

Can transformational leadership eliminate the negativity of technostress? Insights from the logistic industry

Dönüşümcü liderlik teknostresin olumsuz etkilerini azaltabilir mi? Lojistik sektöründe bir araştırma

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Abstract

This paper aims to reveal the relationship between transformational leadership and technostress. Quantitative research methods were adopted to determine the relationship. The model was examined using partial least squares based structural equation modelling using data from 334 employees working in logistics companies operating in Malatya. The findings of the research illustrate that transformational leadership behaviour affects technostress negatively. In other words, individuals who have transformational leaders face less technostress than others. Since limited papers discuss these variables together, it is expected that the study may be helpful, especially for the logistic industry, due to the results of the relationship.

Keywords: Transformational Leadership, Technostress, Logistic

Jel Codes: M10, O33, N70

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Öz

Bu çalışmanın amacı, dönüşümcü liderlik ile teknostres arasındaki ilişkiyi ortaya çıkarmaktır. Araştırmada söz konusu değişkenler arasındaki ilişkiyi belirlemek amacıyla kantitatif araştırma yöntemleri kullanılmıştır. Analiz aşamasında, Malatya ilindeki lojistik şirketlerinde görev yapan 334 çalışandan elde edilen veriler Kısmi En Küçük Kareler yöntemiyle Yapısal Eşitlik Modeli kurularak test edilmiştir. Araştırmanın bulgularına göre, dönüşümcü liderlik davranışı teknostrese negatif yönde etki etmektedir. Başka bir ifadeyle, dönüşümcü liderler tarafından yönetilen bireylerde teknostresin gözlenme oranı daha düşüktür. Bu çalışmanın, söz konusu iki değişkeni birlikte inceleyen kısıtlı sayıda araştırma olması sebebiyle özellikle lojistik sektörüne faydalı olacağı tahmin edilmektedir.

Anahtar Kelimeler: Dönüşümcü Liderlik, Teknostres, Lojistik

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Introduction

According to Dwight David Eisenhower, the former president of the United States, "Leadership is the art of getting someone else to do something you want to be done because he wants to do it." (Larson, 1968: 21). There are many definitions of leadership, but almost none of these mentions the ethical values, concepts or virtue that should be possessed. Nowadays, the meaning of leadership has changed, and it has stated that the power needed to create a positive and desirable organizational vision depends on the leader's capacity (Gomes, 2014: 3; Bass & Stogdill, 1990: 814).

Today, change and its successful management have become one of the most critical priorities of organizations. Because, regardless of the field, all organisations' common problem is rapidly changing developments and high turnover ratios. Moreover, change is happening everywhere in a fast and complex manner, and perhaps it brings many opportunities to us (Alqatawenh, 2018: 17). Only influential leaders can realize changes and adaptations which organizations need (Hırlak & Kara, 2018: 255). That is why employees want to go after the leaders they can trust, find success, and have leadership characteristics (Michael, 2008: 48). The leader, who will realize the transformation organization needed, adapt to changing environmental conditions and unite the followers around common organizational goals, is the transformational leader.

On the other hand, especially in the last century, technology has completely changed the world and has made people think they cannot do without it anymore. Thus, digital technology, a sub-branch of technology, integrated our lives with the development of the internet, made a great contribution to the development of humanity, and caused organizations to cling tightly to the digital world. According to Web 2.0 and social media development, dramatic changes have occurred in this process, and people have become either writers or readers (Chiappetta, 2017: 358).

Technology, which allows us to work more comfortable and flexible, brings some drawbacks with it, either. These problems are mostly related to the inadequacy of technology and the inability to keep up with its development. In light of these adverse technological developments, a new concept called technostress has been introduced. According to Arnetz and Wiholm (1997: 36), technostress is a state of negative influence observed in some employees working with computers.

The importance of technostress for organizations is related to the consequences it causes and the costs of these results. Technostress, which causes problems such as nervousness, depression, absenteeism (Çetin, 2017: 31), decrease in organizational commitment and increase in turnover intention (Ayyagari et al., 2011: 832), causes over 300 billion dollars of loss annually and loss of over 275 million workforces (Boyer - Davis, 2018: 48).

In this study, we have investigated the effects of transformational leadership on technostress. We adapted structural equation modelling (SEM) method for analyzing the data. In the literature review section, we have recognized that there are only a few studies discussing transformational leadership and technostress together. Hence, we consider that this research will contribute to the literature in this respect.

Literature review

Leaders in organizations

Andersen (1995: 264) assumes that leaders are so influential for the organizations to have critical roles in creating successful ones. Leaders' importance also comes from their considerable influence on organizational effectiveness but identified the connection changes' strength (Larsson & Vinberg, 2010: 317).

In the literature review, leaders are associated with favourable outcomes such as motivation, organizational and individual performance, favourable attitudes toward the job, organization, and leader (Tepper, 2007: 261).

In the 21st century, changing environment and chaos necessitates continuous innovation and development for organizations than ever. In this environment, the key to success is creating innovativeness and employee dedication in the workplace rather than technology. Leadership can provide the realization of innovations, ensuring that people are committed to a common direction and purpose (Karip, 1998: 446). According to Bass and Avolio (1994: 542), this can be achieved by transformational leadership.

Transformational leadership

Classical leadership theories began to lose their influence gradually towards the end of the 20th century. The rapid change of technology and increasingly difficult competition conditions effectively affected this (Avolio et al. 1991: 9). After all, the structures of organizations started to change rapidly, belonging to these changes. The leadership that occurs in organizational evolution across these conditions is transformational.

Transformational leadership has a critical role in employees doing their bests, developing their abilities, achieving successes beyond their expectations, and reaching high intellectual levels (Alqatawneh, 2018: 19).

This kind of leadership, firstly announced by Downton in 1973 in his book "Rebel Leadership" and deeply discussed by James McGregor Burns (1978) in his Pulitzer winning book, "Leadership". In that leadership, leader - employees approach constantly increase each other's morale and motivation levels (Carlson & Perrewe, 1995: 832). The key factor influencing employees is creating an admirable vision that focuses on organizational goals than the other individual goals (Gomes, 2014: 14).

Transformational leadership, usually confused with charismatic leadership (but is far more comprehensive than it is), has three main characteristics (Carlson and Perrewe, 1995: 832). The first, and perhaps the most important, is to create the audience's vision (Kotter, 1990: 105). The second is to understand the employees' needs, be familiar with complex personal problems, and know there are too many differences among employees (Waldman et al., 1990: 384). The third is sensitive to main and shared values such as equality and justice (Kouzes & Posner, 1987: 224).

The leadership mentioned above has many dimensions for several authors (Sashkin & Rosenbach, 1993: 90-96; Bass & Stogdill, 1990: 37-59; Tichy & Devanna, 1986). In this study, we have used Bass's transformational leadership model. According to the author, there are four dimensions in this leadership (Bass, 1997: 22):

- Idealized Influence (Charisma): This dimension makes employees connected to the organization tightly and ensures they adopt organizational missions and visions.
- Inspirational Motivation: This dimension enables employees to appreciate opportunities and be motivated to change organizational goals while their awareness is rising.
- Intellectual Stimulation: This dimension enables employees to be aware of their abilities and to have more self-confidence by thinking more than in the past about their jobs.
- Individual Consideration: This dimension encourages employees by focusing on their personal development and increases their knowledge and skills.

Another concept of transformational leadership is pseudo-transformational leadership. Firstly, it has stated by Bass et al. (1996: 28), a leader who uses his abilities to influence and direct employees for purposes that are undesirable by others and do not comply with the organization's policies. The pseudo transformational leaders, usually tricky to recognize (Yıldız, 2013: 79), represent the dark side of transformational leadership (Bass et al. 1996: 28). According to Barling et al. (2008: 858), there are some behavioural patterns to define pseudo transformational leaders:

- Keeping the perception of fear high.
- Expecting excessive obedience and commitment.
- Trying to spread the atmosphere of fear within the organization.
- Behaving harshly towards employees.
- Unreliable attitudes and behaviors related to work.

Stress and technostress

From a broad perspective, it would be helpful to give some information about stress before technostress. The term of *stress* firstly used by Robert Hook in the 17th century. The notion is derived from the Latin word *strictia* and have been using in almost all languages (Doğrular, 2019: 17). Stress, in general, is an adaptive reaction of an organism in response to factors (stressors) that change its homeostatic (La Torre et al., 2019: 13). The concepts of stress, its relationships with other variables, its positive/negative sides have been researched widely since its first use in many different fields, including organizations.

Stress in organizations splits into two as short-term stress and long-term stress. Short-term stress is often beneficial for organizations and represents the resilience of healthy humans, but long-term stress,

which usually occurs chronically, causes pathological effects on humans. Thus, long-term stress impairs the ability to assess workers' physiological status and develop procedures and techniques organizations targeted (Romero et al., 2015: 491).

As a result of researches on stress, investigators implicated that there has been a new version of stress called technostress. Technostress, firstly used by clinical psychologist Craig Brod in 1984, is expressed as the inadequacy of an employee who uses technological tools like information or communication wares occurs adaptation problems (Tarafdar et al. 2007: 303).

Technostress usually does not appears suddenly. Besides, technostress is a complex concept having some antecedents. According to Okebaram & Moses (2013: 656), not being able to use the computer well enough, worrying about low individual performance, inability to digest information overload, rate of technological evolutions (especially in information technologies) and excessive workload are among the determinants of technostress.

According to Tarafdar et al. (2007: 314-315), technostress consists of five dimensions:

- **Techno Overload:** This dimension of technostress arises when technological tool experts are expected to work more and more and much faster.
- **Techno Invasion:** This dimension of technostress arises when technological tool experts are always available.
- **Techno Complexity:** This dimension of technostress arises when technological tool experts are expected to adapt to complex software programs, hardware tools and work more.
- **Techno Insecurity:** This dimension of technostress that arises when technological tool experts think they will be unemployed if they cannot adapt to technological transformations.
- **Techno Uncertainty:** This dimension of technostress arises when technological tool experts are concerned about the future of technological transformations.

In the literature review, researchers have found that techno-workload, techno-complexity, and techno-uncertainty negatively affect productivity (Tarafdar et al., 2007: 302) and the other dimension of technostress called techno-overload, has a positive relationship with technostress. Furthermore, a high level of technostress negatively affects organisational commitment and job satisfaction (Khan et al., 2013: 9) and individual productivity (Alam, 2016: 62). Recent research on leaders put forwards transformational leaders reduce that kind of adverse effects of technostress on employees (Çiçek & Kılınç, 2020: 555).

On the other hand, some studies focus on technostress among genders. According to this, technostress is more common in males than females, and there is a positive relationship between technological addiction and technostress (Yuvaraj and Singh, 2015: 1).

However, some researchers reveal a negative relationship between technological variability and technostress (Califf et al., 2015: 1-3) in general; technostress badly effects almost all stakeholders in the business.

It is crucial to know technostress and its influences. To avoid from technostress, researchers have some suggestions as follows (Variya & Patel, 2020: 495):

- Leave your smartphones and other digital materials in order to find “technocation” (techno+vacation) time.
- Turn off e-mail notifications and others on your technological devices if they are not so necessary.
- Avoid too much multitasking and distraction.
- Do not try to learn all components of technology. Focus on only “relevant” technology, which you need.
- Back up your essential data on either online or offline platforms.

As cognitions stated above, we have established the hypotheses as follows:

H1: Idealized influence is negatively associated with techno overload.

H2: Idealized influence is negatively associated with techno invasion.

H3: Idealized influence is negatively associated with techno complexity.

- H4: Idealized influence is negatively associated with techno insecurity.
- H5: Idealized influence is negatively associated with techno uncertainty.
- H6: Inspirational motivation is negatively associated with techno overload.
- H7: Inspirational motivation is negatively associated with techno invasion.
- H8: Inspirational motivation is negatively associated with techno complexity.
- H9: Inspirational motivation is negatively associated with techno insecurity.
- H10: Inspirational motivation is negatively associated with techno uncertainty.
- H11: Intellectual stimulation is negatively associated with techno overload.
- H12: Intellectual stimulation is negatively associated with techno invasion.
- H13: Intellectual stimulation is negatively associated with techno complexity.
- H14: Intellectual stimulation is negatively associated with techno insecurity.
- H15: Intellectual stimulation is negatively associated with techno uncertainty.
- H16: Individual consideration is negatively associated with techno overload.
- H17: Individual consideration is negatively associated with techno invasion.
- H18: Individual consideration is negatively associated with techno complexity.
- H19: Individual consideration is negatively associated with techno insecurity.
- H20: Individual consideration is negatively associated with techno uncertainty.

Method

In this study, we aimed to reveal the effect of transformational leadership on technostress. In this context, we have adopted a quantitative research method based on the questionnaire technique. We used the structural equation modelling (SEM) approach to analyze the data obtained. There are two mainstream approaches in structural equation modelling: covariance-based and partial least squares (PLS) methods. Since PLS-SEM is more accurate than the covariance-based approach in testing non-parametric and unprecedented studies in the literature (Henseler, 2018) and examining the increasing complexity by examining the theoretical extensions of established theories (Hair et al., 2019), we preferred the PLS method in this study. We utilized the SPSS v26 program for data screening, detect the normality of the data, factor analysis and potential standard method variance errors. Moreover, we used SmartPLS v3.3.2 for structural equation analysis. Figure 1. demonstrates the proposed model of the study.

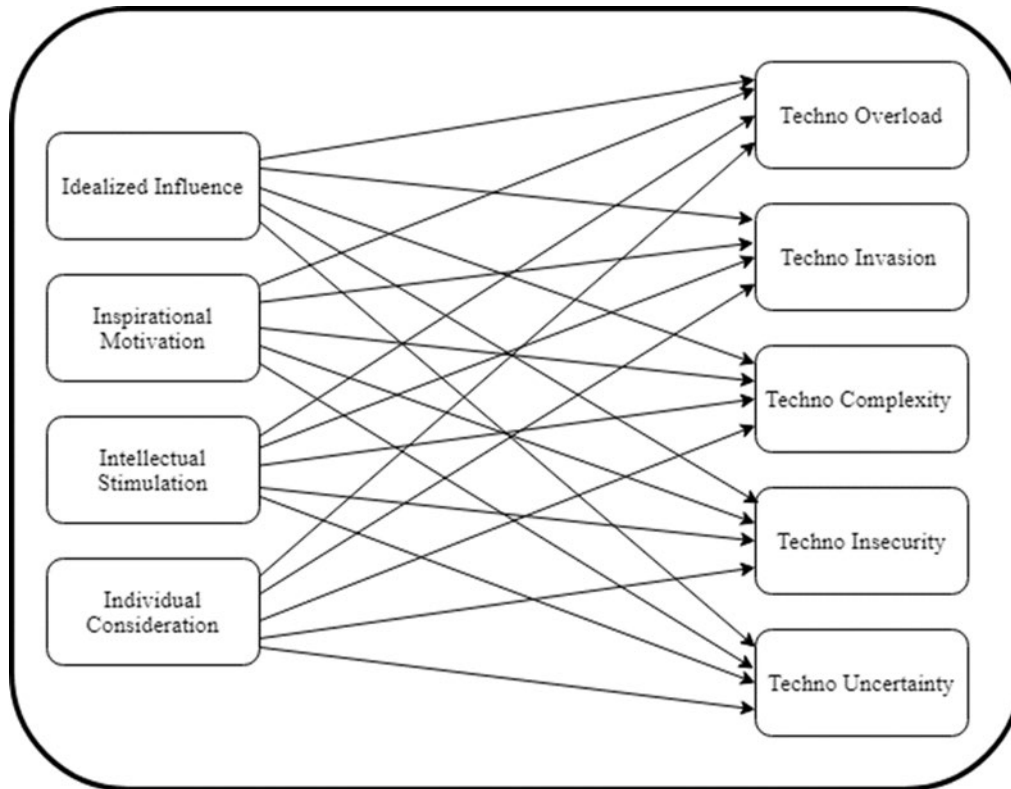


Figure 1. Proposed Model

Participants and sampling

In terms of sampling, we followed the Convenience Sampling method because it provides several benefits in terms of accessibility and availability (Bryman, 2016). In this context, we surveyed the employees of logistics companies operating in the city of Malatya. Initially, 341 individuals participated in the surveys. However, seven surveys were not considered because they constitute outliers in Mahalanobis and Cook's distance determination. Thus, we obtained 334 valuable responses.

We followed the Power Analysis procedure for defining sample size, which is highly recommended for PLS-SEM analysis (Faul et al., 2007). We used G*Power v3.1.9.6 software for calculating sample size. We assessed that a sample size of 93 is sufficient with a statistical power of 0.95. Since we have 334 proper responses, we claim that our sample size is sufficient for our model.

The participants' demographic structure is as follows: 21% of participants are female (n=70), and 79% of participants are male (n=264). According to age of participants, 25,1% are between 18-30 years old (n=84), 38% are between 31-43 years old (127), %29,6 are between 44-56 years old (n=99), and 7,2% of participants are over 57 (n=24). The majority of the participants are higher education graduates with a rate of 72.5%.

Measures

In this research, we adopted the scale developed by Bass and Avolio (1994) and translated to Turkish by Attar (2014) for measuring transformational leadership. This scale consists of 4 dimensions and 20 items. The scale dimensions are named "idealized influence, inspirational motivation, intellectual stimulation and, individual consideration" respectively.

To measure the technostress, the scale developed by Tarafdar et al. (2007) and translated to Turkish by Ilgaz et al. (2016: 69) was employed. The scale has five dimensions and 23 items. The scale dimensions are named "Techno overload, techno invasion, techno complexity, techno insecurity, techno uncertainty". All scales were formed according to the five-point Likert type scale (1=Strongly Disagree, 5=Strongly Agree).

Since this research is cross-sectional, standard method variance (CMV) could be a problem. Thus, we conducted Harman's (1967) single-factor test. Accordingly, we assessed all items under one factor without rotation. The variance amount of this one factor was 21.2%. Since this value is entirely below the threshold of 50% (Kline, 2005), we claim that CMV is not an issue for our study. We also adopted Kock's (2015) complete collinearity assessment method. For this purpose, we estimated VIF values, and

again our results were entirely under (max. value was 1.072) the threshold of 3.3. Therefore, our results illustrate that CMV is not a significant issue for the study.

Findings

Assessment of Measurement Model

Within the research scope, we first established a measurement model to test the structural validity and reliability, convergent and discriminant validity. The first place to be checked in the measurement model is the extreme loading values of each indicator. It should be above the 0.708 thresholds (Hair et al., 2017). Then the reliability of the scales should be checked. To test the reliability, it should be checked whether the composite reliability (CR), Cronbach's alpha (Hair et al., 2019) and rho_a (Dijkstra & Henseler, 2015) values exceed the 0.70 thresholds. For convergent validity, we assessed AVE values of variables. The values obtained from our measurement model are given in Table 2.

Table 2. Loadings, Reliability Estimates, and Convergent Validity

Variables	Indicator	Loading	Alpha	Rho_A	CR	AVE
Idealized Influence	Ii1	0.833	0.936	0.939	0.936	0.649
	Ii2	0.691				
	Ii3	0.774				
	Ii4	0.892				
	Ii5	0.740				
	Ii6	0.878				
	Ii7	0.809				
	Ii8	0.810				
Inspirational Motivation	IM1	0.770	0.920	0.927	0.920	0.743
	IM2	0.813				
	IM3	0.896				
	IM4	0.957				
Intellectual Stimulation	IS1	0.804	0.904	0.905	0.904	0.703
	IS2	0.860				
	IS3	0.873				
	IS4	0.814				
Individual Consideration	IC1	0.856	0.886	0.887	0.885	0.659
	IC2	0.827				
	IC3	0.754				
	IC4	0.807				
Techno Overload	TO1	0.630	0.807	0.812	0.806	0.456
	TO2	0.620				
	TO3	0.744				
	TO4	0.619				
	TO6	0.751				
Techno Invasion	TI1	0.804	0.790	0.840	0.798	0.579

	TI2	0.906				
	TI3	0.521				
Techno Complexity	TC1	0.645	0.881	0.894	0.884	0.658
	TC2	0.837				
	TC3	0.862				
	TC5	0.879				
Techno Insecurity	TIn1	0.629	0.799	0.799	0.789	0.431
	TIn2	0.786				
	TIn3	0.694				
	TIn4	0.569				
	TIn5	0.580				
Techno Uncertainty	TU1	0.835	0.847	0.860	0.840	0.575
	TU2	0.796				
	TU3	0.830				
	TU4	0.529				

According to Hair et al. (2017), the indicator's outer loading should be above 0.708 since this number squared (0.708²) is more significant than 0.50. When outer loadings are below 0.708, Hair et al. (2017) suggest that researchers should carefully examine the effects of item removal on the composite reliability and the content validity of the construct rather than automatically eliminating indicators. Accordingly, the AVEs for some variables were below the 0.5 thresholds; these results are still acceptable. Because Fornell and Larcker (1981) claim that AVE of constructs may be lower than 0.50 if the CR is higher than 0.70. Since our results derive this criterion, we accept that our measurement model's convergent validity estimates are within the acceptable ranges. The last measurement model was to estimate the discriminant validity (Hair et al., 2019). For this purpose, we applied the Fornell-Larcker criterion (Fornell & Larcker, 1981) and Heterotrait-Monotrait (HTMT) approach (Henseler et al., 2015). Since the square root of each construct's AVE values was more significant than its correlation with other constructs, and HTMT values were quite less than 0.85, we can say that our model also achieved discriminant validity criteria.

Assessment of structural model

We established a structural model to test our hypotheses. For this structural model, we employed a bootstrapping procedure with 5.000 iterations for examining the significance of the path coefficients (Streukens & Leroi-Werelds, 2016). Before testing hypotheses, we estimated VIF values of exogenous constructs for collinearity diagnosis. According to our collinearity assessment, all the VIF values were below the acceptable range of 3.3 (Hair et al., 2019). Accordingly, we can state that there is no collinearity problem in our structural model. For model fit, we checked the standardized root mean square residual (SRMR) value. Since we observed 0.078 for SRMR below the cutoff criteria of 0.08 (Henseler et al., 2016), we can say that our model has a good fit. Finally, we assessed the coefficient of determination (R² value) to judge the model's predictive power, Q² for cross-validated redundancy, and f² for the effect size for endogenous construct assessments. The results of the structural model given in Table 3.

Table 3. Results of Hypotheses Analysis

Construct	Direct Effect	t-Value	p-Value	f ²	Supported
Path Coefficients and Bootstrapping					
H1: IF → TO	-0.787	3.175	0.000	0.131	Yes
H2: IF → TI	-0.153	0.985	0.045	0.023	Yes
H3: IF → TC	-0.450	1.575	0.000	0.099	Yes
H4: IF → TIn	-0.088	0.088	0.978	0.003	No
H5: IF → TU	-0.672	2.976	0.000	0.103	Yes
H6: IM → TO	-0.541	2.981	0.000	0.121	Yes
H7: IM → TI	0.044	0.611	0.921	0.005	No
H8: IM → TC	-0.641	3.012	0.000	0.123	Yes
H9: IM → TIn	0.038	0.041	0.981	0.000	No
H10: IM → TU	-0.144	0.841	0.038	0.024	Yes
H11: IS → TO	-0.321	1.811	0.000	0.071	Yes
H12: IS → TI	0.011	0.184	0.988	0.000	No
H13: IS → TC	-0.141	0.811	0.044	0.021	Yes
H14: IS → TIn	0.101	0.263	0.321	0.003	No
H15: IS → TU	-0.043	0.048	0.391	0.002	No
H16: IC → TO	-0.201	1.211	0.000	0.044	Yes
H17: IC → TI	0.041	0.193	0.922	0.000	No
H18: IC → TC	-0.186	0.948	0.001	0.038	Yes
H19: IC → TIn	-0.153	0.823	0.003	0.026	Yes
H20: IC → TU	-0.063	0.202	0.886	0.000	No
Endogenous Constructs Assessment					
		R ²	R ² Adjusted	Q ²	
Techno Overload		0.209	0.198	0.161	
Techno Invasion		0.099	0.096	0.091	
Techno Complexity		0.135	0.131	0.108	
Techno Insecurity		0.077	0.078	0.083	
Techno Uncertainty		0.107	0.103	0.098	

As shown in Table 3, H1, H2, H3, H5, H6, H8, H10, H11, H3, H16, H18, and H19 are supported, H4, H7, H9, H12, H14, H15, H17, and H20 are rejected. According to the model's predictive accuracy, our model explains 20.9% of techno overload, 9.9% of techno invasion, 13.5% of techno complexity, 7.7% of techno insecurity, and 10.7% of techno uncertainty. For evaluating the predictive relevance of the exogenous constructs on endogenous constructs, we obtained the Stone-Geisser Q² values by blindfolding procedure. Q² values of the model are 0.161, 0.091, 0.108, 0.083, and 0.098 respectively. In light of the research findings, we can claim that transformational leadership has a significant effect on technostress. When we examine the R² values, we see that transformational leadership effects the techno workload the most, and techno insecurity mererest, which are sub-dimensions of the technostress. The assessed effect size also can be seen in Table 3.

When we examine the rejected hypotheses, we first see that idealized influence, inspirational motivation, and intellectual stimulation have no significant effect on techno insecurity. The main reason for this is thought to stem from the fact that job insecurity is related to the individual itself. Therefore, we concluded that leadership behaviour does not affect job insecurity as much as other dimensions. Next, we found that inspirational motivation, intellectual stimulation, and individual consideration have no significant effect on techno invasion, as known techno invasion means that technological tool experts are expected to be always available. Since employees perceive this situation as a kind of interference in their private lives and they see this situation as spending time for a job while outside of work, it is thought that the leadership cannot affect this situation. Finally, we concluded that intellectual stimulation and individual consideration have no significant effect on techno uncertainty. The main reason for this can be shown that the individuals in the sample are over a certain age, and therefore, their level of adaptation to technology is low. It should also be taken into account that some other dimensions hurt these insignificant hypotheses. This indicates that every single transformational leadership dimension does not have the same impact on the technostress.

Conclusion and discussion

All leadership styles affect positively and negatively to organizations and employees either. In this case, it is critical to determine what kind of them are usual and unusual. Determining usual leadership styles makes businesses avoid them. Since transformational leadership has a critical role in employees doing their bests, developing their abilities, achieving successes beyond their expectations, and reaching high intellectual levels (Alqatawneh, 2018: 19), we believe that this leadership style can serve organizations.

Despite the many benefits of the widespread use of technology, it is known that technology can also be a source of problems for organizations at a certain point (Gonzales et al., 2020). Nowadays the business world changes rapidly and it is a must to adopt it quickly. For this purpose, sometimes we need to change the way of doing business radically. This situation causes anxiety for some employees and affects individual and organizational productivity. In this context, in this study, it has been revealed that transformational leadership may influence coping with the negativities caused by technostress in a crucial business line, logistics.

As a result, we have found some essential findings, which refer to almost all dimensions of transformational leadership that negatively affect technostress. These findings are similar to Boyer-Davis' research (2018) which comes up with "transformational leadership styles were determined to be statistically significant in predicting technostress".

On the other hand, George et al. (2017) have presented another similar research investigating the effects of leadership styles on stress-related presenteeism in South Africa among knowledge workers. This study argues, "transformational leadership has a higher negative correlation with job-stress-related presenteeism". These findings verify ours.

Another similar research represented by Munir et al. (2010) has shown that "transformational leaders cause less job stress among workers". Besides, the findings indicate that the transformational leadership style effectively reduces presenteeism that is tightly associated with job stress.

According to the study's findings, some recommendations were made to the organization managers and other stakeholders. According to this:

- Employees should be assigned duties appropriate to their abilities. Since technological adaptation is a tough process for some employees, necessary opportunities should be provided to adapt to the new order.
- In this adaptation process, the staff's needs, including in-service training, guidance, and consultancy services, should be met.
- Leaders play a decisive role in organizations. Since transformational leaders' direction is highly critical, opportunities should be provided to leaders to transform the organization.
- It should be taken into account that people are having stress because they do not know what they face. Therefore, instead of breaking resistance to change, it is preferable to explain it better.

Finally, it should be noted that the study has some limitations. First, since the research method was based on cross-sectional data, this may cause social desirability bias. Second, it is hard to generalise the results because the fieldwork carried out in one city. Third, only one leadership style was examined in the study; other leadership styles may help reduce the adverse effects of technostress. Therefore, we

recommend that future studies may examine other leadership styles as abbreviatory mechanism of technostress.

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