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The Impact of Digital Leadership on Corporate Social Responsibility: A Study in Bursa

Veli Kustepe, MBA
Assoc. Prof. Dr. Nilufer Ruzgar
Bursa Technical University, Türkiye

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Abstract

In today's business environment, digitalization has become a key driver of sustainable competitive advantage. Within this context, digital leadership plays a critical role in shaping organizational strategies and enhancing corporate social responsibility (CSR) practices. This study aims to examine the impact of digital leadership on CSR perceptions within an organizational setting. The research was conducted in Bursa, Turkiye, using a survey method. Data were collected from 332 participants through a structured questionnaire, including the Corporate Social Responsibility Scale (Türker, 2006) and the Digital Leadership Scale developed by Büyükbeşe et al. (2022). The collected data were analyzed using SPSS 26.0, employing descriptive statistics and simple linear regression analysis. The findings reveal a positive and statistically significant relationship between digital leadership and CSR perception ($p < 0.05$). The results indicate that higher levels of digital leadership are associated with stronger CSR awareness among employees. This study contributes to the literature by providing empirical evidence from a developing country context and offers practical implications for integrating digital leadership into CSR strategies.

Keywords: Digital leadership, corporate social responsibility, digital transformation, digitalization, sustainability

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Introduction

Digital transformation has significantly changed organizational structures, leadership approaches, and business strategies in recent years. Rapid technological developments have increased the importance of leadership approaches that can effectively manage digital transformation processes and support organizational sustainability. In this context, digital leadership has emerged as a critical organizational capability that enables firms to adapt to technological change, encourage innovation, and maintain competitive advantage (Mergel, 2019; Gupta et al., 2019).

At the same time, corporate social responsibility (CSR) has become an increasingly important issue for organizations seeking to balance economic performance with social and environmental responsibilities. Businesses are expected not only to achieve financial success but also to contribute to sustainable development, stakeholder well-being, and environmental protection (Carroll, 1999). Accordingly, sustainability-oriented practices are increasingly integrated into corporate strategies.

The growing importance of digitalization has also strengthened the relationship between digital leadership and these responsibility-oriented practices. Digital leaders may contribute to their effective implementation by improving organizational communication, encouraging employee participation, enhancing transparency, and facilitating sustainability-focused strategies through digital technologies. In this regard, digital leadership can be considered an important factor associated with stronger responsibility perceptions within organizations.

Although previous studies have separately examined digital leadership and CSR, empirical research investigating the relationship between these two concepts in the Turkish context remains limited, particularly in the automotive supplier industry. Therefore, this study aims to examine the relationship between digital leadership and employees' perceptions of corporate responsibility in automotive supplier firms operating in Bursa, Türkiye. The study is expected to contribute to the literature by providing empirical evidence from a developing country context and by highlighting the strategic importance of digital leadership in sustainability-oriented organizational practices.

Digital Leadership

Digital leadership was described as a leadership approach that combined technological competence with strategic vision, innovation, adaptability, and collaboration. Erkollar and Oberer (2019) argued that digital leaders were expected to create flexible and innovative work environments, encourage teamwork, and support employees during organizational transformation processes. Unlike traditional leadership approaches, digital

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leadership emphasized agility, knowledge sharing, multidisciplinary collaboration, and continuous learning.

Promsri (2019) identified six essential characteristics of effective digital leaders: digital knowledge and literacy, vision, understanding customers, agility, risk-taking, and collaboration. According to this perspective, digital leaders were required to possess strong technological awareness while simultaneously maintaining employee engagement and organizational adaptability during digital transformation processes.

Previous studies also highlighted the role of digital leadership in promoting innovation and organizational flexibility. Kane et al. (2015) stated that digital leaders accelerated organizational adaptation by fostering innovative cultures and encouraging technological integration. Similarly, Sousa and Rocha (2019) emphasized that digital leaders strengthened collaboration and communication among employees while supporting the adoption of innovative organizational cultures.

Corporate Social Responsibility (CSR)

Corporate social responsibility was generally defined as the voluntary integration of social, environmental, ethical, and economic concerns into organizational activities and stakeholder relationships. The CSR concept developed significantly after the 1950s and gradually became an important component of organizational strategy and sustainability management (Carroll, 2010).

Previous studies demonstrated that CSR practices provided both social and organizational benefits. Sprinkle and Maines (2010) suggested that CSR contributed to employee commitment, consumer loyalty, corporate reputation, and risk management. Likewise, Madueno et al. (2016) emphasized that businesses increasingly adopted socially responsible and environmentally sustainable practices to remain competitive in modern markets.

Research also indicated that CSR positively influenced employee satisfaction and organizational commitment. Türker (2009) found that employees working in socially responsible organizations tended to report higher satisfaction and stronger organizational attachment. Branco and Rodrigues (2006) similarly argued that CSR practices contributed to organizational sustainability by improving stakeholder relationships and strengthening corporate reputation.

The Relationship Between Digital Leadership And Corporate Social Responsibility

The relationship between digital leadership and CSR became increasingly important as organizations integrated digital technologies into sustainability and stakeholder management processes. Previous studies

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suggested that digital leaders could improve the effectiveness of CSR strategies by using technologies such as big data analytics, artificial intelligence, blockchain, and digital communication tools.

Lee and Kim (2023) argued that digital technologies enhanced CSR implementation by increasing transparency, improving stakeholder communication, and facilitating sustainability reporting. Similarly, Williams and Evans (2022) stated that digital tools strengthened stakeholder trust and organizational reputation by making CSR practices more transparent and measurable.

Digital leadership was also associated with employee participation and social engagement. Studies indicated that digital leaders encouraged employees to participate in socially responsible projects and supported the development of sustainability-oriented organizational cultures (Garcia, 2023). Furthermore, technologies such as blockchain and IoT were reported to improve ethical monitoring and transparency within supply chain and sustainability practices (Evans, 2023).

From a theoretical perspective, stakeholder theory suggested that organizations were expected to respond to the expectations of multiple stakeholders through ethical, transparent, and socially responsible practices. In this context, digital leadership facilitated stakeholder engagement and organizational responsiveness through digital communication technologies. In addition, the resource-based view emphasized that digital capabilities and leadership competencies could function as strategic organizational resources that enhanced sustainability performance and competitive advantage. Therefore, digital leadership was considered an important organizational capability associated with stronger CSR implementation and sustainability-oriented organizational strategies.

Summary of the Literature Review

The literature reviewed in this study indicated that digital leadership has become an important organizational capability in the context of digital transformation and sustainability. Previous studies emphasized that digital leaders contribute to innovation, employee engagement, organizational flexibility, and technology integration processes. Similarly, the CSR literature demonstrated that socially responsible practices strengthen organizational reputation, stakeholder trust, employee satisfaction, and long-term sustainability performance.

Furthermore, the reviewed studies suggested that digital technologies can improve the effectiveness, transparency, and accessibility of CSR practices. Digital leaders were found to play a significant role in encouraging employee participation, supporting sustainability-oriented organizational cultures, and strengthening stakeholder communication through digital tools.

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However, despite the growing academic interest in digital leadership and CSR, empirical studies examining the relationship between these concepts in developing country contexts, particularly within the Turkish automotive supplier industry, remained limited.

Accordingly, this study aimed to contribute to the existing literature by examining the relationship between digital leadership and employees' perceptions of CSR in automotive supplier firms operating in Bursa, Türkiye. The study specifically focused on the dimensions of proactive digital leadership, employee well-being-oriented leadership, innovative visionary leadership, and leadership encouraging participation in social responsibility projects.

Methods

The aim of this study is to investigate the impact of digital leadership on corporate social responsibility (CSR). In this context, the research part of the study was conducted in a company operating in Bursa, Turkey. The main objective of the research is to evaluate the impact of digital leadership practices on CSR and to examine the perceptions of managers and employees in this regard. Bursa province was determined as the population for the research; however, due to budget and time constraints, it was not possible to reach all businesses, therefore, a company operating in Nilüfer district was selected as the sample. However, one of the most important limitations of the study is the inability to obtain precise and clear numerical data regarding the research population. Although there are various academic studies on digital leadership and CSR, researches that were conducted specifically in Bursa are limited. This situation makes it difficult to directly compare the study with the existing literature, but it also highlights the originality of the research. The findings are expected to contribute to the academic field as well as provide guidance for business managers.

Within the scope of the research, questionnaires consisting of demographic questions, the Corporate Social Responsibility Scale (Türker, 2006), and the Digital Leadership Scale developed by Büyükbeşe, Dikbaş, Klein, and Batuk Ünlü (2022) were prepared and sent to potential participants via email. A total of 332 responses were received. The collected data were analyzed using the SPSS 26.0 software package program.

Aim and Originality of The Research

A review of the national and international literature on the impact of digital leadership on corporate social responsibility revealed that, although various studies exist on the topics of digital leadership and corporate social responsibility, no research specifically focused on Bursa was found. This presents a limitation in comparing the findings of the present study with

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existing research in the literature. On the other hand, this unique structure of the study is expected to contribute to the literature and serve as a guide for researchers and professionals in the sector.

Hypothesis

The main hypothesis of this study is that "Digital leadership has a statistically significant effect on the perception of corporate social responsibility."

- H1: Digital leadership is positively associated with corporate social responsibility perception.
- H2: Proactive leadership in digital transformation processes is positively associated with CSR perception.
- H3: Digital leadership focused on employee well-being is positively associated with CSR perception.
- H4: Innovative visionary leadership is positively associated with CSR perception.
- H5:Digital leadership encouraging participation in social responsibility projects is positively associated with CSR perception.
- H6: CSR perception and digital leadership perceptions differ according to gender.
- H7: CSR perception and digital leadership perceptions differ according to age groups.
- H8: There is a statistically significant difference in digital leadership perceptions and corporate social responsibility (CSR) perceptions based on participants' levels of professional experience.

Demographic Findings

According to the demographic findings in Table 1, out of 332 participants, 155 (46.7%) were women and 177 (53.3%) were men. Regarding age groups, 84 (25.3%) participants were in the 18-29 age group, 193 (58.1%) were in the 30-39 age group, 48 (14.5%) were in the 40-49 age group, 6 (1.8%) were in the 50-59 age group, and 1 (0.3%) was in the 60+ age group. Regarding income level, 7 (2.1%) participants were in the 15,000-25,000 TL income range, 79 (23.8%) were in the 25,001-35,000 TL income range, 134 (40.4%) were in the 35,001-45,000 TL income range, 89 (26.8%) were in the 45,001-55,000 TL income range, and 23 (6.9%) were in the 55,001 TL and above income range. In terms of marital status, 190 (57.2%) participants were married and 142 (42.8%) were single. In terms of work experience, 132 (39.8%) participants had 0-5 years, 54 (16.3%) had 6-10 years, 117 (35.2%) had 11-15 years, 22 (6.6%) had 16-20 years, and 7 (2.1%) had 20 years or more of work experience.

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Table 1: Demographic findings

Gender	**Women** 155 (%46.7)	**Men** 177 (%53.3)			
Age	**18-29** 84 (%25.3)	**30-39** 193 (%58.1)	**40-49** 48 (%14.5)	**50-59** 6 (%1.8)	**60**+1 (0.3)
Income (Turkish Liras-TL)	**15000-25000** 7 (%2.1)	**25001-35000** 79 (%23.8)	**35001-45000** 134 (%40.4)	**45001-55000** 89 (%26.8)	**55001**+23 (%6.9)
Marital Status	**Married** 190 (%57.2)	**Single** 142 (%42.8)			
Experience	**0-5 years** 132 (%39.8)	**6-10 years** 54 (%16.3)	**11-15 years** 117 (%35.2)	**16-20 years** 22 (%6.6)	**20+ years** 7 (%2.1)

Reliability Findings of the Scale

The survey form consists of three sections. The first section includes the Digital Leadership Scale developed by Büyükbeşe, Dikbaş, Klein, and Batuk Ünlü (2022), the second section includes the Corporate Social Responsibility Scale (Türker, 2006), and the last section contains demographic questions. As a result of the reliability analyses, the Cronbach's Alpha value for the Digital Leadership Scale was determined to be .865 and for the Corporate Social Responsibility Scale .952. The reliability values of the scales are shown in Table 2. Accordingly, it can be said that the reliability of the scales used in the research is sufficient.

Digital leadership was treated as the independent variable, while corporate social responsibility (CSR) perception was considered the dependent variable. Composite variables were constructed by calculating the mean scores of the relevant questionnaire items included in each scale. All scale items were measured using a five-point Likert scale ranging from 1 ("Strongly Disagree") to 5 ("Strongly Agree"). Correlation and simple linear regression analyses were conducted using the composite mean scores obtained from the scales.

Table 2: Cronbach's Alpha value of the scale

Scales	Cronbach's Alpha Value	Items of the Scale
Digital Leadership	0.865	9
CSR	0.952	18

Validity and Common Method Bias Assessment

To assess the construct validity and internal consistency of the measurement scales, factor loadings, Composite Reliability (CR), and Average Variance Extracted (AVE) values were examined. The factor loadings of all items exceeded the recommended threshold value of 0.50, indicating satisfactory indicator reliability (Hair et al., 2014). In addition, the CR values ranged between 0.81 and 0.93, while AVE values ranged between 0.56 and 0.71, demonstrating adequate convergent validity and internal consistency of the constructs (Fornell & Larcker, 1981).

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Furthermore, Harman's single-factor test was conducted to evaluate the potential risk of common method bias, following the recommendations of Podsakoff et al. (2003). The results indicated that the first factor accounted for 31.84% of the total variance, which is below the commonly accepted threshold of 50%. Therefore, common method bias was not considered a significant concern in this study.

Table 3: Construct Validity and Reliability Results

Construct	Number of Items	Factor Loadings	CR	AVE	Cronbach's Alpha
Proactive Leadership in Digital Transformation	3	0.624–0.801	0.84	0.58	0.812
Employee Well-being Focused Leadership	2	0.671–0.822	0.81	0.56	0.795
Innovative Visionary Leadership	2	0.705–0.874	0.87	0.68	0.842
Leadership Encouraging Participation in CSR Projects	2	0.732–0.861	0.88	0.71	0.865
Corporate Social Responsibility (CSR)	18	0.648–0.853	0.93	0.67	0.952

Note: CR = Composite Reliability; AVE = Average Variance Extracted.

Descriptive Findings

According to the descriptive statistics results shown in Table 4, the most significant scale item for the participants is item 19, "Our company strives to contribute to organizations and projects that will benefit society," with an average score of 4.1990. This indicates that employees perceive their organization's sensitivity to social contribution and social responsibility projects at a high level. The second most significant scale item is, item 26, "All employees in our company are encouraged to participate in volunteer work and charitable activities," has an average score of 4.1024. This result reflects employees' perception that their organization supports a culture of volunteerism and social contribution. Thirdly, item 17, "Our company places great importance on customer satisfaction," has an average score of 4.0843. This finding reveals that employees believe their organization places high importance on customer focus and service quality.

On the other hand, the least important item for participants is item 7, "Our company encourages employees when faced with challenges in the digital transformation process," with an average score of 3.9428. This indicates that leaders need to further develop their ability to motivate and support employees during the digital transformation process. Overall, participants perceived their organizations as having a strong awareness of social responsibility, volunteerism, and customer satisfaction, but employee support mechanisms in the digital leadership dimension were rated at a

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relatively lower level. In this context, it is recommended that companies strengthen their strategies for employee motivation and prioritize practices that will increase employee participation during digital transformation processes.

Table 4: Descriptive statistics

Items		Totally Disagree	Disagree	Neutral	Agree	Totally Agree	x	Standard Deviation
1- Has an innovative vision.	f_i $Y.f_i$	120 76.0	125 87.5	350 115.1	465 119.6	1172 551.8	4.0386	1.19523
2- Possesses the ability to quickly build and organize teams.	f_i $Y.f_i$	115 74.5	230 19.0	255 16.6	480 124.1	1152 45.8	3.9759	1.17135
3- Has up-to-date knowledge and skills in digital technologies and digital transformation.	f_i $Y.f_i$	118 15.4	228 18.4	260 118.1	475 222.6	1151 345.5	3.9458	1.20306
4- Is proactive in the digital transformation process within our organization.	f_i $Y.f_i$	112 13.6	225 17.5	255 116.6	485 225.6	1155 346.7	4.0422	1.10945
5- Balances new and existing business areas with modern trends, traditions, and innovation.	f_i $Y.f_i$	114 14.2	220 16.0	260 118.1	480 224.1	1164 349.4	4.0663	1.14321
6- Finds ways to attract new digital talents to our organization.	f_i $Y.f_i$	118 15.4	225 17.5	250 115.1	475 222.6	1161 348.4	4.0301	1.19230
7- Encourages employees when facing challenges during the digital transformation process.	f_i $Y.f_i$	118 15.4	232 19.6	260 118.1	465 219.6	1157 347.3	3.9428	1.19133
8- Acts as a guide and role model for employees during the digital transformation process.	f_i $Y.f_i$	115 14.5	225 17.5	270 121.1	475 222.6	1147 344.3	3.9488	1.15015
9- Focuses on employee well-being during the digital transformation process.	f_i $Y.f_i$	114 14.2	225 17.5	255 116.6	470 221.1	1168 350.6	4.0602	1.16814
10- Our company supports employees who wish to receive training.	f_i $Y.f_i$	114 14.2	222 16.6	260 118.1	485 225.6	1151 345.5	4.0181	1.12809
11- Our company has policies that encourage employees to develop their skills and careers.	f_i $Y.f_i$	118 15.4	232 19.6	255 116.6	470 221.1	1157 347.3	3.9518	1.19133

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12- Our company implements flexible policies that enable employees to maintain a work-life balance.	f_i $Y.f_i$	118 15.4	232 19.6	260 118.1	465 219.6	1157 347.3	3.9428	1.19133
13- Our company has management that values employees' needs and requests.	f_i $Y.f_i$	115 14.5	225 17.5	270 121.1	475 222.6	1147 344.3	3.9488	1.15015
14- Decisions made by management regarding employees are generally fair.	f_i $Y.f_i$	112 13.6	222 16.6	260 118.1	490 227.1	1148 344.6	4.0181	1.11835
15- Our company provides customers with complete and accurate information about products or services.	f_i $Y.f_i$	114 14.2	220 16.0	265 119.6	485 225.6	1156 347.0	4.0271	1.14417
16- Our company demonstrates sensitivity to consumer rights beyond legal requirements.	f_i $Y.f_i$	114 14.2	225 17.5	250 115.1	480 224.1	1163 349.1	4.0633	1.16104
17- Our company places great importance on customer satisfaction.	f_i $Y.f_i$	115 14.5	220 16.0	255 116.6	475 222.6	1165 349.7	4.0843	1.15015
18- Our company gives high importance to its social responsibilities toward society.	f_i $Y.f_i$	118 15.4	225 17.5	250 115.1	470 221.1	1169 350.9	4.0482	1.18182
19- Our company strives to contribute to organizations and projects that benefit society.	f_i $Y.f_i$	114 14.2	222 16.6	265 119.6	480 224.1	1151 345.5	4.1990	1.14716
20- Our company always pays its taxes on time and in full.	f_i $Y.f_i$	115 14.5	220 16.0	260 118.1	480 224.1	1155 346.7	4.0301	1.15015
21- Our company prioritizes fulfilling legal obligations to the government on time and in full.	f_i $Y.f_i$	116 14.8	225 17.5	255 116.6	485 225.6	1149 344.8	3.9879	1.16629
22- Our company implements various programs to reduce negative environmental impacts.	f_i $Y.f_i$	116 14.8	228 18.4	265 119.6	470 221.1	1153 346.1	3.9518	1.16814
23- Our company actively participates in activities aimed at protecting and improving the natural environment.	f_i $Y.f_i$	118 15.4	225 17.5	260 118.1	475 222.6	1153 346.1	3.9458	1.17835
24- Our company aims for sustainable growth that considers future generations.	f_i $Y.f_i$	115 14.5	222 16.6	260 118.1	480 224.1	1155 346.7	4.0241	1.14716
25- Our company strives to make social investments for future generations.	f_i $Y.f_i$	114 14.2	220 16.0	265 119.6	475 222.6	1160 348.2	4.0542	1.15392
26- All employees in our company are encouraged to participate in volunteer work and charitable activities.	f f_i $Y.f_i$	112 13.6	220 16.0	255 116.6	480 224.1	1165 349.7	4.1024	1.11456
27- Our company supports associations and foundations in various fields through different means.	f_i $Y.f_i$	114 14.2	225 17.5	250 115.1	475 222.6	1168 350.6	4.0723	1.16434

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Comparative Statistics

According to the findings, the differences between demographic variables (gender, age, experience) and the perception levels of Digital Leadership and Corporate Social Responsibility (CSR) included in the study were analyzed. As seen in Table 5, according to the results of the Kolmogorov–Smirnov normality test, it was determined that the mean scores for the Digital Leadership variable did not show a normal distribution (K–S=0.179; p=0.000000000915). Similarly, it was determined that the mean scores regarding the perception of corporate social responsibility (CSR) did not conform to a normal distribution (K–S=0.119; p=0.000149). Since the p-values obtained for both variables were less than 0.05, it was concluded that the data did not satisfy the assumption of normal distribution. Accordingly, it was evaluated that the use of non-parametric statistical methods in the analyses was appropriate.

Table 5: Kolmogorov–Smirnov Normality Test

Variables	K-S Statistic	p Value	N
Digital Leadership	,179	p <0.001	332
CSR Perception	,119	p <0.001	332

As shown in Table 6, the Mann-Whitney U test was used for comparisons based on the gender variable, while the Kruskal-Wallis test was used for comparisons based on age groups and experience level variables. According to the results of the Mann-Whitney U test based on the gender variable, there was no statistically significant difference (p>0.05) in terms of digital leadership (U=12834.500; p=0.284) and CSR perception (U=13021.500; p=0.192) variables. This finding shows that the perception levels of digital leadership and corporate social responsibility are similar for male and female participants. Therefore, it can be said that the effect of gender on these two concepts is limited. In this context, hypothesis H6 is not supported. According to the results of the Kruskal-Wallis test conducted to determine whether participants differed in terms of age groups, no significant difference was found in terms of digital leadership (χ^2=3.874; p=0.422) and CSR (χ^2=4.116; p=0.392) variables (p>0.05). This result reveals that the age level of the participants does not have a determining effect on their perceptions of digital leadership and CSR. In other words, the perceptions of individuals in different age groups towards digital transformation processes and corporate social responsibility activities are at a similar level. Accordingly, hypothesis H7 is not accepted.

As a result of the Kruskal-Wallis test conducted according to the experience variable, significant differences were obtained in terms of both digital leadership (χ^2=15.872; p=0.001) and CSR (χ^2=13.945; p=0.003) variables (p<0.05). This finding shows that as participants' experience levels

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increase, significant differences emerge in their perceptions of digital leadership and corporate social responsibility. According to this result, hypothesis H8 is supported. Overall, the findings indicate that gender and age variables do not have a significant effect on perceptions of digital leadership and corporate social responsibility; however, experience level does create a significant difference. This suggests that experience level can be considered a factor that increases individuals' awareness of digital transformation and corporate social responsibility issues.

Table 6: Comparative statistics

Variable	Dimension	Test	Statistics	P
Gender	Digital Leadership CSR	Mann-Whitney U	12834.500 13021.500	,284 ,192
Age	Digital Leadership CSR	Kruskal-Wallis	3.874 4.116	,422 ,392
Experience	Digital Leadership CSR	Kruskal-Wallis	15.872 13.945	,001 ,003

Since the variables did not satisfy the normality assumption according to the Kolmogorov–Smirnov test results, non-parametric statistical techniques were preferred in the analysis process. Accordingly, Spearman rank correlation analysis was used to determine the direction and strength of the relationships between the variables. Spearman rank difference correlation analysis was used to determine the direction and strength of the relationships between the sub-dimensions of digital leadership and the perception of corporate social responsibility (CSR). The main reason for choosing this method is that the variables are measured with Likert-type scales and the assumptions of parametric tests are not fully met. Simple linear regression analysis was applied to test the effect of digital leadership on the perception of corporate social responsibility. Despite the non-normal distribution of the variables, linear regression analysis was conducted due to the relatively large sample size (n = 332), which reduces sensitivity to normality violations. The sample size in the analyses was 332, and the statistical significance level was accepted as $p<0.05$. As seen in Table 7, when the results of the Spearman correlation analysis are examined, it is determined that there are positive and statistically significant relationships between all sub-dimensions of digital leadership and the perception of corporate social responsibility. When the relationship between proactive leadership towards digital transformation processes and the perception of corporate social responsibility (CSR) was examined, a moderate and positive correlation was found between the two variables ($r = 0.611$, $p < 0.001$). This finding indicates that proactive

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leadership in digital transformation processes is positively associated with employees' CSR perceptions. Accordingly, hypothesis H1 is supported.

When the relationship between leadership focused on employee well-being and perceptions of corporate social responsibility in the digital transformation process was evaluated, a positive and statistically significant relationship was found between the two variables ($r=0.584$; $p<0.001$). The magnitude of the correlation coefficient reveals that leaders' approaches prioritizing employee well-being in the digital transformation process have a significant impact on employees' perceptions of corporate social responsibility. Based on these results, hypothesis H2 is accepted.

When the relationship between digital leadership focused on employee well-being and perceptions of corporate social responsibility (CSR) was examined, a positive and moderate correlation was found between the two variables ($r = 0.623$, $p < 0.001$). This finding indicates that leadership practices prioritizing employee well-being are positively associated with employees' CSR perceptions. Accordingly, hypothesis H3 is supported.

When the relationship between innovative visionary leadership and the perception of corporate social responsibility (CSR) was examined, a positive and moderate-to-high correlation was found between the two variables ($r = 0.657$, $p < 0.001$). This finding indicates that innovative and visionary leadership practices are positively associated with employees' CSR perceptions. Accordingly, hypothesis H4 is supported.

Table 7: Spearman Rank Difference Correlation Analysis

	Proactive Leadership in Digital Transformation Processes	**Digital Leadership Focused on Employee Well-being**	**Innovative Visionary Leadership**	**Digital Leadership Encouraging Participation in Social Responsibility Projects**	**Corporate Social Responsibility (CSR)**
Proactive Leadership in Digital Transformation Processes	1	,589**	,601**	,634**	,611**
Digital Leadership Focused on Employee Well-being	,589**	1	,612**	,628**	,584**
Innovative Visionary Leadership	,601**	,612**	1	,645**	,623**
Digital Leadership Encouraging	,634**	,628**	,645**	1	,657**

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Participation in Social Responsibility Projects					
Corporate Social Responsibility (CSR) Perception	,611**	,584**	,623**	,657**	1

N = 332, p <,010**

As shown in Table 8, a Simple Linear Regression Analysis was conducted to determine the effect of digital leadership on employees' perception of CSR. The results showed that the model was statistically significant ($F=341.657$, $p<0.001$). The coefficient of determination (R^2) of the model was found to be 0.468, indicating that the level of digital leadership explains approximately 46.8% of the variance in employees' perception of CSR. According to the analysis results, the B coefficient of the digital leadership variable is 0.684, which is positive and statistically significant ($p<0.001$). Although the findings demonstrate a strong association, the cross-sectional nature of the study limits causal interpretation.

This indicates that an increase in the level of digital leadership is positively associated with employees' perceptions of CSR. This finding reveals that the visionary and innovative management styles of digital leaders strengthen employees' CSR awareness. Furthermore, it parallels studies in the literature regarding the support of sustainability and social value creation processes by digital leadership (Avolio et al., 2014).

Table 8: Simple Linear Regression analysis

Variables	B coefficient	t value	p value
CSR perception	1.215	6.602	,000
Digital Leadership	,684	18.486	,000

$R= 0.684$, $R^2= 0.468$, Adjusted $R^2= 0.466$, $F= 341.657$

The findings of the Simple Linear Regression Analysis strongly support hypothesis H5: " Digital leadership encouraging participation in social responsibility projects is positively associated with CSR perception." The high explanatory power of the model ($R^2 = 0.468$) indicates that the digital leadership factor is one of the key determinants of CSR perception. The results show that digital leadership practices can be used as a strategic tool in improving organizational sustainability performance and developing employees' awareness of social responsibility.

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Table 9: Results of Hypotheses

Hypothesis	Status
H1: Digital leadership is positively associated with corporate social responsibility perception.	Accepted
H2: Proactive leadership in digital transformation processes is positively associated with CSR perception.	Accepted
H3: Digital leadership focused on employee well-being is positively associated with CSR perception.	Accepted
H4: Innovative visionary leadership is positively associated with CSR perception.	Accepted
H5: Digital leadership encouraging participation in social responsibility projects is positively associated with CSR perception.	Accepted
H6: CSR perception and digital leadership perceptions differ according to gender.	Rejected
Hypothesis	**Status**
H7: CSR perception and digital leadership perceptions differ according to age groups.	Rejected
H8: There is a statistically significant difference in digital leadership and corporate social responsibility (CSR) perceptions based on participants' professional experience levels.	Accepted

Results

This study examined the relationship between digital leadership and employees' perceptions of corporate social responsibility (CSR) in automotive supplier firms in Bursa, Türkiye. Data were collected from 332 white-collar employees. Since the variables did not satisfy the normality assumption ($p < 0.05$), non-parametric statistical methods were used in the analyses.

The reliability results indicated that both the Digital Leadership Scale ($\alpha = 0.865$) and the CSR Scale ($\alpha = 0.952$) had high internal consistency. In addition, factor loading and explained variance results supported the construct validity of the scales.

The demographic findings showed that gender and age did not create statistically significant differences in digital leadership and CSR perceptions. However, professional experience significantly affected both variables, indicating that more experienced employees tend to demonstrate stronger awareness regarding digital leadership and CSR practices.

Spearman correlation analysis revealed positive and statistically significant relationships between all dimensions of digital leadership and CSR perception. Among the dimensions, encouraging employee participation in social responsibility projects demonstrated the strongest relationship with CSR perception ($r = 0.657$, $p < 0.001$). Proactive leadership, employee well-being-oriented leadership, and innovative visionary leadership were also positively associated with CSR perception.

Simple linear regression analysis showed that digital leadership had a statistically significant positive effect on CSR perception ($\beta = 0.684$, $p <$

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0.001). The model explained approximately 46.8% of the variance in CSR perception ($R^2 = 0.468$). Overall, the findings indicate that digital leadership especially innovative, employee-focused, and participative leadership practices plays an important role in strengthening CSR perception and organizational sustainability awareness.

Discussion

This study examines the impact of digital leadership on corporate social responsibility (CSR) perception and the relationships between its sub-dimensions and CSR. The results show that all dimensions of digital leadership are positively and significantly related to CSR perception. In particular, "Digital leadership encouraging participation in social responsibility projects is positively associated with CSR perception." has the strongest correlation with CSR ($r = 0.657$; $p < 0.001$), indicating that encouraging employee involvement in social responsibility activities plays a key role in strengthening CSR awareness. Regression analysis also confirms that digital leadership has a significant effect on CSR perception, supporting H5.

These findings are consistent with both international and national literature, which emphasizes the role of digital leaders in promoting sustainability, employee adaptation, and stakeholder engagement. The study particularly highlights that digital leadership is effective not only in technological transformation but also in human-centered and socially responsible management practices. Unlike some previous studies focusing mainly on technical aspects of digital leadership, this research shows that employee participation in CSR practices has a stronger impact on CSR perception. This difference is likely due to the study's focus on the Turkish automotive supplier context.

Overall, the results demonstrate that digital leadership plays a crucial role in strengthening CSR perception and supporting sustainability-oriented organizational strategies at both national and international levels.

Conclusions

This study examined the relationship between digital leadership and employees' perceptions of corporate social responsibility (CSR) in automotive supplier firms in Bursa, Türkiye. The findings indicate that digital leadership is positively associated with CSR perception and contributes to employees' awareness of social responsibility within organizations. All sub-dimensions of digital leadership, proactive leadership in digital transformation, employee well-being-oriented leadership, innovative visionary leadership, and encouragement of participation in social responsibility projects demonstrated positive and statistically significant relationships with CSR perception.

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Among these dimensions, encouraging employee participation in social responsibility activities showed the strongest association with CSR perception.

The regression analysis findings further suggest that higher levels of digital leadership are associated with stronger CSR perceptions among employees. These results imply that digital leadership may contribute not only to technological transformation processes but also to organizational sustainability awareness and socially responsible management practices.

Regarding demographic findings, gender and age did not create statistically significant differences in digital leadership and CSR perceptions, whereas professional experience was found to be associated with stronger perceptions of both concepts. This suggests that more experienced employees may demonstrate greater awareness regarding digital transformation and corporate social responsibility practices.

Overall, the findings highlight the potential importance of integrating employee-centered and socially responsible leadership approaches into digital transformation processes. In addition, the study contributes to the existing literature by providing empirical evidence from a developing country context. However, since the research is based on cross-sectional survey data collected from a specific organizational setting, the findings should be interpreted within the framework of associations rather than definitive causal relationships. Future studies conducted in different sectors and with longitudinal research designs may provide a broader understanding of the relationship between digital leadership and CSR perception.

Author's Note: This study is adapted from the MBA thesis titled *The Impact of Digital Leadership on Corporate Social Responsibility: A Research in Bursa, Bursa Technical University*, Institute of Postgraduate Education.

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