Uluslararası Toplum Araştırmaları Dergisi
International Journal of Society Researches

ISSN:2528-9527
E-ISSN : 2528-9535
Yıl *Year* : 10
Cilt *Volume*:15
Sayı *Issue* :23
Mart *March 2020*
Makalenin Geliş Tarihi *Received Date*: 04/11/2019
Makalenin Kabul Tarihi *Accepted Date*: 09/03/2020

Innovative Behavior Patterns of Employees In Terms of Demographic Characteristics, Professional Experiences And Educational Status: An Investigation on Turkish Banking Sector

DOI: 10.26466/opus.642734

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Abstract

In today's intense economic competition environment, innovation has become an inevitable necessity for survival and profit. For the banking sector enterprises that have to operate in a way to meet the new needs of their customers while maintaining their corporate structure, it is very important that their employees have innovative features. This study aims to investigate the innovative behavior characteristics of bank employees according to their demographic characteristics, experiences and educational status. Within the scope of the study, 443 banking sector personnel were surveyed. As a result of the analysis of the dataset obtained, it was found that the innovative behaviors of the banking sector employees differ according to different sector experiences, ages and educational backgrounds (p 0.05). However, the gender, marital status and banking tenure of the banking sector employees have no effect on their innovative behavior (p 0.05). The results of the study is considered to be interesting and beneficial both for sector representatives and for the academic environment related to innovation.

Keywords: *Innovative behavior, banking sector, demography, tenure, educational status*

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Çalışanların Demografik Özelliklerine, Mesleki Tecrübelerine ve Eğitim Durumlarına Göre Yenilikçi Davranış Örüntüleri: Türk Bankacılık Sektörü Üzerine Bir İnceleme

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Öz

Günümüzün yoğun ekonomik rekabet ortamında yenilikçilik, işletmelerin varlıklarını sürdürebilmeleri ve karlılıkları için kaçınılmaz bir gereklilik haline gelmiştir. Kurumsal yapılarını muhafaza ederken müşterilerinin yenilenen ihtiyaçlarına cevap verebilecek şekilde faaliyet göstermek durumunda olan bankacılık sektörü işletmeleri için, çalışanlarının yenilikçi özelliklere sahip olması oldukça önemlidir. Bu çalışmada bankacılık sektörü çalışanlarının yenilikçi davranış karakteristikleri demografik özelliklerine, mesleki tecrübelerine ve eğitim durumlarına göre incelemek amaçlanmıştır. Çalışma kapsamında 443 bankacılık sektörü çalışanına anket uygulanmıştır. Toplanan verisetinin analizi sonucunda bankacılık sektörü çalışanlarının yenilikçi davranış eğilimleri farklı sektör tecrübelerine, yaşlarına ve eğitim durumlarına göre anlamlı şekilde farklılaşmaktadır ($p<0.05$). Bununla birlikte cinsiyet, medeni durum ve bankacılık sektörüne ilişkin mesleki tecrübenin yenilikçi davranış üzerinde etkisi bulunmamıştır ($p > 0.05$). Çalışmanın sonuçlarından, ilgili sektörden paydaşların ve yenilikçilik konusuyla ilgilenen akademik çevrenin faydalanabileceği düşünülmektedir.

Anahtar Kelimeler: *Yenilikçi davranış, bankacılık sektörü, demografi, mesleki tecrübe, eğitim durumu.*

Introduction

In today's world, which is highly sensitive to the effects of the information age, factors such as scientific and technological developments, changing environmental conditions, increasing competition pressure, social and political structure whose expectations differ, require organizations to insist on innovation to be sustainable (Duradoni and Di Fabio, 2019). It is possible to see that organizations that make innovation a part of their organizational culture have achieved much more successful results. In this sense, innovation enables organizations to differentiate positively from others and gain competitive advantage. It has been a general assumption that innovation is one of the most important driving forces of development, change and differentiation all over the world. Innovation is one of the key determinants of superiority in institutions and inter-community competition (Öğüt et al., 2014). Institutions that adapt to changing environmental conditions are those who can take innovative approaches (Turgut, 2014).

Innovation is a powerful source of competitive advantage. In order to gain advantage in competition, it is very important and necessary for enterprises to have the capacity to innovate in the producing goods and services, especially in the management and production processes (Sastry, 1999). One option for organizations to be more innovative is to encourage employees to demonstrate innovative behavior. As a matter of fact, the basis of innovation is the ideas and the individual who develops, applies and makes changes on these ideas (Scott and Bruce, 1994). In order to ensure successful performance and sustainability in the dynamic environment; the necessity of the employees to be innovative is a phenomenon determined and adopted by many researchers (Ancona and Caldwell, 1988; Scott and Bruce, 1994; Oldham and Cummings, 1996; Janssen et al., 2004; Shih and Sustano, 2011; Yuan and Woodman, 2010; Montani et al., 2012; Topcu et al., 2015; Wojtczuk-Turek and Turek, 2015).

Innovative practices of employees are always needed in order to adapt to new situations with unexpected conditions and to perform in a way to facilitate this adaptation. Especially, the employee innovative behavior is defined as a inimitable organizational asset (Axtell et al., 2000; Janssen, 2000; Sartori et al., 2013) that can achieve organizational success in dynamic environments (Yuan and Woodman, 2010; Wojtczuk-Turek and Turek, 2015)

and enable organizations to use and encourage their employees' creative and innovative potential (Anderson et al., 2004). In the literature, which contributes significantly to our understanding of the role of individual and contextual factors in the cognitive and motivational processes underlying innovative behavior, it is seen that the determinants of innovative behavior are often given importance (Eroğlu et al., 2018).

The banking sector is an indispensable part of all economies in terms of supporting economic growth and playing a key role in development (Hensman and Sadler-Smith, 2011). Although banks are defined as institutional organizations, they operate in turbulent environments with high volatility. This makes it difficult for banks' activities and strategies to be stable or predictable. Banks are working hard to offer remarkable new products, as well as some other disruptive organizational innovations that enable companies to adapt to rapid digitalization, create the most appropriate customer experience for consumers and small businesses, identify risks and frauds, or provide scalable services that can be easily adapted (Cegarra-Navarro et al., 2019). In addition to the demand for adaptation to this environment of change, the need to maintain institutional capacity emphasizes the importance of being innovative for the employees of banks (Desyllas et al., 2018).

The banking sector is a dynamic and competitive sector that seeks a greater orientation towards adapting to the corporate learning culture, technological developments and changes in the skills of the workforce (Ling and McDonough, 2011; Rosaria Della Peruta et al., 2014). Therefore the banking industry is forced to undergo radical changes that bring serious difficulties to banks, making innovation a part of organizational culture becomes essential for enterprises in this sector (Cepeda-Carrión et al., 2015). For instance, after the economic crisis occured in Turkey in 2001, it is known that quite important arrangements conducted to improve the institutional capacity of the Turkish banking/finance sector (Erdönmez, 2003). These regulations increased the bureaucratization in the organizational functioning of the enterprises operating in the banking/finance sector. Hence, the banking/finance sector has been particularly preferred as the research area of the study, due to its structure, which makes it difficult for employees to take innovative approaches because of the relatively non-typical nature of innovation in such a bureaucratic context (Marullo et al., 2018). Therefore, in this platform where innovative behavioral tendencies remain in the dark, the

effects of individuals' gender, marital status, experiences from different sectors, age, tenure and educational status have been tried to be determined. As a result of the research, it was determined whether the innovative behavioral tendencies of the banking/finance sector employees differed in terms of the variables mentioned above; consequently, the results are discussed in the light of the literature. The study enriches the literature on innovation in four ways just as understanding the influence of individual demographic factors, sectoral professional experience diversity, tenure and education level on innovative behavioral tendencies of employees.

Based on trait theory, various researchers have suggested that individuals vary in their innovation potential (Amabile, 1988; George and Zhou, 2001; Raja and Johns, 2010; Hammond et al., 2011; Niu, 2014; Woods et al., 2018). In this context, this study is designed to determine how much individual and demographic factors determine the innovative behavioral tendencies of banking/finance sector employees. Within the scope of the study, driving research questions were generated from a perspective considering the theoritical frame of the issue. The procedure of seeking the answers of research questions and findings of the research are given in the Methodology and Findings sessions respectively. Finally, findings were discussed in the light of the body of knowledge within the Conclusion session. The steps followed in the study have shown below in Figure 1.

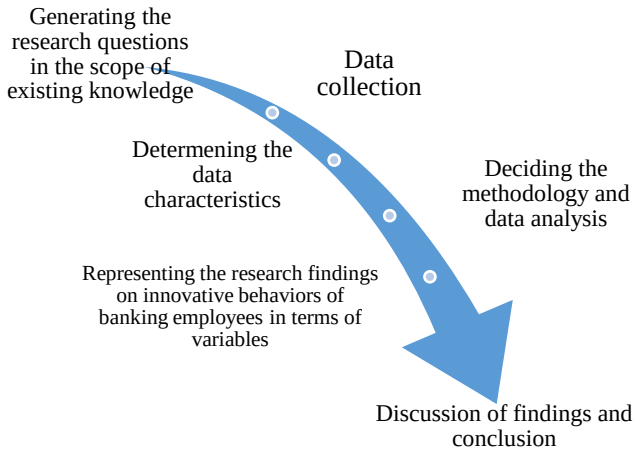

Figure 1. Flowchart of the study

Theoritical Frame and Research Questions of the Study

Innovative behavior of employees has emerged as a critical factor for organizations to gain competitive advantage and to survive in a highly competitive business environment for a long time. Innovative behavior means the generation, development and implementation of new and useful ideas within the organizational functioning of enterprises (Baer, 2012). It is expressed that enterprises that are inadequate or unsuccessful in creating innovation reduce their ability to cope with competition and exist in the market (Shanker et al., 2017). Besides, it is seen that the enterprises that succeed in providing sustainable innovation exhibit higher organizational performances (Ogbonnaya and Valizade, 2016). This forced organizations to understand the premise that supported the employee's innovative behavior (de Jong and den Hartog, 2010; Xerri and Brunetto, 2013).

The relationship between many external factors such as human resources development policies, rewarding practices, leadership, organizational justice, workplace relations, organizational commitment and innovative behaviors of employees have been examined in various studies in this context (Janssen, 2000; Dorenbosch et al., 2005; Reuvers et al., 2008; Aryee et al., 2012; Prietro and Pérez-Santana, 2014; Koryak et al., 2015; De Spiegelaere et al., 2015; Choi et al., 2016; Dhar, 2016; Bagheri, 2017; Shanker et al., 2017; Rao Jada et al., 2019).

As the effects and determinants of external factors in the innovative behavior, it can be thought that the personal characteristics and demographic variables of the employees may affect the innovative behavior tendencies (James et al., 1990; Mumford and Gustafson, 1988). Individual differences are effective antecedents in the innovative behavior of employees (Anderson et al., 2014). According to Amabile's (1988) system theory approach, the innovation process proceeds within a system based on the work of individuals working in different units of the organization to implement a new idea. The creativity and innovation capacity of each individual in the organization is important in creating an innovative culture within this system. As a matter of fact, the effects of various individual employee characteristics such as education level (Scott and Bruce, 1994), age (Nusbaum and Silvia, 2011; Guillén and Kunze, 2019), tenure (Woods et al., 2018) were investigated and effect types and levels were determined. In this context, it is seen

that the relationships between the employees' characteristics and innovative behavior are determined.

Considering the above mentioned literature, the research questions driving this study according to the aims are as follows:

- Q1. Is there a statistically significant difference between the innovative behaviors of banking/finance sector employees in terms of their genders? If so, which gender is more innovative behavioral?
- Q2. Is there a statistically significant difference between the innovative behaviors of banking/finance sector employees in terms of their marital status? If so, which group (single or married) is more innovative behavioral?
- Q3. Is there a statistically significant difference between the innovative behaviors of banking/finance sector employees in terms of their sectoral experience diversity? If so, which group (employees who have/have not an experience in a sector other than banking/finance) is more innovative behavioral?
- Q4. Is there any statistically significant differences between the innovative behaviors of banking/finance sector employees in terms of their ages? If so, which group (20-29, 30-39, 40 and older) is more innovative behavioral?
- Q5. Is there any statistically significant differences between the innovative behaviors of banking/finance sector employees in terms of their tenure in banking/finance sector? If so, which group (0-9 years, 10-19 years, 20 years and more) is more innovative behavioral?
- Q6. Is there any statistically significant differences between the innovative behaviors of banking/finance sector employees in terms of their education level? If so, which group (high school, college, bachelor, graduate) is more innovative behavioral?

Methodology

Data Collection Method and Tool

In order to determine the answers of questions developed within the scope of the research, data were collected by applying scales to 443 banking/finance sector employees working in different bank branches operating in

Adana city of Turkey. Participants were asked about their age, gender, marital status, professional experience (tenure), whether they previously worked in a sector other than banking/finance, and their educational status within the survey delivered and explained to them electronically. In addition, innovative behavior scale was applied to the participants.

The scale applied within the study, which was developed to evaluate the innovative behaviors of individuals in organizational sense, was developed by de Jong and den Hartog (2010) and adapted to Turkish by Çimen and Yücel (2017). The original language of the scale is English. Çimen and Yücel (2017) applied correlation analysis in order to determine the language validity of Turkish translation and confirmatory factor analysis in order to determine the degree of compliance. The reliability of the scale was determined by reliability analyzes. In the light of the analyzes of validation and reliability, it is stated that this scale adapted to measure innovative behaviors is a valid and reliable measurement tool.

There are ten items and four dimensions in the form of the scale. These four dimensions are "idea exploration (i1 and i2)", "idea generation (i3, i4 and i5)", "idea championing" (i6 and i7)" and "idea implementation" (i8, i9 and i10). The scale was prepared as a five-point likert and participants were asked to indicate the frequency of other people's innovative behaviors in the organization in a "never" and "at any time" interval (Çimen and Yücel, 2017).

The "idea exploration" dimension of the scale is based on reflecting on new products, services or processes, entering a new field of service, developing existing business processes or providing solutions to identified problems. The "idea generation" dimension concerns the search for solutions for the development of existing products, services or processes and finding alternative ways of dealing with them. "Idea championing" comes into prominence when a new idea is put forward and matured. This dimension includes the adoption of informal roles to remove the barriers to new ideas and support fort he success of innovative steps. "Idea implementation" involves the implementation of ideas that result from a result-oriented approach (de Jong and Den Hartog, 2010).

Data Analysis

In order to decide the analysis method of data collected for research, the distribution characteristics of the data should be determined. George and Mallary (2010), Tabachnick and Fidell (2013) and Hair et al. (2013) suggest skewness and kurtosis values of the distribution for making the decision process. According to George and Mallary (2010), for most psychometric purposes, a kurtosis value of ± 1.0 is considered to be perfect, but in some cases a value of ± 2.0 may be acceptable depending on the particular application. In addition to that, while measuring the skewness symmetry of a distribution; in most cases, the comparison is made according to the normal distribution. A positive warped distribution has a relatively small number of values and falls to the right, and a negative warped distribution moves to a relatively small number of values and backwards to the left. Skewness values outside the range of -1 to +1 indicate a substantially skewed distribution (Hair et al., 2013).

Table 1. Means, Skewness and Kurtosis Values of Data for Each Dimension

		Statistic	Std. Error
Exploration	Mean	3.7178	.04885
	Skewness	-.585	.116
	Kurtosis	-.365	.231
Generation	Mean	3.7856	.05122
	Skewness	-.690	.116
	Kurtosis	-.279	.231
Championing	Mean	3.7359	.05628
	Skewness	-.639	.116
	Kurtosis	-.561	.231
Implementation	Mean	3.7570	.05210
	Skewness	-.608	.116
	Kurtosis	-.488	.231

According to the skewness and kurtosis values of each innovative behavior dimension shown in Table 1, it can be seen that the dataset collected for the research reaches normal distribution standarts. Hence, it is appropriate to analyse dataset by parametric statistical tests in this situation. Within the framework of the characteristics of the variables examined within the study, independent samples t-test was used for the research questions in which the participants were divided into two groups, and one-way ANOVA was used for the research questions that participants were divided into more than two

groups. When statistically significant differences were observed between the groups, mean differences and post hoc tests (Tukey, Scheffe, Games-Howel) were used to evaluate the status of the groups. Analysis were made under the level of 95% confidence interval.

Findings

Gender and Innovative Behavior

The data obtained from banking/finance sector employees were analysed to determine the differencies of innovative behavior in terms of gender within the scope of the study. Table 2 shows the t-test results applied to determine whether there's significant difference between male and female employees in terms of four dimensions of innovative behavior scale.

Table 2. T-test results of four dimensions of innovative behavior scale depending on participants gender

		Levene'sTest for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
explora-tion	Equal variances assumed	.184	.668	-.026	441	.979	-.00255	.09815	-.19545	.19036
	Equal variances not assumed			-.026	424.387	.979	-.00255	.09840	-.19595	.19086
genera-tion	Equal variances assumed	1.940	.164	.837	441	.403	.08608	.10284	-.11603	.28820
	Equal variances not assumed			.830	411.441	.407	.08608	.10371	-.11779	.28996
champion-ing	Equal variances assumed	7.058	.008	1.078	441	.282	.12172	.11292	-.10022	.34365
	Equal variances not assumed			1.066	404.237	.287	.12172	.11421	-.10281	.34624
implemen-tation	Equal variances assumed	3.625	.058	1.130	441	.259	.11817	.10453	-.08727	.32362
	Equal variances not assumed			1.118	404.116	.264	.11817	.10573	-.08968	.32602

The results given in Table 2 shows that none of the dimensions differed significantly according to the gender of participant employees. In other words, there is not a significant difference between female and male employees in terms of four dimensions of innovative behavior scale.

Marital Status and Innovative Behavior

The employees who participated within the research were grouped according to their marital status to determine the innovative behavioral situation of single and married employees between each other.

Table 3. Independent Samples Test of Innovative Behavior Scale Dimensions in terms of Participants Marital Status

		Levene's Test for Equality of Variances		t-test for Equality of Means					
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference Lower Upper
exploration	Equal variances assumed	1.801	.180	.985	441	.325	.09826	.09973	-.09775.29428
	Equal variances not assumed			.976	365.137	.330	.09826	.10066	-.09968.29621
generation	Equal variances assumed	.205	.651	1.830	441	.068	.19092	.10430	-.01407.39590
	Equal variances not assumed			1.829	376.541	.068	.19092	.10435	-.01428.39611
championing	Equal variances assumed	.108	.742	1.414	441	.158	.16228	.11476	-.06327.38783
	Equal variances not assumed			1.406	369.771	.161	.16228	.11542	-.06469.38925
implementation	Equal variances assumed	.168	.682	1.745	441	.082	.18522	.10612	-.02335.39379
	Equal variances not assumed			1.736	370.555	.083	.18522	.10667	-.02454.39497

Table 3 shows the results of t-test applied to determine whether employees innovative behaviors differ from each other in terms of their marital status. According to the results, it's seen that there is not a significant difference between single and married employees innovative behavior dimensions.

Sectoral Career Mobility and Innovative Behavior

Within the scope of the study, it's asked the employees whether they have any working experience in any different sectors from banking/finance. Table 4 shows the group statistics of employees who have/do not have a different sector experience for each dimension.

Table 4. Group statistics concerning four dimensions of innovative behavior scale

	Job_change	N	Mean	Std. Deviation	Std. Error Mean
Exploration	No different job	229	3.5786	.99909	.06602
	Sector changed	214	3.8668	1.04017	.07110
Generation	No different job	229	3.6652	1.05062	.06943
	Sector changed	214	3.9143	1.09460	.07483
Championing	No different job	229	3.6266	1.16853	.07722
	Sector changed	214	3.8528	1.19292	.08155
Implementation	No different job	229	3.6346	1.08684	.07182
	Sector changed	214	3.8879	1.09434	.07481

The results of t-test applied to determine whether there is a significant difference between the employees who had working experience at sectors different from banking/finance shown in the Table 5.

Table 5. T-test results of four dimensions of innovative behavior scale depending on participants sectoral career mobility

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference Lower	Upper
exploration	Equal variances assumed	2.436	.119	-2.975	441	.003	-.28822	.09690	-.47866	-.09778
	Equal variances not assumed			-2.970	435.906	.003	-.28822	.09703	-.47892	-.09752
generation	Equal variances assumed	.165	.685	-2.444	441	.015	-.24912	.10193	-.44945	-.04879
	Equal variances not assumed			-2.441	435.839	.015	-.24912	.10207	-.44974	-.04850
championing	Equal variances assumed	.000	.993	-2.015	441	.044	-.22617	.11223	-.44673	-.00560
	Equal variances not assumed			-2.014	437.570	.045	-.22617	.11231	-.44689	-.00544
implementation	Equal variances assumed	.165	.685	-2.442	441	.015	-.25321	.10368	-.45697	-.04944
	Equal variances not assumed			-2.442	438.547	.015	-.25321	.10370	-.45702	-.04939

The results given in the Table 5 shows that all the dimensions of innovative behavior are differed in terms of the empolyees sectoral experience diversity. When it comes to the advantages/disadvantages between the groups, results given in Table 3 shows the mean points of each group. According to these results, the employees who had an experience of a job at a different sector are significantly more innovative behavioral than the others for all the dimensions of innovative behavior scale.

Age and Innovative Behavior

The age of the employees who participated the research was asked within the scope of the study. Obtained data was divided into 3 groups as "20-29 years old", "30-39 years old" and "older than 40 years". Table 6 shows the descriptive statistics of each age group.

Table 6. Descriptive Statistics of Participants for Each Innovative Behavior Scale Dimension According to Their Age Ranges

		N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean Lower Bound	Upper Bound	Min	Max
exploration	20-29	133	3.8271	1.06963	.09275	3.6436	4.0105	1.00	5.00
	30-39	219	3.6575	.99843	.06747	3.5246	3.7905	1.00	5.00
	40-...	91	3.7033	1.03542	.10854	3.4877	3.9189	1.00	5.00
	Total	443	3.7178	1.02814	.04885	3.6218	3.8138	1.00	5.00
generation	20-29	133	3.9799	1.09541	.09498	3.7921	4.1678	1.00	5.00
	30-39	219	3.6423	1.07819	.07286	3.4987	3.7859	1.00	5.00
	40-...	91	3.8462	1.01143	.10603	3.6355	4.0568	1.00	5.00
	Total	443	3.7856	1.07810	.05122	3.6849	3.8862	1.00	5.00
championing	20-29	133	3.9398	1.19506	.10363	3.7349	4.1448	1.00	5.00
	30-39	219	3.5616	1.18654	.08018	3.4036	3.7197	1.00	5.00
	40-...	91	3.8571	1.11127	.11649	3.6257	4.0886	1.00	5.00
	Total	443	3.7359	1.18446	.05628	3.6253	3.8465	1.00	5.00
implementation	20-29	133	3.9599	1.13784	.09866	3.7647	4.1551	1.00	5.00
	30-39	219	3.6073	1.08132	.07307	3.4633	3.7513	1.00	5.00
	40-...	91	3.8205	1.02717	.10768	3.6066	4.0344	1.00	5.00
	Total	443	3.7570	1.09658	.05210	3.6546	3.8594	1.00	5.00

Analysis of variance test applied to determine the differences between age range groups results are shown in the Table 7 below.

Table 7. ANOVA Test Results of Each Innovative Behavior Scale Dimension According to Participants' Age Ranges

		Sum of Squares	df	Mean Square	F	Sig.
exploration	Between Groups	2.402	2	1.201	1.137	.322
	Within Groups	464.827	440	1.056		
	Total	467.229	442			
generation	Between Groups	9.854	2	4.927	4.302	.014
	Within Groups	503.885	440	1.145		
	Total	513.739	442			
championing	Between Groups	13.520	2	6.760	4.904	.008
	Within Groups	606.579	440	1.379		
	Total	620.099	442			
implementation	Between Groups	10.750	2	5.375	4.541	.011
	Within Groups	520.749	440	1.184		
	Total	531.499	442			

It is seen that there are significant differences between employees who are between 20-29, 30-39 and older than 40 years in "idea generation", "idea championing" and "idea implementation" dimensions. When it comes to the

"idea exploration" dimension, there is not a significant difference between the employees according to their age ranges. In this situation, it's necessary to determine which of these age range groups differ from others. Post-hoc tests applied for this determination was resulted as shown below.

Table 8. Test of Homogeneity of Variances

	Levene Statistic	df1	df2	Sig.
exploration	.807	2	440	.447
generation	.261	2	440	.771
championing	.782	2	440	.458
implementation	1.096	2	440	.335

According to Levene test of homogenity of variances results shown in Table 8, Tukey and Scheffe tests were applied to see the differencies and results were given in Table 9.

Table 9. Multiple Comparisons of Age Range Groups for Each Innovative Behavior Dimension

Dependent Variable		(I) Age_ range	(J) Age_ range	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval Lower Bound	Upper Bound
exploration	Tukey HSD	20-29	30-39	.33764*	.11764	.012	.0610	.6143
			40-...	.13380	.14559	.629	-.2086	.4762
		30-39	20-29	-.33764*	.11764	.012	-.6143	-.0610
			40-...	-.20384	.13347	.279	-.5177	.1100
		40-...	20-29	-.13380	.14559	.629	-.4762	.2086
			30-39	.20384	.13347	.279	-.1100	.5177
	Scheffe	20-29	30-39	.33764*	.11764	.017	.0487	.6266
			40-...	.13380	.14559	.656	-.2238	.4914
		30-39	20-29	-.33764*	.11764	.017	-.6266	-.0487
			40-...	-.20384	.13347	.312	-.5317	.1240
		40-...	20-29	-.13380	.14559	.656	-.4914	.2238
			30-39	.20384	.13347	.312	-.1240	.5317
generation	Tukey HSD	20-29	30-39	.37821*	.12907	.010	.0747	.6817
			40-...	.08271	.15973	.863	-.2929	.4583
		30-39	20-29	-.37821*	.12907	.010	-.6817	-.0747
			40-...	-.29550	.14644	.109	-.6399	.0489
		40-...	20-29	-.08271	.15973	.863	-.4583	.2929
			30-39	.29550	.14644	.109	-.0489	.6399
	Scheffe	20-29	30-39	.37821*	.12907	.014	.0612	.6952
			40-...	.08271	.15973	.875	-.3096	.4750
		30-39	20-29	-.37821*	.12907	.014	-.6952	-.0612
			40-...	-.29550	.14644	.132	-.6552	.0642
		40-...	20-29	-.08271	.15973	.875	-.4750	.3096
			30-39	.29550	.14644	.132	-.0642	.6552

championing	Tukey HSD	20-29	30-39	.35259*	.11959	.009	.0713	.6338
			40-...	.13939	.14800	.614	-.2087	.4874
		30-39	20-29	-.35259*	.11959	.009	-.6338	-.0713
			40-...	-.21321	.13568	.259	-.5323	.1059
		40-...	20-29	-.13939	.14800	.614	-.4874	.2087
			30-39	.21321	.13568	.259	-.1059	.5323
	Scheffe	20-29	30-39	.35259*	.11959	.014	.0589	.6463
			40-...	.13939	.14800	.642	-.2241	.5029
		30-39	20-29	-.35259*	.11959	.014	-.6463	-.0589
			40-...	-.21321	.13568	.292	-.5465	.1200
		40-...	20-29	-.13939	.14800	.642	-.5029	.2241
			30-39	.21321	.13568	.292	-.1200	.5465

**. The mean difference is significant at the 0.05 level.*

Multiple comparison results show that only 20-29 age range employees group differs significantly from the 30-39 age range group for each 3 dimensions of innovative behavior scale. Descriptive statistics results given in Table 6 show that mean of 20-29 age range employees' "generation", "championing" and "implementation" points are higher than 30-39 age range group.

Tenure and Innovative Behavior

The employees who participated to the study were grouped according to their tenure in the banking/finance sector in terms of total years they worked in this sector as 0-9 years, 10-19 years and 20 years and more experience groups. ANOVA test was applied to see whether there is significant difference between these experience groups in terms of their points of innovative behavior dimensions and results were given in Table 10.

According to the results, it's seen that there are not significant differences between the tenure groups of employees in terms of innovative behavior dimensions.

Table 10. ANOVA Test Results of Each Innovation Behavior Dimension in terms of Participants Tenure

		Sum of Squares	df	Mean Square	F	Sig.
exploration	Between Groups	.473	2	.236	.223	.800
	Within Groups	466.756	440	1.061		
	Total	467.229	442			
generation	Between Groups	2.157	2	1.079	.928	.396
	Within Groups	511.581	440	1.163		
	Total	513.739	442			

championing	Between Groups	.582	2	.291	.207	.813
	Within Groups	619.517	440	1.408		
	Total	620.099	442			
implementation	Between Groups	.326	2	.163	.135	.874
	Within Groups	531.174	440	1.207		
	Total	531.499	442			

Education and Innovative Behavior

The last research question was built on examining whether the employees' innovative behaviors differs significantly from each other in terms of their educational level. Participant employees were divided into four groups as "high school grads", "college grads", "bachelors" and "graduates" and descriptive statistics for each group were given below in Table 11.

Table 11. Descriptive Statistics of Participants for Each Innovative Behavior Scale Dimension According to Their Educational Status

						95% Confidence Interval for Mean			
		N	Mean	Std. Deviation	Std. Error	Lower Bound	Upper Bound	Min	Max
exploration	High School Grad	60	4.3000	.88872	.11473	4.0704	4.5296	2.00	5.00
	College Grad	84	3.9524	1.04310	.11381	3.7260	4.1787	1.00	5.00
	Bachelor	218	3.5573	1.01153	.06851	3.4223	3.6924	1.00	5.00
	Graduate	81	3.4753	.95493	.10610	3.2642	3.6865	1.00	5.00
	Total	443	3.7178	1.02814	.04885	3.6218	3.8138	1.00	5.00
generation	High School Grad	60	4.4167	.92999	.12006	4.1764	4.6569	1.00	5.00
	College Grad	84	4.1627	.98380	.10734	3.9492	4.3762	1.33	5.00
	Bachelor	218	3.5856	1.04632	.07087	3.4460	3.7253	1.00	5.00
	Graduate	81	3.4650	1.07196	.11911	3.2280	3.7021	1.00	5.00
	Total	443	3.7856	1.07810	.05122	3.6849	3.8862	1.00	5.00
championing	High School Grad	60	4.3583	1.00462	.12970	4.0988	4.6179	1.00	5.00
	College Grad	84	4.1548	1.01488	.11073	3.9345	4.3750	1.00	5.00
	Bachelor	218	3.5436	1.17645	.07968	3.3865	3.7006	1.00	5.00
	Graduate	81	3.3580	1.20994	.13444	3.0905	3.6256	1.00	5.00
	Total	443	3.7359	1.18446	.05628	3.6253	3.8465	1.00	5.00
implementation	High School Grad	60	4.3389	.90091	.11631	4.1062	4.5716	1.33	5.00
	College Grad	84	4.0913	.91887	.10026	3.8919	4.2907	1.33	5.00
	Bachelor	218	3.5673	1.12724	.07635	3.4168	3.7178	1.00	5.00
	Graduate	81	3.4897	1.08664	.12074	3.2494	3.7300	1.00	5.00
	Total	443	3.7570	1.09658	.05210	3.6546	3.8594	1.00	5.00

One way ANOVA applied on the data obtained from participant employees for examining the significant differences of innovative behavior scale dimensions in terms of their educational level group results are shown in Table 12 below.

Table 12. ANOVA Test Results of Each Innovation Behavior Dimension in terms of Participants Educational Status

		Sum of Squares	df	Mean Square	F	Sig.
exploration	Between Groups	35.336	3	11.779	11.972	.000
	Within Groups	431.893	439	.984		
	Total	467.229	442			
generation	Between Groups	52.882	3	17.627	16.791	.000
	Within Groups	460.857	439	1.050		
	Total	513.739	442			
championing	Between Groups	57.612	3	19.204	14.988	.000
	Within Groups	562.487	439	1.281		
	Total	620.099	442			
implementation	Between Groups	43.335	3	14.445	12.990	.000
	Within Groups	488.164	439	1.112		
	Total	531.499	442			

According to the results seen on Table 12, educational level groups were significantly differed for each innovative behavior dimension. It is necessary to determine the differencial situations between groups. Levene test of homogenity of variances applied to decide the post-hoc test for each innovative behavior dimension results are shown on Table 13.

Table 13. Test of Homogeneity of Variances

	Levene Statistic	**df1**	**df2**	**Sig.**
exploration	.916	3	439	.433
generation	.902	3	439	.440
championing	1.794	3	439	.147
implementation	2.902	3	439	.035

According to the results given in Table 13, Tukey and Scheffe tests were decided to be appropriate for applying for "idea exploration", "idea generation" and "idea championing" dimensions of innovative behavior scale. When it comes to "idea implementation", it's seen that variance distribution's not show homogenity. Hence, Games-Howell test was applied to compare the educational level groups of employees for the "idea implementation" di-

mension of innovative behavior scale. Table 14 shows the multiple comparison of groups made by Tukey and Scheffe tests for "idea exploration", "idea generation" and "idea championing" dimensions below.

Table 14. Multiple Comparisons of Educational Level Groups for Idea Exploration, Idea Generation and Idea Championing Dimensions

Dependent Variable		(I) Education	(J) Education	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval Lower Bound	95% Confidence Interval Upper Bound
exploration	Tukey HSD	High School Grad	College Grad	.34762	.16766	.163	-.0848	.7800
			Bachelor	.74266*	.14460	.000	.3697	1.1156
			Graduate	.82469*	.16895	.000	.3890	1.2604
		College Grad	High School Grad	-.34762	.16766	.163	-.7800	.0848
			Bachelor	.39504*	.12738	.011	.0665	.7235
			Graduate	.47707*	.15446	.011	.0787	.8754
		Bachelor	High School Grad	-.74266*	.14460	.000	-1.1156	-.3697
			College Grad	-.39504*	.12738	.011	-.7235	-.0665
			Graduate	.08203	.12907	.920	-.2508	.4149
		Graduate	High School Grad	-.82469*	.16895	.000	-1.2604	-.3890
			College Grad	-.47707*	.15446	.011	-.8754	-.0787
			Bachelor	-.08203	.12907	.920	-.4149	.2508
	Scheffe	High School Grad	College Grad	.34762	.16766	.232	-.1229	.8181
			Bachelor	.74266*	.14460	.000	.3369	1.1485
			Graduate	.82469*	.16895	.000	.3506	1.2988
		College Grad	High School Grad	-.34762	.16766	.232	-.8181	.1229
			Bachelor	.39504*	.12738	.023	.0376	.7525
			Graduate	.47707*	.15446	.024	.0436	.9105
		Bachelor	High School Grad	-.74266*	.14460	.000	-1.1485	-.3369
			College Grad	-.39504*	.12738	.023	-.7525	-.0376
			Graduate	.08203	.12907	.939	-.2802	.4442
		Graduate	High School Grad	-.82469*	.16895	.000	-1.2988	-.3506
			College Grad	-.47707*	.15446	.024	-.9105	-.0436
			Bachelor	-.08203	.12907	.939	-.4442	.2802
generation	Tukey HSD	High School Grad	College Grad	.25397	.17319	.459	-.1927	.7006
			Bachelor	.83104*	.14937	.000	.4458	1.2163
			Graduate	.95165*	.17452	.000	.5016	1.4017
		College Grad	High School Grad	-.25397	.17319	.459	-.7006	.1927
			Bachelor	.57707*	.13158	.000	.2377	.9164
			Graduate	.69768*	.15956	.000	.2862	1.1092
		Bachelor	High School Grad	-.83104*	.14937	.000	-1.2163	-.4458
			College Grad	-.57707*	.13158	.000	-.9164	-.2377
			Graduate	.12061	.13333	.802	-.2232	.4644
		Graduate	High School Grad	-.95165*	.17452	.000	-1.4017	-.5016
			College Grad	-.69768*	.15956	.000	-1.1092	-.2862
			Bachelor	-.12061	.13333	.802	-.4644	.2232
	Scheffe	High School Grad	College Grad	.25397	.17319	.542	-.2321	.7400
			Bachelor	.83104*	.14937	.000	.4118	1.2502
			Graduate	.95165*	.17452	.000	.4619	1.4414

		College Grad	High School Grad	-.25397	.17319	.542	-.7400	.2321
			Bachelor	.57707*	.13158	.000	.2078	.9463
			Graduate	.69768*	.15956	.000	.2499	1.1454
		Bachelor	High School Grad	-.83104*	.14937	.000	-1.2502	-.4118
			College Grad	-.57707*	.13158	.000	-.9463	-.2078
			Graduate	.12061	.13333	.845	-.2536	.4948
		Graduate	High School Grad	-.95165*	.17452	.000	-1.4414	-.4619
			College Grad	-.69768*	.15956	.000	-1.1454	-.2499
			Bachelor	-.12061	.13333	.845	-.4948	.2536
championing	Tukey HSD	High School Grad	College Grad	.20357	.19133	.712	-.2899	.6970
			Bachelor	.81476*	.16502	.000	.3892	1.2403
			Graduate	1.00031*	.19280	.000	.5031	1.4975
		College Grad	High School Grad	-.20357	.19133	.712	-.6970	.2899
			Bachelor	.61118*	.14536	.000	.2363	.9861
			Graduate	.79674*	.17627	.000	.3421	1.2513
		Bachelor	High School Grad	-.81476*	.16502	.000	-1.2403	-.3892
			College Grad	-.61118*	.14536	.000	-.9861	-.2363
			Graduate	.18555	.14730	.589	-.1943	.5654
		Graduate	High School Grad	-1.00031*	.19280	.000	-1.4975	-.5031
			College Grad	-.79674*	.17627	.000	-1.2513	-.3421
			Bachelor	-.18555	.14730	.589	-.5654	.1943
	Scheffe	High School Grad	College Grad	.20357	.19133	.769	-.3334	.7405
			Bachelor	.81476*	.16502	.000	.3516	1.2779
			Graduate	1.00031*	.19280	.000	.4592	1.5414
		College Grad	High School Grad	-.20357	.19133	.769	-.7405	.3334
			Bachelor	.61118*	.14536	.001	.2032	1.0191
			Graduate	.79674*	.17627	.000	.3021	1.2914
		Bachelor	High School Grad	-.81476*	.16502	.000	-1.2779	-.3516
			College Grad	-.61118*	.14536	.001	-1.0191	-.2032
			Graduate	.18555	.14730	.663	-.2278	.5989
		Graduate	High School Grad	-1.00031*	.19280	.000	-1.5414	-.4592
			College Grad	-.79674*	.17627	.000	-1.2914	-.3021
			Bachelor	-.18555	.14730	.663	-.5989	.2278

*. *The mean difference is significant at the 0.05 level.*

The results given in the Table 14 in the scope of three dimensions show that high school grad employees group significantly differs from bachelors and graduates groups. Mean point of high school grads group given in Table 11 is respectively higher than bachelors and graduates groups. College grad employees group differs significantly from bachelors and graduates groups. Mean point of college grads given in Table 11 is respectively higher than bachelors and graduates groups. Any significant differencies between high school grads and college grads and between bachelors group and graduates group could not be observed.

Table 15 shows the Games-Howell test applied to compare educational level groups in terms of "idea implementation" dimension results.

Table 15. Multiple Comparisons of Educational Level Groups for Idea Implementation Dimension

Dependent Variable: implementation
Games-Howell

(I) Education	(J) Education	Mean Difference (I-J)	Std. Error	Sig.	95% ConfidenceInterval Lower Bound	Upper Bound
High School Grad	College Grad	.24762	.15355	.375	-.1521	.6473
	Bachelor	.77161*	.13913	.000	.4089	1.1343
	Graduate	.84918*	.16765	.000	.4132	1.2852
College Grad	High School Grad	-.24762	.15355	.375	-.6473	.1521
	Bachelor	.52399*	.12602	.000	.1973	.8507
	Graduate	.60156*	.15694	.001	.1940	1.0091
Bachelor	High School Grad	-.77161*	.13913	.000	-1.1343	-.4089
	College Grad	-.52399*	.12602	.000	-.8507	-.1973
	Graduate	.07757	.14285	.948	-.2936	.4488
Graduate	High School Grad	-.84918*	.16765	.000	-1.2852	-.4132
	College Grad	-.60156*	.15694	.001	-1.0091	-.1940
	Bachelor	-.07757	.14285	.948	-.4488	.2936

**. The mean difference is significant at the 0.05 level.*

The results of Games-Howell test in the scope of "idea implementation" dimension show noteworthy results that are similar to the results in the other three dimensions of innovative behavior in terms of participants educational level. High school grads group of employees significantly differs from bachelors and graduates groups. Mean point of high school grads group given in Table 11 is respectively higher than bachelors and graduates groups. College grad employees group differs significantly from bachelors and graduates groups. Mean point of college grads given in Table 11 is respectively higher than bachelors and graduates groups. There were not any significant differences observed between high school grads and college grads and between bachelors group and graduates group.

According to all of the analysis results shown above, it's seen that the innovative behavioral characteristics of the banking sector employees differ significantly in terms of their different sector experiences, ages and educational backgrounds. The participants group which consists of employees who have professional experience in any sector different from banking are more innovative behavioral than employees who have worked in only banking sector

in the scope of all dimensions according to the mean points. When it comes to age variable, the 20-29 years old employees group differs significantly from 30-39 years old group in the scope of "idea generation", "idea championing" and "idea implementation" dimensions of innovative behavior scale. The younger groups mean points are higher than olders. The banking sector employees group that consists of individuals who have a high school education and the group that consists of college graduates are significantly differ from bachelors and graduates in the scope of all dimensions of innovative behavior. When the mean points are examined, it is seen that high school graduates group and college graduates group are respectively higher than the bachelors and graduates.

In addition, the resutls show that there are not statistically significant differences between banking sector employees according to their gender, marital status and tenure in banking job.

Discussion And Implications Of The Findings

The first research question of the study is based on determining whether the innovative behaviors of banking sector employees differ according to their gender. The results of the t-test show that the innovative behaviors of the employees do not differ according to their gender. In other words, female banking sector employees and male banking sector employees were not statistically differentiated in terms of innovative behavior. This result does not agree with the gender bias hypothesis supported by Reuvers et al. (2008). Although the effect of gender of the manager on the innovative behaviors of the employees was examined in this study, approaches were similar in terms of gender bias. However, the results of this study are supported by the study of Leong and Rasli (2014), who found that employees do not differ according to gender in terms of innovative behavior and job role performance. The result is interesting in the scope of the gender implications in the Turkish society where the dataset of the study was obtained.

The banking sector employees contingent differencies in terms of innovative behavior according to their marital status were examined within the second research question of the study. The independent samples t-test results show that single and married employees do not differ in terms of innovative behavior. Despite Jordan and Zitek (2012) found that marriage was perceived

as a negative factor in perceptions about job performances following marriage, the results of this study show that marriage has no positive or negative effect on innovative behavior.

The third of the questions sought in the scope of the study is whether the innovative behaviors of the banking sector employees differ according to whether they have work experience in a different sector or not. Employees with and without working experience in a sector other than banking were considered as two separate groups and their scores were compared. According to this comparison made by independent samples t-test, it is seen that the employees who have working experience in a different sector than the banking sector differ from those who have worked only in the banking sector. Innovative behavior average scores of those with different sector experience were significantly higher than those who did not work in the sector other than banking. This result is consistent with the research by Romero and Martínez-Román (2012), who found that employees with previous work experience were more innovative. As a matter of fact, in this study, the relationship between professional background and factors affecting innovative activities was determined.

Within the scope of the research question examining whether the innovative behaviors of banking sector employees differ according to their age, the participant employees were divided into three age groups as 20-29 years olds, 30-39 years olds and 40 and above years olds. Group statistics were compared to each other in terms of all four dimensions of innovative behavior by using one way Analysis of Variance. As a result of the analysis, it was found that there were significant differences between the groups within the scope of all four innovative behavior dimensions. In order to detect differentiating groups, appropriate post-hoc tests were applied in the light of homogeneity of variance distributions. As a result, it was determined that only 20-29 age group employees and 30-39 age group employees differ in terms of innovative behavior. 20-29 and 40 and older and 30-39 and 40 and older age groups do not differ significantly. When the average scores of differentiating 20-29 age group and 30-39 age group are examined, it is seen that the innovative behavior scores of 20-29 age group are higher. The results of the studies in which Scott and Bruce (1994) and Guillén and Kunze (2019) examined the relationship between innovative behaviors and the age as a time based vari-

able of the employees are consistent with the results of this study. It is interesting to note that while the difference in innovative behavior is significant only in the 20-29 and 30-39 age groups, it is not present in later age groups. Based on this result, it can be interpreted that employees' innovative behavior tendencies decrease to a certain age and then become fixed after this point.

The fifth of the research questions asked whether the innovative behaviors of the banking sector employees differ according to their years of experience in the banking profession. Within this framework, the banking sector employees who participated in the research were divided into three groups as 0-9 years of experience, 10-19 years of experience and more than 20 years of experience. When the innovative behavior scores of the groups were compared using one way ANOVA, it was determined that there was no significant difference between the groups, contrary to the studies which Carmeli et al. (2006) found tenure related to and Woods et al. (2018) showed tenure as a moderator of personal characteristics on innovative behavior. Although it does not match the findings of previous studies, this result is remarkable considering that the research field is the banking sector. As a matter of fact, requestioning the relationship between banking experience and innovative behavior on different samples is a good suggestion for future studies.

Within the framework of the last research question examined within the scope of the study, banking sector employees were grouped according to their educational background. Thus, four groups emerged as high school grads, college grads, bachelors and graduates. One-way analysis of variance was performed to determine whether the educational status groups differed according to innovative behavior scores and the results of the analysis showed that the groups differed significantly. The post-hoc tests to determine which groups differed from the other groups were decided in the light of the distribution homogeneity of the each dimensions variances. According to the results, groups compared for "idea exploration", "idea generation" and "idea championing" dimensions of innovative behavior by Tukey ans Scheffe tests and Games-Howell test was used at the groups comparison for "idea implementation". Post-hoc test results showed that the high school grads group and the college grads group differed significantly from the bachelors group and the graduates group. Besides, no significant difference was found between high school grads and college grads groups and; bachelors and graduates groups innovative behavior scores. The interesting side of the results is

that as the level of education increases, innovative behavior scores decrease. As a matter of fact, previous studies in the literature such as researches conducted by Pieterse et al. (2010) and Romero and Martínez-Román (2012) have reached findings supporting the exact opposite of these results. This situation shall be questioned about the effects of education given to individuals in Turkey on their innovative behaviors. Furthermore, the fact that the bachelors and graduates groups do not differ in terms of innovative behavior is a striking result regarding the outcomes of the graduate education programs.

Conclusion

In this study, innovative behavior characteristics of banking sector employees in Turkey are investigated within the frame of their gender, marital status, sectoral experience diversity, age, banking experience and educational status. As a result of the study, it was found that the innovative behaviors of the banking sector employees do not differ according to their gender, marital status and banking experience. These results can be interpreted as these mentioned variables of employees have no effect on their innovative behavior.

Within the scope of the study, it has been determined that bankers who have previous working experience in different sectors from the banking sector are more innovative behavioral. Innovative behaviors of employees differ according to age groups; younger workers were more innovative behavioral than older workers. As the age of the workers progresses, the effect of the age variable on innovative behavior is lost. It was found that high school grads and college grads employees were significantly advantageous in terms of innovative behavior compared to bachelors and graduate employees respectively. However, high school grads were not different from college grads and bachelors were not different from graduates in terms of innovative behavior. Some of these results are interestingly not resemble in line with previous studies in the literature.

This research suggests the banking institutions to take the personal characteristics, professional experience and educational status of the present and potential employees in consideration. Findings from the results of the research can be used in the context of the fact that the banks operating in the sector make the selection of personnel more successful in the recruitment process and the understanding of the innovative behavior characteristics of the

existing personnel. In addition to that, especially with the interesting results, research contributes to the understanding of innovative behavior in such a way of determining the differentiations according to the variables discussed.

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Kaynakça Bilgisi / Citation Information

Korkmaz, İ. H. (2020). Innovative behavior patterns of employees ın terms of demographic characteristics, professional experiences and educational status: An investigation on Turkish banking sector. *OPUS–International Journal of Society Researches, 15*(23), 1668-1698. DOI: 10.26466/opus.642734