International
Journal of Human Sciences
ISSN:2458-9489

Volume: 20 Issue: 1 Year: 2023

An empirical study on the examination of individual innovativeness levels of civil aviation academicians

Erdal Dursun[1]

Abstract

Research aim/problem: The civil aviation sector is a sector where high technology is used. Academics working in educational institutions that teach employees for this industry should be open to new ideas. The "Individual Innovation Scale" was employed in the study to measure the levels of innovativeness of civil aviation academics. The study was formed using a survey model. The research universe includes 440 civil aviation academicians. Among the random sample methods employed in the study was the accessible sampling approach. The study sample group comprises of 67 academics, 22 females and 45 males, who volunteered to take part in the research. Civil aviation academics, it can be argued, are prone to individual innovative traits, are open to experience and eager to attempt innovation, do not reject change, and have a high degree of engagement in thinking on this subject. Furthermore, significant differences were determined for the academic title variable "Resistance to Change" in the dimension of "Resistance to Change" according to the gender variable of the factors of individual innovativeness; according to the seniority variable, in the dimension of "Thought Leadership".

Keywords: Innovativeness, individual innovativeness, civil aviation academicians.

Introduction

The civil aviation sector is one of today's transportation kinds that receive the greatest attention, as it employs modern technology, has strong rivalry, and has a worldwide, economically significant distinctive structure (Hine, 2000, p. 175). The civil aviation sector has been assigned a crucial task in order to handle the expanding commerce and tourist potential as a result of Türkiye's recent opening up policy, and this industry has been viewed as a critical element in the policies implemented (Korul and Küçükonal, 2003, p. 25). Because of the subjective requirement of the sector, skilled employees are required at all levels to support the civil aviation industry. Many departments at Turkish universities offer education at the associate degree and undergraduate levels in order to train the skilled individuals required by the sector.

In Türkiye, civil aviation education, at university level, began in 1986 with the establishment of Anadolu University Civil Aviation Vocational School. The education time of the relevant school was raised to five years as a consequence of a 1992 modification to the Higher Education Law, one

[1]Assist. Prof. Dr., Nişantaşı University, Faculty of Economics Administrative and Social Sciences, erdal.dursun@nisantasi.edu.tr, Orcid ID: https://orcid.org/0000-0002-6255-1380

Submitted: 28/02/2023 Published: 28/03/2023

Dursun, E. (2023). An empirical study on the examination of individual innovativeness levels of civil aviation academicians. *Journal of Human Sciences*, *20*(1), 118-128. doi:10.14687/jhs.v20i1.6360

year of which includes English preparatory. Aside from Anatolian University, our various state and foundation universities provide associate degree and undergraduate education in the departments of Aviation Management, Civil Air Transport Management, Civil Aviation Cabin Services, Air Traffic Control, and Pilotage in faculties, colleges, and vocational schools in order to meet the growing demand for qualified personnel in the field of civil aviation.

The civil aviation sector employs cutting-edge technology, which is updated on a regular basis. As a result, academics working in educational institutions that teach employees for this industry should be open to new ideas.

In order to achieve skills in the use of information and communication technologies in the learning-teaching processes, civil aviation academics require a framework that allows them to utilize technology holistically with professional and field expertise, as well as novel features. According to Shantz's (1995) research, several education faculties established new education programs, but then presented teacher candidates with old methods.

The most significant responsibility for trainers is to adopt new legislation and utilize new technologies and innovations at all levels of education and training. Effective instruction may be secured thanks to the teachers' selfless efforts in innovation. Hence, it is critical to investigate the attitudes toward innovation and individual innovativeness characteristics of instructors, who are the implementers of all educational innovations (Koçak and Önen, 2012, p. 46).

The study's goal is to evaluate the degrees of innovativeness among civil aviation academics and to demonstrate the link between individual innovativeness characteristics and gender, seniority, age, and academic titles.

Conceptual Frame

An innovative person is open to new experiences without avoiding the dangers that a subject, thinking, or application may entail, and he will not hesitate to renew himself if he perceives it as vital or beneficial. Individual innovativeness may therefore be defined as developing, adopting, or implementing any innovation (Yuan and Woodman, 2010, p. 330).

The innovation procedure begins with the identification of a problem, continues with the development of proposals and ideas for issue solutions, and concludes with the production of ready-to-implement innovations. The amount to which this attribute is present in the individual is one of the causes of this process. In other words, if an individual's degree of innovativeness is high, the innovation process will be more successfully integrated, and good outcomes will be produced at the conclusion of the process.

Ritchhart (2004) identified an innovative trainer as someone who grows professionally, can create subject activities within the framework of the curriculum, presents information in new ways and methods, increases student participation by blending different methods, and implements new skills by changing his habits. It should be reviewed and investigated in several dimensions, not just one, because it impacts both functions and other functions (Muşta, 2005, p. 89). One of these factors that should be explored and assessed is academics' individual levels of innovativeness. Since as an individual, an academician has an awareness of innovation based on his personality qualities or his own personal and cultural past experiences, and he reaches the field of education with his own creativity and thought potential. However, the trainer's own views can either increase or restrict this potential. As a result, it is critical to evaluate academics' particular inventive traits as well as their attitude (Koçak and Önen, 2012, p. 46).

Dursun, E. (2023). An empirical study on the examination of individual innovativeness levels of civil aviation academicians. *Journal of Human Sciences*, *20*(1), 118-128. doi:10.14687/jhs.v20i1.6360

Rogers (2003), noted for his Diffusion of Innovation Theory, defines innovation as "an idea, practice or product viewed as novel by the person or society". Rogers evaluates innovative qualities along five dimensions: relative benefit, compatibility, complexity, trialability, and observability. As a result, it can be claimed that when it comes to accepting an invention, the potential benefit of that innovation on an individual and social level, as well as the perception of simplicity of use for using the innovation, are at the forefront. Individual innovativeness was conceived by Goldsmith and Foxall (2003) using three separate approaches: behavioral approach, general personality trait, and unique personality characteristic.

Although it is not regarded essential for consumers to embrace a new product, it is believed that simplicity of use enhances individuals' impression of advantage. Many various characteristics may be used to classify the notion of innovation, including individual and social demands, differences, prior experiences, and past experiences. Rogers categorizes innovation in general with the five types listed below (Kılıçer and Odabaşı, 2010):

1- Innovators: A visionary who likes to try new ideas and take risks.

2- Pioneer (Early Adopters): Enlighting and guiding other members of the society about innovations

3- Questioner (Early Majority): In tendency of behaving cautiously towards innovations.

4- Skeptic (Late Majority): Having a skeptical and shy attitude towards innovations, waiting for the majority of the society to adopt the innovation.

5- Traditionalist (Laggards): Those that are resistant to change tend to accept innovations last, waiting for others to try the innovation and assess the outcomes before embracing the idea.

Method

Research Model

The survey model was applied to the research. The descriptive survey model, which is one of the survey models, was employed in the current study, as the purpose, scope and technique of the investigations in the subject of 'adult education' were tried to be assessed. The surveying model attempts to explain the scenario, person, or item that is the topic of the investigation under the present conditions and as it is (Karasar, 2016).

Research Population and Sample

The research population, as seen through the YÖK Atlas portal; It is made up of 440 academicians who teach in the departments of Aviation Management, Civil Air Transportation Management, Civil Aviation Cabin Services, Air Traffic Control, and Pilotage at our state and foundation universities' faculties, colleges, and vocational schools, as listed in the 2021-2022 application guide. One of the random sample methods employed in the study was the accessible sampling approach. The researcher gathers data from the simplest and most accessible subjects until he meets the sample quantity required in the convenient sampling approach, which is founded on the notion of convenience and accessibility (Berg, 2001; Gürbüz and Şahin, 2015). The sample group of the present study consists of 67 academicians, 22 females and 45 males, who voluntarily attended to the study.

Dursun, E. (2023). An empirical study on the examination of individual innovativeness levels of civil aviation academicians. *Journal of Human Sciences*, *20*(1), 118-128. doi:10.14687/jhs.v20i1.6360

Data Collection Method

The **"Personal Innovation Scale (PIS)"** created by Hurt, Joseph, and Cook (1977) was used to assess the inventive attitudes of civil aviation academics in the study. The scale's names are **"Resistance to Change," "Opinion Leadership," "Openness to Experience,"** and **"Risk Taking,"** and it was adapted to Turkish culture by Kılıçer and Odabaşı (2010) and Solmaz (2019). The scale's internal consistency coefficient was judged to be 0.82, and the test-retest reliability was 0.87.

The scale covers a total of 20 assertions about individual qualities in five distinct areas, ranging from creative to conventional. 12 of the scale items are positive, while 8 are negative. Each statement on the scale concerning individual invention was assessed as a 5-point Likert item. The individual's innovativeness score was computed using the scale by adding 42 points to the score obtained by subtracting the total score received from the negative items from the total score obtained from the positive items. The scale can provide the lowest 14 and greatest 94 points. Individuals can be classified in the context of innovation based on the scale's estimated scores. Individuals are classified as **"Innovative"** if their computed score is greater than 80 points, **"Pioneer"** if it is between 69 and 80 points, **"Questioner"** if it is between 57 and 68 points, **"Skeptical"** if it is between 46 and 56 points, and **"Traditionalist"** if it is less than 46 points. In other words, whereas individual innovativeness is characterized by the dimension of cascade and belonging to the most radical group "Innovationism"; the smallest creative group was classified as "Traditional". Furthermore, evaluations of individuals' degrees of innovativeness in general may be done based on the score generated with the use of the scale. Individuals with a score of 68 or more are deemed very inventive, whereas those with a score of six are considered less innovative (Kılıçer and Odabaşı, 2010). Individuals with a score of 68 are regarded very inventive, whereas those with a score of six are less weary of being innovative (Kılıçer and Odabaş, 2010). The Cronbach Alpha reliability coefficient, which was calculated by applying the scale to 67 academics who carry out teaching and training activities in the field of Civil Aviation, is.720.

Data Analysis Method

The data was analyzed using statistical package software (SPSS 15). The "skewness" and "kurtosis" scores were used to assess whether the data obtained for the study followed a normal distribution or not. In this analysis, frequency and percentage analysis were used to determine the socio-demographic characteristics of the participants. Because the obtained data met the normality condition, t-test and one-way analysis of variance (ANOVA) were used to assess each participant's innovativeness levels of academicians who carry out education and training activities conducted in the field of Civil Aviation.

Findings

The demographic characteristics of the civil aviation academicians encapsulated in the research are summarized in Table 1.

Dursun, E. (2023). An empirical study on the examination of individual innovativeness levels of civil aviation academicians. *Journal of Human Sciences*, *20*(1), 118-128. doi:10.14687/jhs.v20i1.6360

Table 1. Demographical Characteristics of Participants

Variables		N	%
Cender	Female	22	32,8
	Male	45	67,2
Years of Seniority	1 - 3 Years	4	6
	4 - 6 Years	4	6
	7 – 9 Years	32	47,7
	Over 10 Years	27	40,3
Age	25 - 30	2	3
	31 - 35	8	11,9
	36 - 40	24	35,9
	Over 41	33	49,2
Academic Title	Prof. Doc.	4	6
	Assoc. Prof. Dr.	9	13,4
	Assist. Prof. Dr.	35	52,2
	Dr. Instructor	5	7,5
	Instructor	6	9
	Dr. Resc. Assis.	8	11,9
	Total	**67**	**100**

Table 1 provides information about the demographic information of civil aviation academicians. Accordingly, 32.8% (22) of the academicians participating in the research are female and 67.2% (45) male. 47.7% (32) 7-9 years, 40.3% (27) over 10 years, 6% (4) 1-3 years and 6% (4) 4-6 of the academicians they have years of working experience. 49.2% (33) of the academicians are over 41 years old, 35.9% (24) are 36-40 years old, 11.9% (8) are 31-35 years old and 3% (2) between the ages of 25-30. 52.2% (35) of the academicians were Assistant. Prof., 13.4% (9) Assoc. Dr., 11.9% (8) Lecturer, 9% (6) Res. Assistant, 9% (6) and 6% has Prof. Dr. title (4).

Table 2. Individual Innovation Levels and Scale Score Distribution of Participants

	n	Min.	Max.	$\bar{x}$	Sd	Skewness	Kurtosis
Individual Innovation Scale	67	49	86	71,5	7,45	0,293	0,578

Table 2 demonstrates the individual degrees of innovativeness of civil aviation scholars as well as the distribution of scale scores. It has been specified that the arithmetic average of the scores of the civil aviation academicians in PIS is 71.50 and therefore it is in the **"Early Adopters"** category, since it is between 69 and 80. When the skewness (.293) and kurtosis (.578) coefficients are examined, it is seen that the data obtained from the academicians participating in the research exhibit a normal distribution. In this respect, it was determined that parametric tests may be used to the data received from the participants.

Dursun, E. (2023). An empirical study on the examination of individual innovativeness levels of civil aviation academicians. *Journal of Human Sciences*, *20*(1), 118-128. doi:10.14687/jhs.v20i1.6360

Table 3. Distribution of Participants by Innovation Adoption Categories

Adoption Category	Score Range	N	%
Innovators	Above 80	9	13
Early Adopters	Between 69-80	37	55
Early Majority	Between 57-68	16	24
Late Majority	Between 46-56	5	8
Laggards	Less than 46	-	-
	Total	**67**	**100**

Table 3 points out the distribution of civil aviation academics involved in research by innovation adoption category. Accordingly, it is seen that civil aviation academics are mostly in the **"Early Adopters"** category (55%); this is followed by the "Early Majority" (24%), "Innovators" (13%) and "Late Majority" (8%) categories, respectively. There are no academicians in the "Laggards" category with the lowest score.

Developed by Hurt, Joseph and Cook (1977) and adapted by Kılıçer and Odabaşı (2010), PIS factors are titled **"Resistance to Change","Thought Leadership", "Openness to Experience"** and **"Risk Taking".**

Independent group t-test was realized to examine whether the factors of individual innovativeness characteristics of civil aviation academicians differ significantly according to the gender variable. The results of the independent group t-test analysis are given in Table 4.

Table 4 depicts the results of a t-test was realized to see if the individual innovativeness components of civil aviation academics differ substantially by gender in the **"Resistance to Change"** dimension. ($t_{(32,427)}$= 2.128, $p<0.05$). This situation differs significantly according to the gender variable. When the average scores obtained as a result of the answers given by civil aviation academicians from all other dimensions, including those with a significant difference, are examined, it is seen that male academicians are ahead of female academics in the dimensions of **"Thought Leadership","Opennessto Experience"** and **"Risk Taking",** which are among the factors of individual innovativeness. Only in the **"Resistance to Change"** dimension, it is seen that female academicians are more conservative than male academics. In the light of these results, it can be said that male academicians are more innovative in aspects of individual innovativeness.

Table 4. Independent Groups T-Test Results of Individual Innovation Characteristics of Participants by Gender Variable

Individual Innovation Scale Factors	Gender	n	x̄	ss	t	Sd	p
Resistance to Change	Female	22	2,63	0,702	2,128	32,427	0,037
	Male	45	2,30	0,515			
Thought Leadership	Female	22	3,96	0,472	-1,102	44,865	0,275
	Male	45	4,11	0,510			
Openness to Experience	Female	22	4,10	0,426	-1,647	44,981	0,104
	Male	45	4,29	0,462			
Risk Taking	Female	22	3,47	0,793	-1,657	36,815	0,102
	Male	45	3,78	0,686			

* p<0,05

Dursun, E. (2023). An empirical study on the examination of individual innovativeness levels of civil aviation academicians. *Journal of Human Sciences*, *20*(1), 118-128. doi:10.14687/jhs.v20i1.6360

One-way analysis of variance (ANOVA) was carried out to test whether there is a difference between the factors of individual innovativeness characteristics according to the seniority variable of civil aviation academicians. Table 5 shows the analysis results based on the **"Resistance to Change", "Thought Leadership", "Openness to Experience"** and **"Risk Taking"** dimensions according to the seniority year variance of the academicians.

Table 5. One-Way Analysis of Variance Results According to the Seniority Variable of the Participants

Individual Innovation Scale Factors	Years of Seniority	N	x̄	ss	Source of Variance	Sum of Squares	Sd	Mean Of Square	F	p
Resistance to Change	1 - 3 Years	4	2,28	0,48	Between Groups	0,310	3	0,103		
	4 - 6 Years	4	2,66	0,65						
	7 – 9 Years	32	2,40	0,69	Within Groups	23,259	63	0,369	0,280	0,840
	Over 10 Years	27	2,41	0,50						
	Total	**67**	**2,41**	**0,60**	**Total**	**23,569**	**66**			
Thought Leadership	1 - 3 Years	4	4,15	0,66	Between Groups	1,870	3	0,623		
	4 - 6 Years	4	3,40	0,86						
	7 – 9 Years	32	4,09	0,44	Within Groups	14,612	63	0,232	2,687	0,044
	Over 10 Years	27	4,11	0,44						
	Total	**67**	**4,06**	**0,50**	**Total**	**16,481**	**66**			
Openness to Experience	1 - 3 Years	4	4,50	0,53	Between Groups	0,509	3	0,170		
	4 - 6 Years	4	4,00	0,82						
	7 – 9 Years	32	4,22	0,44	Within Groups	13,272	63	0,211	0,805	0,496
	Over 10 Years	27	4,24	0,41						
	Total	**67**	**4,23**	**0,46**	**Total**	**13,780**	**66**			
Risk Taking	1 - 3 Years	4	4,13	0,63	Between Groups	2,826	3	0,942		
	4 - 6 Years	4	3,00	1,00						
	7 – 9 Years	32	3,66	0,80	Within Groups	32,591	63	0,517	1,821	0,152
	Over 10 Years	27	3,76	0,58						
	Total	**67**	**3,69**	**0,73**	**Total**	**35,418**	**66**			

* p<0,05

When the One-Way Analysis of Variance (ANOVA) results are assessed according to the seniority variable given in Table 5, $F(3\text{-}63)=2.687$, $p<0.05$ indicates a significant difference only in the Thought Leadership Dimension. With the Levene's test, the hypothesis of whether the variances of the group distributions were homogeneous was tested. Resistance to Change ($p=0.86>0.05$), Thought Leadership ($p=0.34>0.05$), and Risk Taking ($p=0.32>0.05$), sub-dimensions showed homogeneous group variances. In the **Openness to Experience** ($p=0.04<0.05$) sub-dimension, it was determined that the group variances were not homogeneous.

One-way analysis of variance (ANOVA) was applied to test whether there is a difference between the individual innovativeness characteristics of civil aviation academics according to the age variable. The analysis results based on the dimensions of **"Resistance to Change", "Thought Leadership", "Openness to Experience"** and **"Risk Taking"** according to the age variable of the academicians are given in Table 6.

Dursun, E. (2023). An empirical study on the examination of individual innovativeness levels of civil aviation academicians. *Journal of Human Sciences*, *20*(1), 118-128. doi:10.14687/jhs.v20i1.6360

Table 6. One-Way Analysis of Variance Results by Age of Participants

Individual Innovation Scale Factors	Age	N	x̄	ss	Source of Variance	Sum of Squares	Sd	Average of Squares	F	p
Resistance to Change	25 - 30	2	2,56	0,27	Between Groups	0,634	3	0,211		
	31 - 35	8	2,16	0,33						
	36 - 40	24	2,45	0,77	Within Groups	22,935	63	0,364	0,580	0,630
	Over 41	33	2,44	0,52						
	Total	**67**	**2,41**	**0,60**	**Total**	**23,569**	**66**			
Thought Leadership	25 - 30	2	4,20	0,00	Between Groups	0,305	3	0,102		
	31 - 35	8	4,23	0,53						
	36 - 40	24	4,03	0,60	Within Groups	16,176	63	0,257	0,396	0,757
	Over 41	33	4,04	0,43						
	Total	**67**	**4,06**	**0,50**	**Total**	**16,481**	**66**			
Openness to Experience	25 - 30	2	4,80	0,00	Between Groups	0,866	3	0,289		
	31 - 35	8	4,35	0,48						
	36 - 40	24	4,22	0,56	Within Groups	12,914	63	0,205	1,409	0,249
	Over 41	33	4,18	0,36						
	Total	**67**	**4,23**	**0,46**	**Total**	**13,780**	**66**			
Risk Taking	25 - 30	2	3,25	1,06	Between Groups	2,365	3	0,788		
	31 - 35	8	3,81	0,65						
	36 - 40	24	3,90	0,71	Within Groups	33,053	63	0,525	1,503	0,223
	Over 41	33	3,53	0,74						
	Total	**67**	**3,69**	**0,73**	**Total**	**35,418**	**66**			

* p<0,05

When the One-Way Analysis of Variance (ANOVA) results according to the age variable presented in Table 6 were examined, no significant difference was detected in any individual innovativeness characteristics factor. With the Levene's test, the hypothesis of whether the variances of the group distributions were homogeneous was tested. Resistance to Change ($p=0.14>0.05$), Thought Leadership ($p=0.30>0.05$), and Risk Taking ($p=0.87>0.05$), sub-dimensions demonstrated homogeneous group variances. In the **Openness to Experience** ($p=0.00<0.05$) sub-dimension, it was determined that the group variances were not homogeneous.

One-way analysis of variance (ANOVA) was conducted to test whether there is a difference between the factors of individual innovativeness characteristics according to the academic title variable of civil aviation academicians. The results of the analysis based on the dimensions of **"Resistance to Change", "Thought Leadership", "Openness to Experience"** and **"Risk Taking"** according to the academic title variable of the academicians are given in Table 7.

Dursun, E. (2023). An empirical study on the examination of individual innovativeness levels of civil aviation academicians. *Journal of Human Sciences*, *20*(1), 118-128. doi:10.14687/jhs.v20i1.6360

Table 7. One-Way Analysis of Variance Results by Academic Title Variable of Participants

Individual Innovation Scale Factors	Academic Title	N	x̄	ss	Source of Variance	Sum of Squares	Sd	Average of Squares	F	p
Resistance to Change	Prof. Doc.	4	2,38	0,37	Between Groups	3,699	5	0,740	2,271	0,048
	Assoc. Prof. Dr.	9	2,29	0,73						
	Assist. Prof. Dr.	35	2,30	0,45	Within Groups	19,870	61	0,326		
	Dr. Instructor	5	3,18	1,13						
	Instructor	6	2,52	0,50						
	Dr. Resc. Assis.	8	2,53	0,52						
	Total	**67**	**2,41**	**0,60**	**Total**	**23,569**	**66**			
Thought Leadership	Prof. Doc.	4	4,25	0,19	Between Groups	0,663	5	0,133	0,512	0,766
	Assoc. Prof. Dr.	9	4,11	0,46						
	Assist. Prof. Dr.	35	4,08	0,43	Within Groups	15,818	61	0,259		
	Dr. Instructor	5	4,12	0,64						
	Instructor	6	3,80	0,92						
	Dr. Resc. Assis.	8	3,98	0,49						
	Total	**67**	**4,06**	**0,50**	**Total**	**16,481**	**66**			
Openness to Experience	Prof. Doc.	4	4,50	0,38	Between Groups	1,060	5	0,212	1,017	0,416
	Assoc. Prof. Dr.	9	4,44	0,37						
	Assist. Prof. Dr.	35	4,14	0,41	Within Groups	12,720	61	0,209		
	Dr. Instructor	5	4,28	0,54						
	Instructor	6	4,17	0,61						
	Dr. Resc. Assis.	8	4,28	0,58						
	Total	**67**	**4,23**	**0,46**	**Total**	**13,780**	**66**			
Risk Taking	Prof. Doc.	4	3,63	0,75	Between Groups	1,843	5	0,369	0,670	0,648
	Assoc. Prof. Dr.	9	4,00	0,43						
	Assist. Prof. Dr.	35	3,64	0,76	Within Groups	33,575	61	0,550		
	Dr. Instructor	5	3,70	0,97						
	Instructor	6	3,33	0,68						
	Dr. Resc. Assis.	8	3,81	0,80						
	Total	**67**	**3,69**	**0,73**	**Total**	**35,418**	**66**			

* p<0,05

When the One-Way Analysis of Variance (ANOVA) results are evaluated based on the academic title variable given in Table 7, only F (5-61)=2.271, p<0.05) shows a significant difference in the Resistance to Change Dimension. With the Levene's test, the hypothesis of whether the variances of the group distributions were homogeneous was tested. Resistance to Change (p=0.07>0.05), Thought Leadership (p=0.39>0.05), Openness to Experience (p=0.41<0.05) and Risk Taking (p=0 ,23>0.05), group variances of sub-dimensions were revealed to be homogeneous.

Discussion and Result

Intelligence, which is an indicator of being ahead in practically every sector and is recognized as a strategic resource in modern societies, is made more accessible by technological opportunities and may be used to tackle our societal issues. As a result, the transition of information into invention is speeding, and **"innovation"** is emerging as one of our era's major ideals. In recent years, researches in several fields have attracted attention to the literature to explain how individuals perceive innovations, the disparities in the process of adopting these innovations, and the causes for these variances. The purpose of this study is to explore the individual innovativeness judgments of civil aviation academics in relation to various variables and to provide light on future researches.

When the findings on the individual innovativeness of civil aviation academics are reviewed, it can be stated that the academicians involved in the research are prone to individual innovativeness characteristics, they are open to experience, they are willing to try innovation, they

Dursun, E. (2023). An empirical study on the examination of individual innovativeness levels of civil aviation academicians. *Journal of Human Sciences*, *20*(1), 118-128. doi:10.14687/jhs.v20i1.6360

do not show resistance to change, and their level of engagement in thoughts on this subject is intense.

A substantial difference was discovered only in the **"Resistance to Change"** dimension according to the gender variable after assessing whether the determinants of individual innovativeness characteristics of civil aviation academics indicate a significant difference according to the gender variable. Other dimensions revealed no significant differences. The resulting result is also consistent with other research in the literature (Rogers, 2003; Rogers & Wallace, 2011). When the average scores gathered as a consequence of the answers given by civil aviation academicians from all other dimensions, including those with a significant difference, are examined; It is seen that male academicians are ahead of female academics in the dimensions of **"Thought Leadership", "Openness to Experience" and "Risk Taking"**, which are among the factors of individual innovativeness characteristics of male academicians. Just on the **"Resistance to Change"** dimension do female academicians appear to be more conservative than male academicians. According to these findings, male academics are more original in terms of individual inventiveness. The acquired result is comparable to the findings of Solmaz's study (2019).

Only the dimension of **"Thought Leadership"** showed a significant difference when analyzing if there is a difference between the variables of individual innovativeness characteristics according to the seniority variable of civil aviation academics. The hypothesis of whether the variances of the group distributions are homogenous was examined in the same study, and it was found that the group variances of the **"Resistance to Change," "Thought Leadership," and "Risk Taking"** sub-dimensions were homogeneous. It was discovered that the group variations in the "Openness to Experience" sub-dimension were not homogenous.

There was no significant difference in any individual innovativeness characteristics component when investigating whether there is a difference between the variables of individual innovativeness characteristics according to the age variable of civil aviation academics. The hypothesis of whether the variances of the group distributions are homogenous was examined in the same study, and it was found that the group variances of the **"Resistance to Change," "Thought Leadership,"** and **"Risk Taking"** sub-dimensions were homogeneous. It was discovered that the group variations in the **"Openness to Experience"** sub-dimension were not homogenous.

Ultimately, while investigating whether there is a difference between the elements of individual innovativeness characteristics of civil aviation academics based on the variable of academic title, only the dimension of **"Resistance to Change"** was viewed to be relevant. The hypothesis of whether the variances of the group distributions were homogenous was examined in the same methodology, and it was concluded that the variances of all sub-dimensions were homogeneous.

As a conclusion, individual levels of innovativeness among civil aviation academics are moderate yet open to development. The causes for female academics' difficulties in accepting innovations, leading the way, taking chances with experience, and doing can be identified. Furthermore, the causes for variances in the degrees of **"Resistance to Change,"** which is one of the variables of individual innovativeness of civil aviation academicians, may be determined for academics with various seniority and academic titles.

Dursun, E. (2023). An empirical study on the examination of individual innovativeness levels of civil aviation academicians. *Journal of Human Sciences*, *20*(1), 118-128. doi:10.14687/jhs.v20i1.6360

References

Berg, B. L. (2001). *Qualitative Research Methods for the Social Sciences*. Boston, MA: Allyn & Bacon.

Goldsmith, R. E. and Foxall, G. R. (2003). The measurement of innovativeness. The international handbook on innovation, 321-330. URL: https://pdfs.semanticscholar.org/ef3d/35b877b1b341fda33614b0425203c4e9bdb4.pdf

Gürbüz, S. and Şahin, F. (2015). *Sosyal Bilimlerde Araştırma Yöntemleri*, Felsefe Yöntem-Analiz. Ankara: Seçkin.

Hine, J. (2000). Integration, Integration, Integration Planning for Sustainable and Integrated Transport Systems in the New Millennium, *Transport Policy*, no. 7, 175-177.

Hurt, H. T., Joseph, K. and Cook, C. D. (1977). Scales for the measurement of innovativeness. *Human Communication Research*, 4, 58-65.

Karasar, N. (2016), *Bilimsel Araştırma Yöntemi: Kavramlar İlkeler Teknikler*. Nobel Akademik Yayıncılık, 30. Basım, Ankara.

Kılıçer, K. and Odabaşı, E. H. (2010). Bireysel yenilikçilik ölçegi: Türkçeye uyarlama, geçerlik ve güvenirlik çalışması. Hacettepe Üniversitesi *Eğitim Fakültesi Dergisi*, 38, 150-164.

Koçak, C., and Önen, A. S. (2012). Öğretmen adaylarının bireysel yenilikçilik özelliklerine göre yansıtıcı düşünme eğilimlerinin incelenmesi. *Hacettepe Üniversitesi Eğitim Fakültesi Dergisi*, 2, 46-54.

Korul, V. and Küçükönal, H. (2003). Türk Sivil Havacılık Sisteminin Yapısal Analizi, *Ege Academic Review*, cilt 3, no. 1, 24-38.

Muşta, M. C. (2005). Eğitimin dört boyutu. *Öğretmenin Dünyası*, 83-94.

Ritchhart, R. (2004). *Creative teaching in the shadow of the standards. Independent School*, 63(2), 32-41. URL: http://www.ronritchhart.com/Papers_files/Creative%20Teaching_Ritchhart04.pdfRogers, E. M. (2003). *Diffusion of Innovations 5th ed.* New York: The Free Press.

Rogers, R., K. and Wallace, J., D. (2011). Predictors of technology integration in education: a study of anxiety and innovativeness in teacher preparation, *Journal of Literacy and Technology*, 12(2), 28-61.

Sarıoğlu, A. (2014). *Bireysel Yenilikçilik Ölçeğinin Hemşirelikte Geçerlik ve Güvenirliği*. Yüksek Lisans Tezi, Atatürk Üniversitesi, Sağlık Bilimleri Enstitüsü, Erzurum.

Shantz, D. (1995), Teacher education: Teaching innovation or providing an apprentice ship?, *Education*, 115(3), 393-443.

Solmaz, İ. (2019). Öğretmenlerin bireysel yenilikçilik düzeyleri ile teknopedagojik eğitim yeterlikleri arasındaki ilişki, Yüksek Lisans Tezi, Sakarya Üniversitesi, Eğitim Bilimleri Enstitüsü, Sakarya.

Yuan, F. and Woodman, R. W. (2010). Innovative Behavior in the Workplace: The Role of Performance and Image Outcome Expectations, *Academic Management Journal*, 53(2), 323-342.