb4ff6ced0126f0bb/iata-annual-review-2024.pdf

ICAO. (2023). ICAO releases new data on the status of global aviation gender equality. International Civil Aviation Authority. https://www.icao.int/Newsroom/Pages/ICAO-releases-survey-data-on-status-of-global-aviation-gender-equality.aspx,16.06.2024.

IFALPA. (2023). https://www.ifalpa.org.

Jing, H.S., Lu, C.J., & Peng, S.J. (2001). Culture, authoritarianism, and commercial aircraft accidents. Human Factors and Aerospace Safety, 1, 341-359.

Keller, J., Wang, Y., Cooney, J., Erstad, A., & Lu, C. (2015). Cultural dimensions: A comparative analysis of aviation students in China and the US. International Journal of Aviation, Aeronautics, and Aerospace, 2(3). doi: https://doi.org/10.58940/2374-6793.1065

Kılıç, S., & Yanikoglu, P. (2023). Breaking the barriers: An analysis of diversity, equity, and inclusion strategies in the global aviation industry. ToSEE – Tourism in Southern and Eastern Europe, 7, 189-199. https://doi.org//10.20867/tosee.07.13

Kunze, F., Boehm, S., & Bruch, H. (2013). Organizational performance consequences of age diversity: Inspecting the role of diversity-friendly HR policies and top managers' negative age stereotypes. Journal of Management Studies, 50(3), 413-442.

Lauber, J. K. (1984). Resource management in the cockpit. Airline Pilot, 53, 20-23.

Lawrence, P. (1990). Management in the land of Israel. Stanley Thornes.

Li, W-C., Harris, D. & Chen, A. (2007). Eastern minds in Western cockpits: Meta-analysis of human factors in mishaps from three nations. Aviation Space and Environmental Medicine, 78(4), 420-425.

Li, W.C., Harris, D., Li, L.W., & Wang, T. (2009). The differences of aviation human factors between individualism and collectivism culture. In Human-Computer Interaction. Interacting in Various Application Domains: 13th International Conference, HCI International 2009, San Diego, CA, USA, July 19-24, 2009, Proceedings, Part IV 13 (pp. 723-730). Springer Berlin Heidelberg.

Li, Y., Gong, Y., Burmeister, A., Wang, M., Alterman, V., Alonso, A., & Robinson, S. (2021). Leveraging age diversity for organizational performance: An intellectual capital perspective. Journal of Applied Psychology, 106(1), 71-91.

Liao, M.Y. (2015). Safety culture in commercial aviation: Differences in perspective between Chinese and Western pilots. Safety Science, 79, 193-205.

Luu, T.T., Rowley, C., & Vo, T.T. (2019). Addressing employee diversity to foster their work engagement. Journal of Business Research, 95, 303-315. https://doi.org/10.1016/j.jbusres.2018.08.017.

Lyness, K.S. (2002). Finding the key to the executive suite: Challenges for women and people of color. The 21st century executive: Innovative practices for building leadership at the top, 229-273.

Mahat, D. (2024). Workforce diversity at work: Exploring ethnicity as moderating in age and performance. Asian Journal of Management Analytics 3(1), 55-76. https://doi.org/10.55927/ajma.v3i1.7663

Mattson, P., Johnson, J., Olson, A., & Ferguson, M. (2007). Gender and multi-cultural curriculum issues for undergraduate aviation students. Collegiate Aviation Review, 25, 46-56.

McKay, P.F., Avery, D.R., & Morris, M.A. (2008). Mean racial-ethnic differences in employee sales performance: The moderating role of diversity climate. Personnel Psychology, 61, 349–374.

McKay, P.F., Avery, D.R., Tonidandel, S., Morris, M.A., Hernandez, M., & Hebl, M.R. (2007). Racial differences in employee retention: Are diversity climate perceptions the key? Personnel Psychology, 60, 35–62.

Merritt, A.C. (1993). The influence of national and organizational culture on human performance. The CRM Advocate, 93(1), 6-9.

Ng, K.-Y., & Earley, P. C. (2006). Culture þ intelligence: Old constructs, new frontiers. Group & Organization Management, 31(1), 4–19.

NToumi, M. (2020). Perceptions and attitudes of airline employees towards diversity. A quantitative analysis. Journal of Air Transport Studies, 11(2), 44-58.

O'Connor, P., Flin, R., & Fletcher, G. (2002). Methods used to evaluate the effectiveness of CRM training: A literature review. Journal of Human Factors and Aerospace Safety,2(3), 217-234.

Opengart, R., & Germain, M.L. (2018). Diversity intelligence as a source of strength in human resource development: Increasing the presence of women pilots. Advances in Developing Human Resources, 20(3), 331-344.

Orasanu, J., Fischer, U., & Davison, J. (1997). Cross-cultural barriers to effective communication in aviation. Cross-cultural Work Groups, 134-160.

Oyserman, D., & Lee, S.W. (2008). Does culture influence what and how we think? Effects of priming individualism and collectivism. Psychological Bulletin, 134(2), 311-342.

Oyserman, D., Coon, H., & Kemmelmeier, M. (2002). Rethinking individualism and collectivism: Evaluation of theoretical assumptions and meta-analyses. Psychological Bulletin, 128, 3–72.

Peksatici, O. (2018). Crew resource management (CRM) and cultural differences among cockpit crew-the case of Turkey. Journal of Aviation/Aerospace Education & Research, 27(2), 1-39.

Profili, S., Innocenti, L., & Sammarra, A. (2017). A conceptual framework of age diversity climate. In Age diversity in the workplace (Vol. 17, pp. 95-116). Emerald Publishing Limited.

Pulusumamidi, N., Betgeri, S.N., & Chekuri, N.P. (2024). Gender diversity at workplace: Its implications on organizational performance at IT sector in Hyderabad. In MATEC Web of Conferences (Vol. 392, p. 01052). EDP Sciences.

Ricee, S. (2023) The age diversity debate: What is the age range of a diverse workplace. Website is available at: https://diversity.social/age-diversity/

Rietsema, K.W. (2003). A case study of gender in corporate aviation. Unpublished dissertation. Capella University. Available from Dissertation Abstracts International DAI-A64/03.

Rosenzweig, P. (1998). Managing the new global workforce: Fostering diversity, forging consistency. European Management Journal, 16(6), 644-652.

Salas, E., Wilson, K.A., Burke, C.S., Wightman, D.C., & Howse, W.R. (2006). Crew resource management training research, practice, and lessons learned. In R. C. Williges (Ed., Review of human factors and ergonomics (Vol. 2, pp. 35-73). Santa Monica, CA: HumanFactors and Ergonomics Society.

Seriwatana, P., & Charoensukmongkol, P. (2021). Cultural intelligence and relationship quality in the cabin crew team: The perception of members

belonging to cultural minority groups. Journal of Human Resources in Hospitality & Tourism, 20(2), 147-173.

Shen, J., Chanda, A., D'Netto, B., & Monga, M. (2009). Managing diversity through human resource management: an international perspective and conceptual framework. The International Journal of Human Resource Management, 20(2), 235–251.

Song, J. Y. (2018). The effects of cultural factors on safety in aviation focusing on Asian and Western cultures. Embry-Riddle Aeronautical University.

Sooters, J., & Boer, J (2000). Culture and flight safety in military aviation. International Journal of Aviation Psychology 10(2), 111-133.

TALPA. (2022). www.talpa.org.

Taylor, J. (1999). Some effects of national culture in aviation maintenance. SAE Technical Paper 1999-01-2980, https://doi.org/10.4271/1999-01-2980.

Taylor, J.L., Kennedy, Q., Noda, A., & Yesavage, J.A. (2007). Pilot age and expertise predict flight simulator performance: a 3-year longitudinal study. Neurology, 68(9), 648-654.

Thatcher, S. M., Hymer, C.B., & Arwine, R.P. (2023). Pushing back against power: Using a multilevel power lens to understand workforce diversity in the workplace. The Academy of Management Annals, 17(2), 710-750. https://doi.org/10.5465/annals.2021.0210

Triandis, H.C., Chan, D.K., Bhawuk, D.P.S., Iwao, S., & Sinha, J.B.P. (1995). Multimethod probes of allocentrism and idiocentrism. International Journal of Psychology, 4, 461–480.

Turlapati, V.R., Ajit, S., Natarajan, S., Muthulakshm, A., Mishra, B.R. & Lenin, S. (2024). The role of gender diversity in horticulture: Strategies for encouraging women participation in the field. Journal of Informatics Education and Research, 4(1), 524-529.

Turney, M.A. (2000). Attracting women to aviation careers: What recent studies reveal. Collegiate Aviation Review, 18, 92-98.

Turney, M.A., & Maxant, R.F. (2004). Tapping diverse talent: A must for the new century. In. M. A.Turney (Ed.) Tapping diverse talent in aviation: Culture, gender and diversity (pp. 3-10). Aldershot, UK: Ashgate.

UK Civil Aviation Authority. (2021). https://www.caa.co.uk/Documents/Download/1999/a7931d88-d4ae-405d-9129-5949fcccde28/18

Van Dyne, L. Ang, S. & Koh, C. (2009). Cultural intelligence: measurement and scale development. InM.A. Moodian (Ed.), Contemporary leadership and intercultural

competence: Exploring the cross-cultural dynamics within organizations (pp. 233-254). Sage Publications.

Van Dyke, D.L. (2006). Management commitment: Cornerstone of aviation safety culture. Royal Aeronautical Society, Montreal Branch.

Van Dijk, H., van Engen, M.L., & van Knippenberg, D. (2012). Defying conventional wisdom: A meta-analytical examination of the differences between demographic and job-related diversity relationships with performance. Organizational Behavior and Human Decision Processes, 119(1), 38-53.

World Economic Forum (2023). Annual Meeting 2023. Retrieved from: https://www.weforum.org/events/world-economic-forum-annual-meeting-2023

Yang, Y., & Konrad, A.M. (2011). Understanding diversity management practices: Implications of institutional theory and resource-based theory. Group & Organization Management, 36(1), 6–38.

Zajdband, A. (2020). Multicultural cockpit-threat or opportunity? Unpublished dissertation. Embry-Riddle Aeronautical University.

APPENDIX

APPENDIX A

SURVEY OUTLINE

Dear Sir/Madame,

We attempt to investigate how the degree of diversity and inclusion in aviation companies affect the corporate environment from the perspective of employees via this survey. This survey is going to be a part of the master's thesis in the Aviation Management Graduate Program run by Ibn Haldun University. Please note that the findings of this survey will be used only for academic purposes. **We shall not disclose or share your answers with a third party. All the answers will be kept confidential**.

We are aware that the improvement of aviation for a better working environment will only be possible with the collaborative efforts of people that work in this industry. Therefore, we highly appreciate your participation and cooperation in this survey. If you need any further clarification, please do not hesitate to contact us via email iletisim.

Please stay safe and healthy.

Yours sincerely,
Berna Sen Senol
iletisim

SECTION I- GENERAL INFORMATION
General Information
Age : ☐ 18-25 ☐ 26-35 ☐ 36-45 ☐ 46-55 ☐ 56-65 ☐ 65+
Gender : ☐ Male ☐ Female ☐ Other ☐ I do not want to mention
Nationality :
Place of Occupation :
Education Level : ☐ High School ☐ Undergraduate ☐ Postgraduate (Master) ☐ Doctorate
How long have you been in the aviation business?: ☐ Less than 1 year ☐ 1-5 years ☐ 6-10 years ☐ 11- 20 years ☐ 21-30 years ☐ More than 30 years
How long have you been in your company? : ☐ Less than 1 year ☐ 1-5 years ☐ 6-10 years ☐ 11- 20 years ☐ 21-30 years ☐ More than 30 years
What is your title at the company : ☐ Captain ☐ First Officer ☐ Cadet ☐ Seniour Cabin Crew ☐ Cabin Crew ☐ Other (Specify)

SECTION II- DEFINING DIVERSITY IN THE COMPANY					
DIVERSITY *'Diversity' is defined as variety, plurality, and difference.* Diversity is characterized by the different features of people in the group (e.g., age, gender, nationality, experience). Please select the best option that reflects your opinion from 1 to 5 for the following statements.	**Strongly disagree**	**Disagree**	**Neither agree nor disagree**	**Agree**	**Strongly agree**
	1	**2**	**3**	**4**	**5**
The distribution of the employees in my company, in terms of **age,** reflects a diverse environment.	☐	☐	☐	☐	☐
The distribution of the employees in my company, in terms of **gender**, reflects a diverse environment.	☐	☐	☐	☐	☐
The distribution of the employees in my company, in terms of **nationality**, reflects a diverse environment.	☐	☐	☐	☐	☐
The distribution of the employees in my company, in terms of **work experience**, reflects a diverse environment.	☐	☐	☐	☐	☐
I believe that my company management supports diversity.	☐	☐	☐	☐	☐
I believe that diversity should be improved in my company.	☐	☐	☐	☐	☐
If you believe that it should be improved, then please write down your opinion on how it should be improved.					

SECTION III- DIVERSITY DIMENSIONS (AGE-GENDER-CULTURE)					
DIVERSITY DIMENSIONS: **AGE** The following questions are intended to define the effects of age differences as a factor of diversity. Please select the best option that reflects your opinion from 1 to 5 for the following statements.	**Strongly disagree**	**Disagree**	**Neither agree nor disagree**	**Agree**	**Strongly agree**
	1	**2**	**3**	**4**	**5**
I believe that working with people of different **ages** has **advantages.**	☐	☐	☐	☐	☐
I believe that working with people of different ages has **challenges.**	☐	☐	☐	☐	☐
DIVERSITY DIMENSIONS: **GENDER** The following questions are intended to define the effects of gender differences as a factor of diversity. Please select the best option that reflects your opinion from 1 to 5 for the following statements.	**Strongly disagree**	**Disagree**	**Neither agree nor disagree**	**Agree**	**Strongly agree**
	1	**2**	**3**	**4**	**5**
I believe that working with people of different **genders** has **advantages.**	☐	☐	☐	☐	☐
I believe that working with people of different genders has **challenges.**	☐	☐	☐	☐	☐
DIVERSITY DIMENSIONS: **CULTURE** In this study, 'Cultural Differences' are analyzed in the scope of 'Hopstede's 2 Cultural Dimensions', as a factor of diversity: * Power Distance * Individualism vs Collectivism					
POWER DISTANCE ***Power distance may be defined as 'the strength of the society's social hierarchy.*** The following questions are intended to define the effects of 'power distance' mindset differences as a factor of diversity. Please select the best option that reflects your opinion from 1 to 5 for the following statements.	**Strongly disagree**	**Disagree**	**Neither agree nor disagree**	**Agree**	**Strongly agree**
	1	**2**	**3**	**4**	**5**
I believe that working with people having different **'power distance' mindsets** (by culture) has **advantages.**	☐	☐	☐	☐	☐
I believe that working with people having different 'power distance' mindsets (by culture) has **challenges.**	☐	☐	☐	☐	☐

INDIVIDUALISM VS COLLECTIVISM ***Individualism vs Collectivism may be defined as the integration of individuals into groups.*** The following questions are intended to define the effects of 'Individualism vs Collectivism' mindset differences as a factor of diversity. Please select the best option that reflects your opinion from 1 to 5 for the following statements.	**Strongly disagree**	**Disagree**	**Neither agree nor disagree**	**Agree**	**Strongly agree**
	1	**2**	**3**	**4**	**5**
I believe that working with people having different '**Individualism vs Collectivism' mindset** (by culture) has **advantages.**	☐	☐	☐	☐	☐
I believe that working with people having different 'Individualism vs Collectivism' mindset (by culture) has **challenges.**	☐	☐	☐	☐	☐

CURRICULUM VITAE

Personal Information

Name and Surname:
Berna Şen Şenol

Contact Information:
E-mail (1):
E-mail (2):

Education:

September 2021 – September 2024 MA in Management, Ibn Haldun University
October 1993 - August 1997 Industrial Engineering, Turkish Airforce Academy

Work Experience:

October 2023 – September 2024	Captain, Ryanair Airlines
February 2017 – October 2023	Captain, Sunexpress Airlines
November 2015 – February 2017	Captain, Pegasus Airlines
April 2015 – November 2015	First Officer, Pegasus Airlines
February 2014 – April 2015	First Officer, Sunexpress Airlines
December 2012 – February 2014	First Officer, Sunexpress Airlines
August 1997 – September 2012	Pilot, Turkish Air Force