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EXAMINATION OF THE DIGITAL LEADERSHIP CONCEPT IN TERMS OF GENERATIONS AND SOME SOCIO-DEMOGRAPHIC VARIABLES*

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ABSTRACT

Digital leaders see digitalization as an integral part of business life and put forward digital ideas to combine information technologies with organizational purposes. Organizations need digital leaders to survive in the digital age. Digital leaders use the organization's digital assets and develop these assets qualitatively and quantitatively to achieve organizational goals and successfully drive digital business transformation. Digital leaders have different abilities and perspectives compared to traditional leaders. In this study, which was carried out in Konya industrial enterprises, it was aimed to determine whether the digital leadership perceptions of employees vary according to generations and other socio-demographic characteristics. In the scope of the research questions were asked to 292 participants working in Konya hydraulic, machinery and metal industry enterprises by questionnaire method. The digital leadership perceptions of its employees were measured with the "Information Leadership Scale" developed by Arslan and Ulutaş (2017). The research data were tested through the SPSS 22 statistical analysis program. As a result of the analyzes, it was found that the digital leadership perceptions of the employees differed statistically according to their generation and educational status.

Keywords: Digital Leadership, Digitalization, Generations, Employees

INTRODUCTION

Digital signals break new ground. Every new event begins with a closure of an era leads to the beginning of a new era. The inventions emerge sometimes due to a war and sometimes due to a necessity. The employment of the information in business processes faster and more actively, with the employment of information technologies densely in order to increase money, time and quality life led to the emergence of the concept of digital leadership. Capturing and managing the digital leadership has been the agenda of the businesses of today. As seen in every field, digitalization manifests itself in the industrial sector. Nowadays, numerous business employ digitalization and digital channels. Since

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digitalization started to become a part of the industrial sector, the most attention-grabbing thing in many research is that the inter-generational interests will trigger digital leadership and there will be a need for digital leaders in many sectors in the future. Since the age of technology accelerates day by day, the beneficiaries of business and businesses will need a skill beyond the administrator. The employment of information technologies in the developing businesses of today and emerging of new inventions have become the agenda of businesses. In 2010, Vogelsang expressed the digitalization as the long-term financial wave or V. Kondratieff Wave which will change the production phases or opportunities (Chew, 2013). The studies conducted on leadership gained importance throughout the history. In these years which we have been experiencing the age of digitalization, leadership has gained more importance (Dinh et al., 2014). The rapid change in the definition of leadership reflect the stages in the technological developments (Kremer, 1993). The businesses need strong digital leaders to provide current technologies to the business in order to achieve competitive advantage and to enable the effective employment of this digitalization in businesses.

This study was conducted in order to reveal the differences between the perceptions of the employees of the industrial businesses and their socio-demographic characteristics and provide contribution to the literature related to this field.

1. CONCEPTUAL FRAMEWORK

1.1 DIGITAL LEADERSHIP

The expressions of leader and leadership are continuously changing from past to present. The leadership should be accepted by both business and the society. Digital transformation feed the change that requires leadership at its roots. Because the leadership is the personality which require the formation of a new system and bring a new momentum. While the leading role of the game belong to the leaders, the shareholders of the business also have roles. In order to provide achievement of business in the occurrence of digital transformation, the leaders should take high responsibilities, synthesize the information with digital information and reflect the effect of information on the culture of the business. Leaders are people who motivate both their employees and society and direct them in achieving targets with their preeminent efforts to orient the business.

Leadership is an important concept in fulfilling the existential consciousness of enterprises (Yukl, 2009: 26). With its easiest definition, leadership is a skill which may influence the target group in achieving the goals (Akdemir, et al., 2014: 21). Individuals who have a certain influence in the society are called leaders while the individuals who find themselves insufficient follow the traces of leaders whom they trust. Managers can rely on technological experience and local achievements because of their pasts. However, the situation will gain a different dimension when comes to the leaders who are necessitated by the current conditions (Şimşeker and Ünsar, 2018: 1031). Scientific research was conducted and new definitions were developed for the concept of leadership. It changes depending on

the question of which characteristics of the leaders are questioned, which perspective it is analyzed, and which perspective of the authority is employed (Hogg and Vaughan, 2014). They are the people who play a role in the digitalization of businesses (Özmen, Eriş and Süral Özer, 2020: 63).

It is claimed that a new era began with digitalization. In the next period, the leaders who reached the peak in terms of success should have the characteristics such as the ability to use the organizational networks well, convey their interests and process this information well (Toduk, 2014: 19-25). In a new century with an effective digital climate, especially in the period of generation Z, there is also a need for digital leaders who have a clear ideal for change, and managers who are willing for digital leaders which are needed to create an information (Alan and Köker, 2021: 243). Digital leaders are the people who not only own the technological competency but also provide digitalization in the culture of business (Çelik Şahin, Avcı and Anık, 2020: 272). By means of digital leadership, it is possible to label innovation under the name of vision by employing technology in an eye-catching way in the management flow to create the variation team that will ensure the continuity of the business (Ordu and Nayır, 2021: 68-81). There are differences between the employees with various generations in the businesses as well as the similarities between them. Those differences should be properly determined by the administrators. When the administrators and businesses reveal the differences between the employees, we can mention about the success of the business (Köse et al., 2014: 52). The individuals at the different age groups during the same time of the period may evaluate the same event in various forms. The reason for interpreting it in various forms may sometimes result from war, sometimes experience and sometimes socio-economic developments (Srinivasan, 2012: 50). Unless the different thoughts among the employees are determined, there will be negative performance between generations in terms of the values the business owns (Wils et al., 2011: 446). According to the research conducted by various authors, which years the generations will include (Reeves and Oh, 2008: 296). In the conducted study, the American Census Bureau was based. The American Census Bureau defined the generations so far. 1929-1939 the Age of Depression, 1939-1945 the Age of War, 1945-1965 Baby Boomers Age, 1965-1977 X Age, 1977-1994 Y Age, 1994-2003 Millennium Age, 2003 and later periods were defined as the Z age (Tekin and Akgemci, 2016: 23). As a result of the conducted research, the interests and behaviors change depending on the year they were born or their generation. The most striking issue in numerous research is that the interests between the generations trigger the digital transformation and digital leaders will be needed in various sectors in the future.

2. METHOD

This part of the study includes the objective of the study, its model and sampling, data collection tools, universe and sampling and the analysis of the data.

2.1. The Objective and Sampling of the Research

The study was conducted in order to determine their perceptions of digital leadership according to the characteristics of the employees in the industrial business of hydraulic, machinery and metal in Konya. In the study, the comparative model was employed as the research model. The comparative model is the research model which analyzes the differences of variants depending on the variants (Çilan & Kuzu, 2013). With this purpose, the questionnaire form was given to the 400 employees working in the region, the incomplete and improperly filled surveys were eliminated and then 292 questionnaire forms were evaluated. The characteristics of the employees in the sampling were given in Table 1.

Table 1. The Demographic Characteristics of the Participants

Variables		Frequency	%
Gender	Woman	23	8
	Male	269	92
Generation	Baby B.	4	1
	Generation X	49	17
	Generation Y	131	45
	Millennium	43	15
	Generation Z	66	22
Civil Situation	Married	235	80
	Single	57	20
Education Status	Elementary-Middle school	134	46
	Associate-Bachelor's	147	50
	MSc	11th	4
in business Operation time	less than 3 years	187	64
	3 -7 years	76	26
	8 years or more	29	10
Status	Worker	244	84
	Executive	48	16

Of the participants of the research, 23 are female while 269 are male. When the age range of the participants of the research were considered, it was found the highest participation was from the Y age (131 people). 235 of the participants are married and 57 of them are single. When their education level is considered, the highest participation had undergraduate and graduate levels (147 employees). When the working periods of the employees in the business is considered, 187 employees have been actively working in the business for less than 3 years and 29 employees have been working for 8 or more years. 48 participants are at the position of management.

2.2. Data Collection Period

The questionnaire form employed in the study includes two sections. In the first section, the participants were asked to answer the questions about their gender, marital status, education, generation according to the years they were born, their status and working time in business.

In the second section, the Information Leadership Scale developed by Ulutaş and Arslan (2017) which includes 18 statement was employed. The codes of the answers of the employees between the

generations mean as follows; 1) I Definitely Disagree, 2) I Disagree, 3) I Partly Agree, 4) I Agree and 5) I Definitely Agree.

In the study, Cronbach's alpha coefficient was examined in order to measure the reliability of the Information Leadership Scale before starting the analysis of the data. Cronbach's alpha coefficient of the scale was found to be 0,97. According to this result, the scale used in the research is a highly reliable scale.

2.3. The analysis of the data

Before starting the analysis of the data, the normality analysis was performed in order to determine analysis methods (parametric-nonparametric) to be employed. Since the value of skewness of the Information Leadership Scale was found (,498) and the kurtosis values were between (1,060) -1,5 and +1,5), it was assumed that the data was distributed normally (Tabachnick and Fidell, 2013). For that reason, parametric tests were employed in the analysis of the data. After the normality analysis, the question whether the average scores obtained according to the responses of the participants to the Information Leadership Scale differed according to their generation, gender, marital status, educational level, their status, and the period of their employment was analyzed through t test and Anova tests. In the analysis of the data, the SPSS program (version 22) was employed.

3. FINDINGS

In this part of the research, there are tables of their interpretations showing the differentiation between the perceptions of the digital leadership and their demographic characteristics according to the responses of the participants.

3.1. The Difference Test According to Demographic Variants

The question whether the responses of the participants to the expressions in the scale differ according to their demographic characteristics were tested with t test in the variants with two categories and one-way Anova test was employed for the variants with more than two categories.

The results of t-test which show whether the perceptions of the participants related to digital leadership differ or not were given in Table 2.

Table 2. The Evaluation of Leadership According to Gender

Factors	Married (N=235)		Single (N=57)		t	p
	Ave.	Std. Dev.	Ave.	Std. Dev.		
Digital Leadership	2,18	1,26	2,77	1,19	3,177	,002

When the table is analyzed, it is found that there is a statistical significance between their perception of digital leadership according to their gender (p= ,003, t= 3,569). The results of the t-test

which shows whether the marital status of the participants about their perceptions of digital leadership differs were given in Table 3.

Table 3. The Evaluation of the Digital Leadership According to Marital Status

Factors	Female (N=23)		Male (N=269)		t	p
	Ave.	Std. Dev.	Ave.	Std. Dev.		
Digital Leadership	3,04	1,02	2,23	1,27	3,569	,003

When Table 3 is analyzed, it is found that there is a statistical significance between the perceptions of the employees related to their digital leadership according to their marital status (p=0,002, t=3,177). The perceptions of digital leadership are higher among the single employees than the married ones.

The results of the Anova test which show whether their perceptions of participants for digital leadership differs according to the generation were given in Table 4.

Table 4. Digital Leadership Evaluation by Generations

Factors	Baby Boomers Generation (N=3)		Generation X N=52		Generation Y (N=131)		Millennial Generation (N=43)		Generation Z (N=66)		p	F
	Ave.	Std. Deviation	Ave.	Std. Deviation	Ave.	Std. Deviation	Ave.	Std. Deviation	Ave.	Std. Deviation		
Digital Leadership:	4	0	3.02	1,21	2,56	1,14	2,53	1,33	1	0	,000	35,708

When Table 4 is examined, it is observed that there is a statistically significant difference between the perceptions of digital leadership of employees according to generations (p=0.000, F= 35.708). According to Table, it is seen that there is a statistically significant difference in employees' perceptions of digital leadership according to generations. As a result of the post-hoc (Scheffe) analysis conducted to determine from which group the digital leadership perception difference of the participants originated, the digital leadership perceptions of the employees in Generation X (3.02) are statistically significantly higher than the digital leadership perceptions of the employees in Generation Y (2.56) and the digital leadership perceptions of the employees in Generation Z (1).

The results of the Anova test, which shows whether the digital leadership perceptions of the participants differ according to their education years, are given in Table 5.

Table 5. Evaluation of Digital Leadership According to Educational Status

Factors	Primary School (N=134)		Associate degree and undergraduate (N = 147)		Master's Degree (N=11)		p	F
	Ave.	Std. Deviation	Ave.	Std. Deviation	Ave.	Std. Deviation		
Digital Leadership:	2,72	1,19	1,86	1.197	2,90	1,37	,000	19.444

It is seen that there is a significant difference in the digital leadership perceptions of the employees according to their educational status pursuant to the Anova test (p<0.05). Digital leadership perceptions of those with a master's degree (2.90), digital leadership perceptions of primary school graduates (2.72) and associate degree and undergraduate degree graduates (1.86) are higher than digital leadership perceptions. Digital leadership perceptions of employees with a master's degree are higher than other education degrees (p=0.000, F= 19.444).

The results of the t-test showing whether the participants' perceptions of digital leadership differ according to their working status are given in Table 6.

Table 6. Evaluation of Digital Leadership According to Whether He/She Is an Administrator or Not

Factors	Employed (N=244)		Administrator (N=48)		t	p
	Ave.	Std. Deviation	Ave.	Std. Deviation		
Digital Leadership:	2.22	1,25	2,68	1,32	2,333	,020

In Table 6, there is no statistically significant difference in employees' perceptions of digital leadership according to their working status (p=, 020, t=2,333).

The results of the Anova test, which shows whether the digital leadership perceptions of the participants differ according to their working time in the business, are given in Table 7.

Table 7. Digital Leadership According to Working Time in the Business

Factors	Less than 3 Years (N=187)		Between 3-7 Years (N= 76)		8 and more. (N=29)		p	F
	Ave.	Std. Deviation	Ave.	Std. Deviation	Ave.	Std. Deviation		
Digital Leadership	1,93	1.134	2,85	1,22	3,17	1,33	,000	25,222

According to Table 7, a statistically significant difference was found between the working hours of the employees in the business and their perceptions of digital leadership. As a result of the post-hoc (Scheffe) analysis conducted to determine the group from which the digital leadership perception difference of the participants originated, the digital leadership perceptions of the employees working in the business for 8 years or more (3.17), the digital leadership perceptions of the employees working in the business for 3-7 years (1.93) and the digital leadership perceptions of the employees working in the business for 3-7 years (2.85) and the digital leadership perceptions of the employees working for less than 3 years (1.93) are statistically and significantly higher.

CONCLUSION AND EVALUATION

Digital technologies have rapidly begun to lead businesses to adopt them. Successes and failures in the digitalization process have brought a new resound to the literature. The phenomenon of digitalization is no longer optional. It has become an absolute necessity for use by businesses. Leaders who are busy to adapt the practices in the workflow to the digital will choose the right application method to achieve strategic goals.

Talents that can present these aspects of life by discovering different aspects of employees' individual strengths are the people who completely change the vision of the business. The leader strives to ensure that the vision he/she sets for the business is in line with the values of the employees and takes care to express this with their social understanding.

In this study, it is aimed to investigate the differences in the digital leadership perceptions of employees in Konya industrial businesses between generations and some socio-demographic variables due to the rapid transition of digitalization to our lives. For this purpose, statistical analyzes were made. According to the results of the Anova test, it was determined that there was a difference between digital leadership perceptions and generations and socio-demographic variables. Scheffe test was performed to determine between which groups the difference was.

According to the research, it is observed that there is a statistically significant difference between employees' perceptions of digital leadership according to their gender. There is a statistically significant difference between digital leadership according to the gender of the employees. Women had higher digital leadership perceptions than men. It has been determined that the feelings of digital leadership in women are more open.

There was a difference in employees' perceptions of digital leadership according to marital status. Digital leadership perceptions of single employees were higher than married employees. Married employees do not perceive digital leadership as high as single employees.

It was observed that there was a statistically significant difference between the employees' perceptions of digital leadership according to generations. As a result of the post-hoc (Scheffe) analysis conducted to determine the group from which the difference in the digital leadership perceptions of the participants originated, it was determined that the digital leadership perceptions of the employees in Generation X were statistically higher than the digital leadership perceptions of the employees in Generation Y and the digital leadership perceptions of the employees in Generation Z. It can be said that the digital leadership perceptions of the generation X employees are higher than the other generations.

It was observed that there was a significant difference in the digital leadership perceptions of the employees according to their educational status according to the Anova test. The digital leadership perceptions of those with a master's degree were higher than the perceptions of primary school graduates and associate/undergraduate graduates. Employees with a master’s degree have higher digital leadership

perceptions than other educational diplomas. The lowest leadership perception was seen in associate/undergraduate employees.

There was a statistically significant difference in the perceptions of digital leadership according to the working status of the employees. Digital leadership perceptions of the employees in the managerial position were higher than the other employees.

According to Table 7, a statistically significant difference was found between the working hours of the employees in the business and their perceptions of digital leadership. Digital leadership perceptions of employees working for 8 years, and more were statistically significantly higher than those of employees working for 3-7 years and those of employees working for less than 3 years. As the working time in the enterprise increases, the perception of digital leadership in the business increases.

When the literature was examined, it was observed that academic studies on digital leadership, which emerged as a new value, were incomplete. Studies on digital leadership and other concepts brought about by digitalization should be increased. The relationship between digital leadership and digital transformation can be examined.

REFERENCES

Akdemir, A., Konakay, G., & Demirkaya, H. (2014). Investigation of Career Perception, Career Change and Leadership Style Expectations of Generation Y. Muğla Sıtkı Koçman University Faculty of Economics and Administrative Sciences Journal of Economics and Management Research, 2 (2), 11-42.

Alan, H. & Koker, A. R. (2021). From Strategic Leadership to Digital Strategic Leadership: A Conceptual and Theoretical Discussion. Journal of Political Science of Turkey, 4 (2), 235-252. https://dergipark.org.tr/tr/pub/tsbder/issue/65092/962146

Çelik Şahin, Ç., Avcı, Y. E., Anık, S. (2020). Examination of Digital Leadership Perception Through Metaphors. Journal of Electronic Social Sciences, 19 (73), 271-286.

Chew, E. K. (2013). Value Co-creation in the Organizations of the Future. Puslished in: Collin, J., Hiekkanen, K., Korhonen, J.J., Halén, M., Itälä, T., Helenius, M., others, (2015). It Leadership in Transition-The Impact of Digitalization on Finnish Organizations.

Çilan, Ç.A., & Kuzu, S. (2013). Evaluation of Personal E-Commerce Applications with Categorical Data Analysis Methods. Alphanumeric Journal, 1 (1), 27-32.

Dinh, J. E., Lord, R.G., Gardner, W. L., Meuser, J.D., Liden, R.C., & H.U., J. (2014). Leadership Theory and Research in the New Millennium: Current Theoretical Trends and Changing Perspectives. The Leadership Quarterly, 25 (1), 36-62.

Hogg, M.A., and Vaughan, G.M., (2014). Social Psychology, (Trans. İ. Y.-A. Gelmez) Ankara: Utopia Publishing.

Kose, S., Oral, L., Trig, H. T. (2013). A Research on Comparison of Business Values in the First and Second Half of Generation Y, Humanitas International Journal of Social Sciences, (3), 149-166.

Kremer, M. (1993). Population Growth and Technological Change: One Million B.C. to 1990. The Quarterly Journal of Economics, (108), 681-716.

Ordu, A., & Nayır, F. (2021). What is Digital Leadership a Definition Proposal. E-International Journal of Educational Research, 12 (3).

Özmen, Ö. N., Eriş, E. D., & Özer, P. S. (2020). An Overview of Digital Leadership Studies, Süleyman Demirel University, Faculty of Economics and Administrative Sciences Journal, 25 (1), 57-69

Reeves T.C. and Oh E. (2008). Generational Differences, in Handbook of Research on Educational Communication and Technology. J.M. Spector, M.D. Merrill, J.V. Merrienboer, M.P. Driscoll (Ed.), Athens, Georgia, 296-297.

Şimşeker, M., & Ünsar, S. (2008). The Process of Globalization and Leadership. 3 (9), 1029-1045.

Srinivasan, V. (2012). Multi Generations in The Workfore: Building Collaboration, Sciverse Science Direct, (24), 48-66.

Tabachnick, B.G., & Fidell, L. S. (2013). Using Multivariate Statistics (6th ed.). Boston, MA: Pearson.

Tekin, İ. and Akgemci, T (2016) Investigation of Business Values of Generation Y Employees: An Application in Industrial Enterprises of Konya Province, Journal of Organizational Behavior Research Volume, Issue (2), 15-52

Toduk, Y., & Gande, S. (2016). Whats next in Turkey a New Leadership Model for Connected age, In Amrop Leadership Series, 1-41.

Ulutaş, M., & Arslan, H. (2018). IT Leadership Scale: A Scale Development Study. Marmara University Atatürk Faculty of Education Journal of Educational Sciences, 47 (47), 109-118.

Wils, T., Saba, T., Waxin, F. M., & Labelle, C. (2011). Intergenerational and Intercultural Differences in Work Values in Quebec and the United Arab Emirates, Relations Industrielles / Industrial Relations, (66), 445-469.

Yukl, G. (2009). Leadership in Organizations. New Jersey: Pearson Prentice Hall.