








“Transformational leadership and corporate social responsibility: The mediating role of digital transformation”

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ARTICLE INFO	Luis Alberto Geraldo-Campos, Pedro Luis Mascaro-Canales, Eulalia-Elizabeth Salas-Tenesaca and Pedro Leonardo Tito-Huamani (2025). Transformational leadership and corporate social responsibility: The mediating role of digital transformation. <i>Problems and Perspectives in Management</i> , 23(3), 751-765. doi: 10.21511/ppm.23(3).2025.53
DOI	http://dx.doi.org/10.21511/ppm.23(3).2025.53
RELEASED ON	Monday, 29 September 2025
RECEIVED ON	Saturday, 15 March 2025
ACCEPTED ON	Monday, 08 September 2025
LICENSE	 This work is licensed under a Creative Commons Attribution 4.0 International License
JOURNAL	"Problems and Perspectives in Management"
ISSN PRINT	1727-7051
ISSN ONLINE	1810-5467
PUBLISHER	LLC “Consulting Publishing Company “Business Perspectives”
FOUNDER	LLC “Consulting Publishing Company “Business Perspectives”



NUMBER OF REFERENCES

75



NUMBER OF FIGURES

2



NUMBER OF TABLES

5

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BUSINESS PERSPECTIVES



LLC "CPC "Business Perspectives"
Hryhorii Skovoroda lane, 10,
Sumy, 40022, Ukraine
www.businessperspectives.org

Type of the article: Research Article

Received on: 15th of March, 2025
Accepted on: 8th of September, 2025
Published on: 29th of September, 2025

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Conflict of interest statement:
Author(s) reported no conflict of interest

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TRANSFORMATIONAL LEADERSHIP AND CORPORATE SOCIAL RESPONSIBILITY: THE MEDIATING ROLE OF DIGITAL TRANSFORMATION

Abstract

In this postmodern world, corporate social responsibility and digital transformation are essential elements in organizations and require adequate leadership to achieve meaningful results. The main objective of this study was to analyze the mediating role of digital transformation in the relationship between transformational leadership and corporate social responsibility. A quantitative methodological strategy with a multivariate cross-sectional design was used, surveying 337 employees with staff under their command located in companies belonging to the three geographical regions of Peru, of which only 250 questionnaires were valid. The results found significant causal correlations between corporate social responsibility, transformational leadership, and digital transformation. Mediation analysis revealed that digital transformation plays a mediating role between the causal relationship of transformational leadership and corporate social responsibility. Therefore, companies that want a digital transformation with corporate social responsibility must seek transformational leadership appropriate for this transition.

Keywords

transformational leadership, corporate social
responsibility, digital transformation, mediation,
multivariate

JEL Classification

M14, M12, D23

INTRODUCTION

Digital transformation is generating rapid changes, affecting all types of organizations in unprecedented ways. That is why it is urgent to introduce digital transformation under leadership with similar characteristics, such as transformational leadership, together with corporate social responsibility (CSR). Digital transformation is particularly studied from the perspectives of information technology and strategic management, where transformational leadership is most relevant to those involved in creating a new vision and implementing digital transformation (Philip, 2021).

Various studies conducted in China have shown that digitizing processes and adopting advanced technologies not only optimize business performance but also drive sustainability and the implementation of CSR practices (Chen et al., 2025; Meng et al., 2022; Nie et al., 2024). In this sense, digital transformation can act as a catalyst that amplifies the effects of transformational leadership and CSR, as it is difficult to conceive of a successful digitization process without visionary and guiding leadership (Allen et al., 2017; Ly, 2023). Furthermore, in particular contexts with historical and survey data, it has been shown that

digital transformation can mediate the relationship between technological innovation and sustainable competitiveness, enhancing the positive impact of CSR on organizational performance (Wu et al., 2024; Zhong & Ren, 2023), while in an extensive literature review study, the authors highlight that, although digitization positively influences CSR strategies, further exploration of the conditions that explain this relationship is necessary (Diab & Nasr, 2023).

In Latin America, particularly in Mexico and Brazil, the effect of transformational leadership on digital transformation has been demonstrated, while CSR favors its adoption (Cuevas-Vargas, 2025; Seelent et al., 2025). In Peru, however, ensuring digital equity through the National Digital Transformation Policy for the benefit of citizens depends on the joint efforts of government actors and private companies (Chocobar, 2022). However, the relationship between these constructs has not been studied jointly, nor has the mediating role of digital transformation been sufficiently explored, despite its growing relevance. In view of this, this study aims to analyze how digital transformation can act as a mediating variable in the relationship between transformational leadership and CSR. Through an empirical approach with cross-sectional data, it seeks to offer a deeper understanding of how digitization can enhance CSR practices and strengthen the impact of transformational leadership. In this regard, we seek to answer the following research question: How can digital transformation act as a mediator in the relationship between transformational leadership and corporate social responsibility?

1. LITERATURE REVIEW AND HYPOTHESES

Leadership is a fundamental element of organizational values and belief systems. Therefore, an organization must adapt or change over time, and leadership must do so as well (Biggart & Hamilton, 1987). Leaders or managers often possess inherent leadership skills and, over time, learn certain skills to deal with challenges and obstacles (Alshihabat & Atan, 2020). There are different types of leadership (Eagly et al., 2003). For Geraldo-Campos et al. (2020), the most important are those that guide the behavior of leaders and are more concerned with people and the organization's objectives. This study focuses particularly on transformational leadership, as these leaders have the ability to inspire, motivate, and transform their followers through their actions and words, allowing them to recognize the importance and purpose of their work (Bass, 1985; Gun et al., 2024).

This type of leadership emphasizes a transformative vision, effective communication, innovation, adaptability, honesty, and integrity, as these qualities foster a positive and collaborative work environment, leading to greater creativity and efficiency within the organization (Malik et al., 2025; Marcel et al., 2024). Supervisors with transformational leadership influence evaluation, performance, and job self-efficacy (Matsunaga, 2021),

which is why it is important to incorporate behavioral elements linked to leadership that contribute to the digital transformation process (Philip, 2021). A transformational leader can create an environment that fosters employee work engagement (Winasis et al., 2021), and in contexts of uncertainty, this type of leadership is crucial for driving innovation in digital businesses, facilitating the preparation of the company, and developing dynamic technological capabilities (Montasser et al., 2023). An adaptive organizational culture can strengthen the positive impact of transformational leadership, particularly in the adoption of e-business practices (Alos-Simo et al., 2017), due to the fact that culture is an adaptive mechanism in which leaders play an important role by guiding employees toward change and action (Costanza et al., 2016).

In this sense, transformational leadership is crucial in promoting agile learning and the adoption of digital technological innovations (Chang & Octoyuda, 2024). It also encourages responsible environmental practices among employees in the context of green digital transformation (Alabdali et al., 2024). Likewise, in the public sector, digital transformational leadership drives digital transformation through organizational agility (Ly, 2023), highlighting the need to align organizational models to adapt to technological changes, in which transformational leadership is aligned with

employee self-efficacy (Gun et al., 2024), organizational support, strengthening digital capacity, and employee adaptability, all of which support digital transformation (Nurhayati et al., 2024).

Digital transformation consists of certain key dimensions such as value creation, value proposition, customer interaction, digital capabilities, organizational culture, cybersecurity, financial investments and operations, as well as partnerships and collaborations. They all focus on creating networks and strategic alliances to drive digitization (Gençer et al., 2025; Gurbaxani & Dunkle, 2019; Khalayleh et al., 2024; Malik et al., 2025; Pousttchi et al., 2019). Based on these key concepts, digital transformation refers to the integration of digital technologies in all areas of a company, fundamentally changing how it operates and delivers value to its customers. This process is accompanied by automation and business reinvention (Elia et al., 2024; Geada, 2021; Paiithannkar & Alexander, 2024).

The intersection between transformational leadership and digital transformation consists of several key components. First, company leaders must have a transformative vision, that is, they must have a clear and compelling vision of the company's digital future (Malik et al., 2025; Philip, 2021). Second, they must be innovative and adaptable, which can be achieved by fostering a culture of innovation and adaptability to respond to the technological changes to which they are exposed (Khalayleh et al., 2024; Malik et al., 2025). Third, they must have effective communication, which involves maintaining open and effective communication to align all members of the organization with the objectives of digital transformation (Khalayleh et al., 2024). To this end, and as a fourth point, organizational support must be in place. Therefore, sufficient support must be provided for employees to develop digital skills and adapt to new technologies. This will enable them to develop technological competencies within the organization, facilitating digital transformation (Gurbaxani & Dunkle, 2019; Nurhayati et al., 2024; Tripathy, 2019).

Digital transformation is also a key component in driving and contributing to the success of corporate social responsibility (CSR) strategies (Diab & Nasr, 2023; Sun et al., 2024; Xu et al., 2023). By

encouraging compliance with corporate social responsibility, digital transformation has the potential to promote the growth of high-quality companies (Sun & Fang, 2023), generate business innovation (Tuyen et al., 2023), and improve the effectiveness of digital transformation and vice versa (Na et al., 2022; Zhong & Ren, 2023).

CSR refers to the social and ethical responsibilities that companies must fulfill in their business activities. This concept has changed since its inception in the 1950s and now consists of three main aspects: economic, social, and environmental (Falcó et al., 2022; Nasrullah & Rahim, 2014). The first component involves the efficient management of resources to generate sustainable and competitive benefits. The second component focuses on the well-being of employees, customers, the community, and other groups affected by the company's operations. Finally, the third component focuses on minimizing environmental impact and promoting sustainable practices both within and outside the company (Boas & Machado, 2024; Falcó et al., 2022; Gallardo-Vázquez, 2025).

In this context, digital transformation has become a strategic ally for corporate social responsibility (Diab & Nasr, 2023), and its performance depends on digital transformation, which improves innovation in green management. Furthermore, its scope depends largely on the resources available and the institutional context in which organizations operate (Sun et al., 2024). The practice of CSR facilitates the promotion of digital transformation by improving the human and technological resources of the company, a relevant aspect in small and medium-sized enterprises and non-state-owned companies (Nie et al., 2024). In this process, the leadership of CEOs with technological skills who increase investment in research and development and CSR contributes most to accelerating digital transformation (Zhu et al., 2024). However, a long-term study of 468 companies revealed that digital transformation and CSR have a bidirectional relationship and that economic policy uncertainty weakens their effect (Huang & Shen, 2024). Thus, CSR not only contributes directly to digital transformation but also enhances innovation linked to green technologies, consolidating the connection between sustainability and digitization.

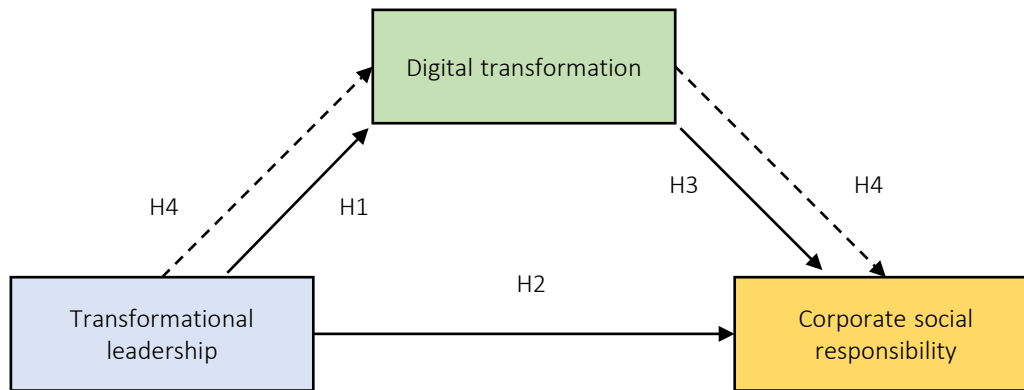


Figure 1. Hypothetical mediation model

Transformational leadership can help in sustainability practices, and its effect is amplified when it incorporates ecological practices and green innovation, given that this leadership style enhances work performance and finds CSR to be a key mediator of this relationship (Hussain et al., 2022; Moin et al., 2024; Niazi et al., 2023). Authentic transformational leadership is a driver of strategic CSR activities (Heiser, 2016), and the beliefs of corporate social responsibility followers partially mediate the relationship, along with the additional effort of followers (Groves & LaRocca, 2012). Among workers in the hotel industry, green transformational leadership intensifies the relationship between CSR and task performance (Moin et al., 2024). Similarly, a study of employees in leadership positions revealed that transformational leadership strengthens the link between green human resource management and CSR (Taamneh et al., 2025).

Digital transformation in Latin America is also establishing itself as a key driver of growth for emerging companies (Cuevas-Vargas, 2025). Peru, in particular, has begun a process of digitization through its National Digital Transformation Policy, which depends on serious commitments from the government, civil society, academia, and the private sector to strengthen a digitized country in the midst of globalization (Chocobar, 2022). Its progress will depend on transformational leadership. To paraphrase Alieva and Powell (2022), in the private sector in particular, it will be the responsibility of senior management, middle management, employee education, and professional work engagement. In this sense, transformational leadership influences CSR and employee performance, where CSR serves as an important mediat-

ing factor in the relationship between these latent constructs (Jnaneswar & Ranjit, 2020).

This exhaustive review of the literature revealed the link between transformational leadership and digital transformation and corporate social responsibility. It also found a bidirectional relationship between digital transformation and corporate social responsibility (Huang & Shen, 2024). However, no evidence was found of the mediating role that digital transformation may play in this relationship. Therefore, this study sought to analyze the mediating role that digital transformation plays in this relationship. To this end, Figure 1 proposes a theoretical mediation model, from which four hypotheses are derived:

- H1: *Transformational leadership influences digital transformation.*
- H2: *Digital transformation influences corporate social responsibility.*
- H3: *Transformational leadership influences corporate social responsibility.*
- H4: *Digital transformation plays a mediating role in the causal relationship between transformational leadership and corporate social responsibility.*

2. METHOD

This study used a quantitative approach based on a multivariate cross-sectional design (Hahs-Vaughn, 2017; Hair et al., 2018; Strang, 2015). The

aim is to collect information from employees with staff under their leadership in companies located in three geographical regions of Peru (coast, highlands, and jungle), in order to seek representation of employees at the national level. In this regard, opting for a cross-sectional survey study, under a non-probabilistic convenience sampling (Gupta, 2020), the questionnaire was shared with 337 employees who had staff under their supervision via email, WhatsApp groups, and Facebook, and was available online from May 22 to August 12, 2023. Of these, 81 participants did not have staff under their supervision, and one person did not provide informed consent. Data quality control was then carried out, identifying five respondents with extreme and atypical values, so it was decided to exclude them from the analysis. Finally, a sample of 250 employees who gave their informed consent, had staff under their supervision, and were actively working was obtained, reaching a final response rate of 74.18%, a recommended sample size for a simple mediation model with three variables (Sim et al., 2022).

Table 1 shows the characteristics of the sample according to gender with dependent employment, revealing that 20.4% of respondents are men over 50, followed by 19.2% of women between 18 and 25. It should be noted that in Peru, a person is considered an adult from the age of 18. Another important fact to highlight is that 25.2% have postgraduate studies as their highest level of education, followed by 17.6% of women with university studies. It should also be noted that 40.4% of men and 38% of women surveyed live in the coastal region, while only 4% are from the jungle region, which means they are under-represented in this study.

Table 1. Sample characteristics

Variables	Categories	Gender	Frequencies	%
Age	18 to 25 years	Female	48	19.2%
		Male	26	10.4%
	26 to 35 years	Female	39	15.6%
		Male	19	7.6%
	36 to 40 years	Female	9	3.6%
		Male	13	5.2%
	41 to 50 years	Female	14	5.6%
		Male	16	6.4%
	More than 50 years	Female	15	6.0%
		Male	51	20.4%

Variables	Categories	Gender	Frequencies	%
Highest level of education attained	University Studies	Female	44	17.6%
		Male	27	10.8%
	Completed secondary education	Female	15	6.0%
		Male	5	2.0%
	Higher non-university technician	Female	3	1.2%
		Male	3	1.2%
	Postgraduate	Female	28	11.2%
		Male	63	25.2%
	Professional degree	Female	35	14.0%
		Male	27	10.8%
Geographic region	Coast	Female	101	40.4%
		Male	95	38.0%
	Jungle	Female	2	0.8%
		Male	8	3.2%
	Highlands	Female	22	8.8%
		Male	22	8.8%

Three scales measuring transformational leadership, digital transformation, and corporate social responsibility in actively employed workers were considered. To measure transformational leadership, the Transformational Leadership Scale developed by Vargas et al. (2016) was used, consisting of 16 items (e.g., He/she suggests new ways for me to do my job), distributed across four dimensions (charisma, inspiration, intellectual stimulation, and individualized consideration), with a content validity index of 0.75. Responses were given on a 5-point scale (never, rarely, sometimes, often, and always).

Digital transformation was measured using the scale developed by Castro et al. (2022), which consists of 24 items (e.g., The company has data security and protection in place, complying with current regulations) distributed across four factors (organizational perspective, social perspective, technological perspective, and physical infrastructure), with an Aiken content validity of 0.91. Responses were given on a 5-point scale, where 1 equals no degree and 5 equals a very high degree.

The corporate social responsibility (CSR) scale was developed by Gallardo-Vázquez et al. (2013) based on previous literature, and consists of 20 items (e.g., We care about improving the quality of life of employees), distributed across three factors (social, economic, and environmental) with a composite Cronbach's alpha reliability greater than 0.79. Responses were given on a 5-point scale, ranging from 1 (strongly disagree) to 5 (strongly agree).

To determine the mediation model, digital transformation was considered as a mediating variable, whose mediation allows explaining the effect of the independent variable on the dependent variable (Gallucci, n.d.; Sim et al., 2022). Prior to the mediation analysis, descriptive, reliability, and correlation statistics were used, and the internal structure of the instruments was explored using confirmatory factor analysis (measurement model), which revealed the internal structure of the instrument (Hair et al., 2018, 2021; Morata-Ramírez et al., 2015; Yang-Wallentin et al., 2010).

Taking into account the previous results and knowing that each item contained adequate lambda (λ) in all measures, the scores were totaled to perform the mediation analysis and descriptive statistics for each of the variables. All analyses were performed using Jamovi software, version 2.3.26, which uses the R programming language (R Core Team, n.d.; The Jamovi project, n.d.), including mediation analyses (Gallucci, n.d.).

3. RESULTS

Table 2 and Figure 2 show the factorial results of all indicators for each of the variables. Transformational leadership, digital transformation, and corporate social responsibility have adequate factorial weights ($\lambda > 5$), very good ω and α coefficients that show adequate internal consistency of the items for each of these constructs. In addition, an adequate average extracted variance (AVE) is observed ($AVE > 0.5$), so that each construct captures a large amount of variance given the measurement error (Fornell & Larcker, 1981). It can also be seen that transformational leadership and digital transformation are measured in a unifactorial manner, as shown in the path diagram (a and b). However, two factors were identified by the RSC in the EFA (Exploratory Factor Analysis) and confirmed by the CFA (Confirmatory Factor Analysis), as shown in the path diagram (c), both of which are highly correlated with a significant value of 0.82. These factors have a high reliability coefficient, and the total alpha coefficient is 0.968, which means that the items of both factors measure the same latent construct, demonstrating high internal consistency of the items.

Table 2. Factor analysis

Variables	Items	λ	U	ω	α	AVE
Transformational leadership	TL1	0.770	0.407	0.967	0.972	0.686
	TL2	0.800	0.360			
	TL3	0.828	0.314			
	TL4	0.877	0.231			
	TL5	0.845	0.287			
	TL6	0.896	0.197			
	TL7	0.870	0.244			
	TL8	0.794	0.370			
	TL9	0.832	0.307			
	TL10	0.841	0.292			
	TL11	0.871	0.242			
	TL12	0.879	0.227			
	TL13	0.844	0.287			
	TL14	0.832	0.308			
	TL15	0.747	0.442			
	TL16	0.767	0.412			
Digital transformation	DT1	0.799	0.361	0.969	0.979	0.655
	DT2	0.794	0.369			
	DT3	0.817	0.333			
	DT4	0.826	0.319			
	DT5	0.811	0.343			
	DT6	0.822	0.324			
	DT7	0.877	0.232			
	DT8	0.780	0.392			
	DT9	0.835	0.303			
	DT10	0.771	0.406			
	DT11	0.834	0.305			
	DT12	0.796	0.367			
	DT13	0.794	0.370			
	DT14	0.803	0.356			
	DT15	0.845	0.286			
	DT16	0.874	0.236			
DT17	0.863	0.254				
DT18	0.868	0.247				
DT19	0.781	0.390				
DT20	0.766	0.413				
DT21	0.829	0.313				
DT22	0.814	0.338				
DT23	0.839	0.296				
DT24	0.726	0.473				
Corporate social responsibility ($\alpha = 0.968$)	CSR1	0.790	0.264	0.948	0.960	0.664
	CSR2	0.683	0.486			
	CSR3	0.884	0.309			
	CSR4	0.803	0.271			
	CSR5	0.771	0.352			
	CSR6	0.829	0.259			
	CSR7	0.751	0.320			
	CSR8	0.825	0.274			
	CSR9	0.800	0.345			
	CSR10	0.790	0.379			
	CSR11	0.738	0.364			
	CSR12	0.704	0.292			
	CSR13	0.557	0.412			
	CSR14	0.715	0.367			
	CSR15	0.581	0.448			
	CSR16	0.746	0.291			
CSR17	0.861	0.211	0.925	0.937	0.648	
CSR18	0.748	0.405				
CSR19	0.964	0.207				
CSR20	0.809	0.384				

Note: Applied rotation method is Promax. U = Uniqueness; λ = Loadings, ω = Coefficient, α = Cronbach's alpha, AVE = Average Variance Extracted.

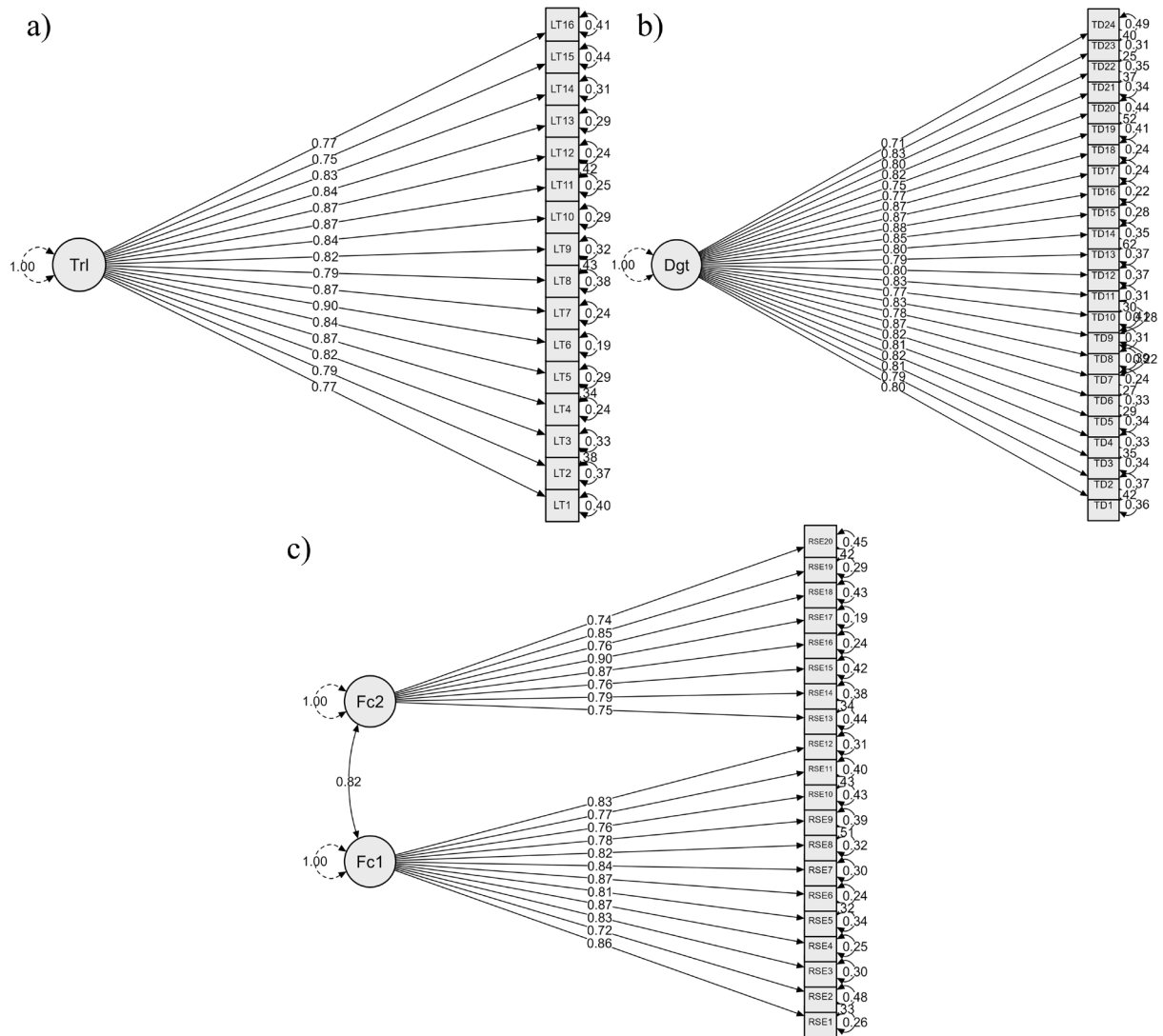


Figure 2. Confirmatory factor analysis path diagram

Table 3 shows the results of the mean, standard deviation, minimum, and maximum response values, as well as asymmetry and kurtosis; the average level of transformational leadership was 3.71 (SD = 1.08). It can also be seen that the levels of digital transformation and corporate social responsibility were 3.40 (SD = 1.09) and 3.54 (SD=1.08), respectively. However, the values for skewness and kurtosis for transformational leadership, digital transformation, and corporate social responsibility ranged between -1 and +1, meaning that the data are normally distributed, unlike the geographic region, which ranges between +1 and +3.

Pearson’s correlation coefficients are significant between the transformational leadership, digital transformation, and corporate social responsibility

variables, except for gender and geographic region, which did not show significant correlations with the variables. Transformational leadership was positively correlated with digital transformation ($r = 0.567, p < 0.001$) and corporate social responsibility ($r = 0.579, p < 0.001$). Similarly, digital transformation was positively correlated with corporate social responsibility ($r = 0.809, p < 0.001$). These results suggest the feasibility of a mediation study to analyze the role of digital transformation in the causal relationship between transformational leadership and corporate social responsibility.

Table 4 illustrates the mediating effect of digital transformation on the relationship between transformational leadership and corporate social responsibility. The mediation analysis shows that

Table 3. Descriptive values, reliability, and correlation

Variable	M	SD	Min	Max	Correlation								
					Sk	Ku	G	H	GR	TL	DT	CSR	
G	1.50	0.50	1.00	2.00	0.00	-2.02	1.00	-	-	-	-	-	-
H	3.79	1.19	1.00	5.00	-0.82	-0.01	0.28	1.00	-	-	-	-	-
GR	1.26	0.52	1.00	3.00	1.94	2.92	0.09	0.18	1.00	-	-	-	-
TL	3.71	1.08	1	5	-0.56	-0.36	-0.12	-0.23	-0.07	1	-	-	-
DT	3.40	1.09	1	5	-0.30	-0.64	-0.03	-0.25	-0.11	0.567	1	-	-
CSR	3.54	1.08	1	5	-0.43	-0.42	-0.06	-0.21	-0.10	0.579	0.809	1	-

Note: g = gender, H = Highest level of education attained, GR = Geographical region, TL = Transformational Leadership, DT = Digital Transformation, CSR = Corporate Social Responsibility; M = Mean; SD = Standard deviation; Min = Minimum; Max = Maximum; Sk = Skewness; Ku = Kurtosis.

transformational leadership has a positive and significant effect on digital transformation ($\beta_1 = 0.567$, 95% CI [0.687, 0.990], $p < 0.001$), and digital transformation also has a positive and significant effect on corporate social responsibility ($\beta_1 = 0.709$, 95% CI [0.494, 0.630], $p < 0.001$). A direct effect of transformational leadership on corporate social responsibility is observed, which decreases after controlling for the effect of digital transformation ($\beta_1 = 0.177$, 95% CI [0.108, 0.309], $p < 0.001$), compared to the total effect ($\beta_1 = 0.579$, 95% CI [0.561, 0.798], $p < 0.001$). Furthermore, the indirect mediating effect through digital transformation was highly significant ($\beta_1 = 0.402$, 95% CI [0.369, 0.574], $p < 0.001$), indicating that digital transformation partially mediates the relationship between transformational leadership and corporate social responsibility among employees, par-

ticularly those located in Peru’s coastal region due to their greater representativeness. Therefore, the mediating role of digital transformation enhanced the level of corporate social responsibility. In this sense, the results allowed us to verify all the hypotheses proposed in this research (Table 5).

4. DISCUSSION

This study focused on the role of digital transformation as a mediating variable in the causal relationship between transformational leadership and corporate social responsibility. The results showed that the variables have a significantly positive correlation. This result is consistent with previous research, such as that of Özkan Alakaş (2024), who found this positive link, where digital strategy

Table 4. Mediating effect

Type	Effect	e	SE	95% C.I. (a)		β_1	z	p
				Lower	Upper			
Indirect	Transformational Leadership → Digital Transformation → Corporate Social Responsibility	0.471	0.0522	0.369	0.574	0.402	9.03	<.001
Component	Transformational Leadership → Digital Transformation	0.839	0.0771	0.687	0.990	0.567	10.87	<.001
	Digital Transformation → Corporate Social Responsibility	0.562	0.0346	0.494	0.630	0.709	16.23	<.001
Direct	Transformational Leadership → Corporate Social Responsibility	0.208	0.0513	0.108	0.309	0.177	4.06	<.001
Total	Transformational Leadership → Corporate Social Responsibility	0.68	0.0606	0.561	0.798	0.579	11.21	<.001

Note: Confidence intervals computed with method: Standard (Delta method); e = Estimate; β_1 = Beta regression coefficient (Betas are completely standardized effect sizes); SE = Standard error.

Table 5. Hypothesis testing

N°	Description of the hypothesis	Decision on the hypothesis
H1	Transformational leadership influences digital transformation.	Accepted
H2	Digital transformation influences corporate social responsibility.	Accepted
H3	Transformational leadership influences corporate social responsibility.	Accepted
H4	Digital transformation plays a mediating role in the causal relationship between transformational leadership and corporate social responsibility.	Accepted

plays an important mediating role in this relationship. In addition, transformational leadership influences digital transformation. In this regard, they confirm what has already been mentioned in previous studies by pointing out that digital transformation influences senior management leadership, as well as the participation of middle management, and its relationship is mediated by organizational agility. Therefore, organizational agility is fundamental to digital transformation (Alieva & Powell, 2022; Ly, 2023). However, uncertainty affects digital transformation, but the latter has a positive effect on evaluation, self-efficacy, and job performance; nevertheless, transformational leadership moderates the impact of uncertainty. Therefore, transformational leadership is necessary to effectively influence a digital business model through strategic organizational planning and advanced information technology skills. Added to this is an appropriate climate generated by the transformational leader, which will have positive effects on employee work engagement (Matsunaga, 2021; Montasser et al., 2023; Winasis et al., 2021).

Transformational leadership was found to have a positive and significant influence on corporate social responsibility. These findings are consistent with previous studies suggesting that transformational leadership can promote ecological human resource management in corporate social responsibility (Niazi et al., 2023) and related activities (Heiser, 2016). However, transformational ecological leadership is related to task performance; in contrast, corporate social responsibility mediates the relationship between transformational ecological leadership and performance (Moin et al., 2024). Therefore, corporate social responsibility will particularly depend on transformational leadership with an ecological vision and a human touch.

Furthermore, the results confirm that digital transformation has a positive and significant influence on corporate social responsibility. These results are consistent with previous studies that found that digitization impacts corporate social responsibility (Xu et al., 2023), making transformation an important strategic ally for CSR (Diab & Nasr, 2023). Its impact depends on the resources available and the context of the companies (Sun et al., 2024), which leads to the growth of high-

quality companies with business innovation (Sun & Fang, 2023; Tuyen et al., 2023). Therefore, a company must have sufficient resources to carry out its implementation of digital transformation, which will contribute significantly to effective corporate social responsibility activities, without forgetting the bidirectional relationship that CSR has on digital transformation (Huang & Shen, 2024), as CSR improves the effectiveness of digital transformation (Zhong & Ren, 2023). Furthermore, the results are partially consistent, as it was found that the digital transformation of value chains can improve CSR performance; therefore, digital transformation must be optimized and integrated to achieve social responsibility values that coincide with the value chain (Na et al., 2022).

Finally, digital transformation plays a mediating role in the relationship between transformational leadership and corporate social responsibility. This important finding is partly consistent with previous studies, which indicate that digital transformation is an agent that can improve product and process innovation, with corporate social responsibility playing a moderating role in this relationship. Furthermore, leadership in a context of digital transformation and organizational agility has beneficial effects on digital transformation (Mohammed et al., 2022; Wang & Yan, 2023). In this sense, managers can enhance their companies' performance during the digital transformation process by implementing leadership development programs that align with digital transformation. However, the type of leadership will determine the success of digital transformation (Hung et al., 2023; Mohammed et al., 2022; Wang et al., 2023). In this sense, effective transformational leadership will have an effect on social responsibility activities, which is significantly mediated by the proper implementation or transition of digital transformation.

The findings have practical organizational implications. Therefore, in order to achieve digital transformation, it is important for companies to have strong transformational leaders who can effectively guide them through the digitization process. However, if leadership is not transformational, it is essential to train these leaders to develop a vision focused on digitization. In addition, this study emphasizes that transforma-

tional leaders should not only focus on technology but also integrate corporate social responsibility (CSR) into their management strategy. In this way, transformational leadership enables a company to advance its digitization with a clear focus on CSR, ensuring that both areas complement and enhance one another.

Another practical issue arising from the mediating role of digital transformation in the relationship between transformational leadership and CSR is that companies, through their leaders, managers, and investors, must guide and drive digital transformation based on transformational leadership that contributes to establishing improvement strategies related to CSR.

Digital transformation plays an important role in CSR; that is, organizations must focus on digital transformation, inherently generating CSR and engaging stakeholders through appropriate transformational leadership, enabling them to achieve the organization's strategic objectives. Finally, this paper attempts to bridge the gap in the mediating role played by digital transformation. However, this link must continue to be explored in companies in certain sectors, particularly those companies that are in the process of transition. Therefore, future research should explore the relationship between these concepts and add variables such as business performance, financing of digital transformation, and the effect of innovation.

CONCLUSION

The objective of the study was to analyze the mediating role of digital transformation in the relationship between transformational leadership and corporate social responsibility in Peruvian workers with staff under their supervision. The findings indicate that achieving adequate digital transformation requires investment and the implementation of clear policies shared with company staff, which will depend on senior management and all the agents involved. However, confirmation of the influence of transformational leadership on digital transformation makes it more dependent. Therefore, those who run the company must have this type of leadership and maintain organizational agility, which is essential for successful digital transformation. However, in contexts of uncertainty, transformational leadership can moderate its negative impact by strengthening organizational planning and technological skills, creating an environment that improves employee work engagement and performance.

Transformational leadership has a positive and significant influence on corporate social responsibility. This type of leadership can promote responsible and sustainable practices, such as green human resource management, in which CSR can act as a mediator between transformational leadership and employee performance, linking innovation, green capacity, and environmental strategy with better organizational results. It is also confirmed that digital transformation has a positive and significant influence on corporate social responsibility, facilitating its implementation and effectiveness within organizations. Digitization not only drives the adoption of responsible practices but also improves innovation, productivity, and internal management, contributing to CSR compliance. In addition, CSR can enhance the effects of digital transformation in terms of organizational performance and sustainability, as integrating and optimizing digital transformation is crucial to strengthening CSR practices throughout the value chain.

Finally, digital transformation plays an important mediating role in the causal relationship between transformational leadership and corporate social responsibility. This means that digital transformation not only facilitates innovation in products and processes but also reinforces the positive impact of transformational leadership on the adoption of CSR practices. This allows us to specify that the right combination of transformational leadership and digital strategies can enhance organizational performance, highlighting the importance of leadership style for the success of digital transformation, particularly in companies in emerging economies such as Peru.

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ACKNOWLEDGMENT

A special thanks to the National University of San Marcos for approving this research project under the Non-Funded Projects competition, with Research Project No. 11 approved by Dean's Resolution No. 001111-2022-D-FCA/UNMSM on July 13, 2022.

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