



## THE ROLE OF TRANSFORMATIONAL LEADERSHIP AND EMPLOYEE PRODUCTIVITY IN LOGISTICS PERFORMANCE

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**ABSTRACT. Background:** In the literature review, it was determined that logistics performance was neglected, compared to supply chain performance within the scope of organizational performance. The main purpose of this study is to examine the effect of transformational leadership in the courier services industry on logistics performance and the moderating effect of employee productivity in this relationship.

**Methods:** To test the hypothesis, an online survey was conducted on a sample of 347 respondents from the Turkish courier industry. Research data of this cross-sectional study was obtained from participants working as moto-couriers in a digital marketing company over a 2-week period. The data obtained was analyzed using SPSS-27 and AMOS-22 programs. In the analyses, descriptive analyses were performed first, and then the validity and reliability of the scales were tested. Correlation analysis was used to determine the relationship between variables, and PROCESS Macro, developed as an SPSS plug-in, was used to test the research hypotheses. Hypothesis testing was conducted with 5000 resamples and a 95% confidence interval.

**Results:** The results show that transformational leadership has a positive and significant effect on logistics performance, and employee productivity has a moderating effect on this relationship.

**Conclusion:** This is one of the few studies that considers the role of transformational leadership in the courier service industry from the perspective of logistics performance rather than supply chain performance. The findings could offer a detailed understanding of how employee productivity affects the relationship between transformational leadership and logistics performance in the courier service that shows how the transformational leader positively affects the productivity of employees and indirectly affects their performance. The results of this study have important managerial implications for business managers in the courier service industry to improve organizational performance through logistics performance.

**Keywords:** Transformational Leadership, Courier Services, Logistics Performance, Employee Productivity

### INTRODUCTION

With globalization, a single market has been formed and the concept of logistics has become an important tool in this period. Organizations that organize logistics facilities well gain a qualified competitive advantage over other organizations. In a sense, the logistics infrastructure allows the organization to increase its market share (Kherbach and Mocan, 2016: 405). In addition, logistics acts as a bridge in the transition of the domestic economy to the international economy by providing sectoral connections within the local economy.

Courier services, which are an important part of the online shopping process and are stated as the last step of shopping, are brought together with customers through non-human interfaces thanks to information technologies and modern logistics solutions (Ejdys and Gulc, 2020: 6). Marketing practices aiming to increase the satisfaction of employees and customers have become an important issue for businesses operating in the logistics sector (Arıkan and Öztürk, 2022: 173). Logistics businesses, especially those that engage in market-oriented activities, try to successfully link the attitudes and behaviors of their employees with the attitudes and behaviors of their customers in

achieving their targeted strategies (Oakley, 2012: 1094).

Although transformational leadership, which has significant effects on employees' attitudes and behaviors, is one of the most popular leadership theories of the last thirty years, it is still a subject that attracts the attention of researchers (Kayaalp, Page, and Gümüş, 2021: 92). It is considered that the basis of this interest stems from the fact that transformational leadership behaviors make significant contributions to increasing organizational performance. As a matter of fact, research shows that transformational leadership increases organizational performance.

Many researchers emphasize that the performance of logistics activities is an important factor in increasing organizational performance (Fugate, Mentzer, and Stank, 2010; Aćimović, Mijušković, Marković, and Todorović, 2022). Although there is sufficient literature highlighting the difference between the concepts of logistics performance and organizational performance, surprisingly, the issue of the effect of transformational leadership on logistics performance has not attracted sufficient attention from researchers. However, research on supply chain performance is also sufficiently included in the literature. Nevertheless, despite different perspectives among academics, it would be appropriate to investigate the concepts of logistics and supply chain management as two different phenomena. This supply chain performance-oriented perspective is thought to be one of the main limitations of the literature on organizational performance. This study tries to fill this gap in the literature by examining organizational performance from the perspective of logistics performance.

The main purpose of this study is to examine the effect of transformational leadership behaviors applied in the courier industry on logistics performance and the mediating role of employee productivity in this relationship. The research model reveals the importance of transformational leadership and employee productivity in the courier service, which serves as a kind of interface between customer-oriented businesses and their customers and offers practical suggestions to managers and marketing

professionals. The remaining part of the research is structured as follows. First, research hypotheses were developed by creating a conceptual framework regarding the phenomena of transformational leadership, logistics performance, and employee productivity. Subsequently, the research methodology, data collection, and findings are included, and finally, the results of the findings are stated and limitations and predictions for future studies are expressed.

## LITERATURE REVIEW AND HYPOTHESES DEVELOPMENT

### The Effect of Transformational Leadership on Logistics Performance

Transformational leadership is a processual situation in which a leader motivates the performance of the group or organization to exceed expectations with a strong emotional and collective commitment to those who follow him, within the framework of the aim of achieving higher values (Diaz-Saenz, 2011: 299). Although it is stated that there is uncertainty about the dimensions of transformational leadership (Rafferty and Griffin, 2004: 329), it is mentioned that it includes 4 (four) dimensions: charisma or idealized influence, inspirational motivation, intellectual stimulation, and individualized consideration (Avolio, Bass and Jung, 1999: 444). Charisma or idealized influence, one of the dimensions in question, indicates that the leader instills pride, belief and respect, has the ability to be aware of what is essentially important, and conveys the sense of mission; inspirational motivation expresses a vision. Within the scope of individualized consideration, the leader delegates project tasks to motivate learning experiences, acts as a mentor and teacher, and treats each person who follows him as an individual. According to another dimension, intellectual stimulation, the leader directs his followers to think in new ways and emphasizes problem solving and reasoning before taking action (Hater and Bass, 1988: 696).

Studies reveal that transformational leadership affects organizational performance in various aspects (Charoensukmongkol and Lamsam, 2022: 541). In the studies carried out, in addition to the positive

relationship/correlation between transformational leadership and organizational performance (Judge and Piccolo, 2004; Muterera, 2012; Ojokuku, Odetayo, and Sajuyigbe, 2012; Al Khajeh, 2018), the positive effect of transformational leadership on organizational performance is put forth (Pedraja-Rejas, Ponce, Almonte, and Ponce, 2006; Obiwuru, Okwu, Akpa, and Nwankwere, 2011).

In the literature review, it was determined by the researchers that logistics performance was neglected, compared to supply chain performance within the scope of organizational performance. Surprisingly, there has not been much research on the relationship between the concepts of logistics and supply chain management, although it has been important in providing solutions to various problems in the disciplines in question since the studies conducted by Larson and Halldórsson (2004) and Larson et al. (2007) (Sweeney, Grant and Mangan, 2018: 852).

Larson and Halldórsson (2004), within the framework of different perspectives on the relationship between supply chain management and logistics that emerged as a result of the discussions held by academics, state that logistics includes supply chain management in the traditionalist perspective, and in the renaming perspective, supply chain management began to be used instead of logistics. Researchers additionally state that, from a unitary perspective, logistics and supply chain management should be evaluated within the same scope, while from an intersectional perspective, the two concepts are areas of common interest.

Efficient and effective management of logistics activities within the organization can be observed by realizing logistics performance, which can be seen as a subset of organizational performance (Aćimović, Mijušković, Marković and Todorović, 2022: 334). It is stated in the literature that there is a difficulty in defining logistics performance, which is important for organizational performance, as businesses have multiple and often conflicting goals. As a result of the literature analysis, it is mentioned that this definition includes dimensions such as cost efficiency, sales growth, keeping promises,

employee safety and working conditions, profitability, low loss and damage, social responsibility, customer satisfaction, fair prices for inputs, on-time delivery, product availability, and flexibility (Chow, Heaven, and Henriksson, 1994: 23). Bakar and Jaafar (2016: 572) state that logistics performance can be a determinant in defining a benchmarking study of the performance of organizations or their competitiveness at the national level.

When a conceptual evaluation is made within the scope of the relationship between organizational performance and logistics performance, it can be mentioned that organizational performance includes logistics performance. In this regard, the positive effect of logistics performance on organizational performance has been demonstrated by various studies (Schramm-Klein and Morschett, 2006; Green, Whitten, and Inman, 2008; Fugate, Mentzer, and Stank, 2010; Aćimović, Mijušković, Marković, and Todorović, 2022). Green, Whitten, and Inman (2008: 319) state that the impact of logistics performance on organizational performance will be realized by delivering customers' needs on time and completely. In another perspective on the effect in question, logistics efficiency and productivity issues are used (Fugate, Mentzer and Stank, 2010: 44; Aćimović, Mijušković, Marković and Todorović, 2022: 335).

The following hypothesis was developed to be tested in line with the existing literature and research:

*Hypothesis 1: Transformational leadership significantly and positively affects logistics performance.*

## **Employee Productivity**

The resource-based view states that employee characteristics cannot be imitated by rival organizations and therefore provide a significant competitive advantage. Transformational leadership allows employees to show higher performance by increasing their productivity thanks to the motivation it creates within the organization. Employee productivity is an issue that is emphasized in both manufacturing and service sectors, as it can

affect the performance of organizations and their competitive advantages in the sectors in which they operate (Hanaysha, 2016: 164). In addition, employee productivity is considered to be even more important, especially for organizations operating in the logistics sector, due to its positive impact on the success of the organization.

Employee productivity, as a type of logistics service used to deliver packages to online shoppers (Yao, Shah, Mohamad, Cheng, An, and Abdalla, 2022: 2), can be defined as the time an employee spends performing his job to achieve targeted results as specified in the job description (Ferreira and Du Plessis, 2009: 3). Within the framework of the relationship between employee productivity and organizational performance, it is mentioned that employee productivity is one of the performance outcomes such as customer loyalty, profitability, and personnel turnover (Krekel, Ward, and De Neve, 2019: 12). In addition, it is stated that employee productivity has a positive effect on organizational performance (Thuda, Sari, and Maharani, 2019; Sahibzada, Jianfenga, Latif, Shafait, and Sahibzada, 2022). Starting from this point, the fact that logistics performance is a subset of organizational performance and that organizational performance can be observed by realizing logistics performance (Aćimović, Mijušković, Marković and Todorović, 2022: 334) reveals that employee productivity can also have a positive effect on logistics performance.

The following hypotheses were developed to be tested in line with the existing literature and research:

*Hypothesis 2: Employee productivity significantly and positively affects logistics performance.*

*Hypothesis 3: Employee productivity has a mediating role in the effect of transformational leadership on logistics performance.*

## RESEARCH METODOLOGY

### Sample and Procedure

The data of the research was obtained from participants working as moto-couriers in a digital

marketing company operating in Turkey. Distribution of surveys and data collection were carried out in three stages. In the first stage, the company manager was interviewed and informed about the research, and permission to conduct the research was requested. Research was allowed on the condition that the data is confidential and the results are shared with the company. In the second stage, an informative note about the survey was sent to all participants, assuring them of the confidentiality of the data and the anonymity of the participants. Participants were also promised a small payment to encourage participation. In the final stage, digital consent was obtained from the participants using the company's internal communication program and a survey was conducted. The data of this cross-sectional study were collected over a 2-week period (01 September 2023 - 15 September 2023).

347 of the participants are men and 43 are women. While 241 participants are single, 149 participants are married. 230 participants are under the age of 26, 122 participants are between the ages of 27-35, 31 participants are between the ages of 36-45, and 7 participants are over the age of 46. 181 of these participants have an education level of high school or below, 63 have an associate degree, 142 have a bachelor's degree, and 4 have a graduate degree.

### Measures

A two-part survey was used in the research. The first section includes items to determine the demographic information of the participants. In the second section, there are items related to the latent variables of the conceptual model (transformational leadership, employee productivity, and logistics performance). To ensure that the data were obtained accurately and reliably, previously developed scales whose validity and reliability had been tested were used. These scales are established scales already used in past research. There are a total of 23 statements in the scales prepared in five-point Likert type.

**The transformational leadership scale** used in this study was developed by Carless, Wearing, and Mann (2000). The scale contains 6 items of 5-point Likert type ("My manager

communicates a clear and positive vision of the future”, “My manager gives encouragement and recognition to staff”). In this study, the Cronbach Alpha value of the scale was found to be 0.917. The construct validity of the scale was evaluated by confirmatory factor analysis (CFA). Findings showed that the scale had good fit indices ( $\chi^2/df = .693$ , RMSEA = 0.00, NFI = 0.995, CFI = 0.995, GFI = 0.995).

**The employee productivity scale** used in this study was developed by Chatterjee, Chaudhuri, and Vrontis (2022). The scale contains 4 items of 5-point Likert type (“I believe organizations having better employee productivity will perform better”, “I believe employees become more productive while working remotely”). In this study, the Cronbach Alpha value of the scale was found to be 0.873. The construct validity of the scale was evaluated by performing CFA. Findings showed that the scale had good fit indices ( $\chi^2/df = 2.328$ , RMSEA= 0.01, NFI= 0.954, CFI= 0.988, GFI= 0.981).

**The logistics performance scale** used in this study was developed by Wang, Jie, and Abareshi (2017). The scale contains 9 items of 5-point Likert type (“My company has a low frequency of disruptions / delays.”, “My company has on-time and accurate delivery.”). In this study, the Cronbach Alpha value of the scale

was found to be 0.925. The structure of the scale’s validity was evaluated by performing CFA. The findings showed that the scale had good fit indices ( $\chi^2/df = 3.889$ , RMSEA= 0.01, NFI= 0.951, CFI= 0.978, GFI= 0.946).

## Data Analysis

The analysis of the data obtained in the study was made using SPSS-27 and AMOS-22 programs. Hypothesis tests were performed with PROCESS Macro, developed by Hayes (2017) as an add-on to SPSS. Process Macro is frequently used in recent research, especially in the analysis of simple mediator or regulatory models (Sürücü, Şeşen, & Maslakçı, 2023). Model 1 was used in the analysis with 5000 resamples and 95% confidence interval.

## RESULTS

### Validity and reliability

Firstly, the validity and reliability of the structures used in the research were checked. Reliability was evaluated based on Cronbach's Alpha ( $\alpha$ ), composite reliability (CR), and McDonald's Omega ( $\omega$ ). Validity was evaluated with discriminant validity and structural validity. The results of the analyses are presented in Table 1.

Table 1. Measurement Properties

Construct	Faktör Yüğü	$\alpha$	CR	$\Omega$	AVE	VIF
Transformational Leadership	0.785 – 0.826	0.917	0.920	0.923	0.657	3.915
Employee Productivity	0.784 – 0.835	0.873	0.882	0.885	0.652	3.854
Logistics Performance	0.658 – 0.866	0.925	0.931	0.930	0.630	4.127

$\alpha$  = Cronbach's Alfa, CR= Composite Reliability,  $\omega$ = McDonald's Omega,

AVE=Average Variance Extracted, VIF= Variance İflation Factor

When Table 1 is examined, it is seen that the factor loadings are above 0.5. Additionally, Cronbach's Alpha ( $>0.873$ ), composite reliability ( $0.882 >$ ) and McDonald's Omega ( $0.885 >$ ) are well above the minimum required value of 0.7 (Tabachnick and Fidell, 2007; Driver and Maslakçı, 2020). These findings show that the scales used in the study are reliable.

To check discriminant validity, Fornell and Larcker's criteria were taken into consideration. The  $\sqrt{AVE}$  values of the scales are 0.811, 0.808, and 0.794, respectively. The fact that  $\sqrt{AVE}$  values are greater than the two-factor correlation coefficients confirms that the scales have discriminant validity (Fornell and Larcker, 1981). In addition, the CFA conducted for the research model showed that the measurement model had good fit indices ( $\chi^2/df = 3.245$ , RMSEA = 0.04, NFI = 0.961, CFI = 0.964, GFI

= 0.957) (Kline, 2005; Driver, Şeşen, & Maslakçı, 2023).

Finally, the variance inflation factor (VIF) value was checked to determine whether there was a multicollinearity problem, and it was found that the VIF values were within the recommended range (>10) (Sürücü, Şeşen, & Maslakçı, 2023).

## Descriptive Statistics and Correlation Analysis

Descriptive statistics and correlation analysis results for the structures in the study are presented in Table 2.

Table 2. Measurement Properties

Construct	M	SD	1	2	3
Transformational Leadership	3.88	0.925	-		
Employee Productivity	4.01	0.892	0.355***	-	
Logistics Performance	3.62	1.013	0.414***	0.301***	-

Note:\*\*\*p<0.001 (two-tailed). n=390.

Findings show that transformational leadership is positively related to employee productivity (r=0.355, p<0.001) and logistics performance (r=0.414, p<0.001). Additionally, the relationship between employee productivity and logistics performance is positive (r=0.301, p<0.001).

## Testing the Moderation Models

PROCESS macro v4.2, developed as an add-on to SPSS, was used to test the hypotheses in the research model. The results of the analyzes performed with 5000 resamples with a 95% confidence interval are shown in Table 3.

Table 3: Regression Analysis Results

Regression Path	$\beta$	SE	p	%95 CI	
				LLCI	ULCI
TL ----> EP	0.354	0.043	0.000	0.3341; 0.4591	
TL ----> LP	0.461	0.054	0.000	0.4108; 0.5169	
EP ----> LP	0.298	0.037	0.000	0.2581; 0.3912	
<i>Mediation Effect</i>					
TL ----> EP ----> LP	0.122	0.029	0.004	0.1852; 0.2914	

TL: Transformational Leadership, EP: Employee Productivity, LP: Logistics Performance

According to the analysis results, it was determined that transformational leadership had a significant and positive effect on employee productivity ( $\beta=0.354$ , SE=0.043, p=0.000, 95% CI:[0.3341, 0.4591]) and logistics performance ( $\beta=0.461$ , SE=0.054, p=0.000, 95% CI: [0.4108, 0.5169]). Similarly, the effect of employee productivity on logistics performance is significant and positive ( $\beta=0.298$ , SE=0.037, p=0.000, 95% CI:[0.2581, 0.3912]).

Finally, mediating analysis shows that employee productivity has a mediating role in the effect of transformational leadership on logistics

performance ( $\beta=0.122$ , SE=0.029, p=0.000, 95% CI:[0.1852, 0.2914]).

## DISCUSSIONS AND CONCLUSION

When the literature is analyzed, it is seen that various studies have been conducted to determine the effect of transformational leadership on organizational performance (Judge and Piccolo, 2004; Pedraja-Rejas, Ponce, Almonte, and Ponce, 2006; Obiwuru, Okwu, Akpa, and Nwankwere, 2011; Muterera, 2012; Ojokuku, Odetayo, and Sajuyigbe, 2012; Al Khajeh, 2018). In these studies, the positive relationship between transformational leadership and organizational performance (Judge and

Piccolo, 2004), and the positive effect of transformational leadership on organizational performance (Pedraja-Rejas, Ponce, Almonte and Ponce, 2006; Obiwuru, Okwu, Akpa and Nwankwere, 2011; Muterera, 2012; Ojokuku, Odetayo, and Sajuyigbe, 2012; Al Khajeh, 2018) were determined. However, the concept of logistics performance, which is stated by many researchers to be important in improving organizational performance (Fugate, Mentzer, & Stank, 2010; Aćimović, Mijušković, Marković, & Todorović, 2022), was investigated from a different perspective with this study and thus contributed to the literature. Accordingly, the effect of transformational leadership as an independent variable and employee productivity as a mediating variable on logistics performance has been revealed. In this way, recommendations are made for business managers to improve organizational performance through logistics performance; thus, a contribution to the literature has been made. In this context, the main findings obtained within the scope of the research are stated below.

Within the scope of the research, it was determined that transformational leadership had a significant and positive effect on logistics performance. It becomes clear that it is important for business managers to know the positive effect of transformational leadership on logistics performance, which is a subset of organizational performance, and to act accordingly by developing business strategies.

Determining whether employee productivity has a mediating role in measuring the effect of transformational leadership on logistics performance is another important issue for both researchers and business managers. Hanaysha (2016: 164) states that employee productivity is an element focused on in the manufacturing and service sectors, as it can affect the performance of organizations and their competitive advantage in the sectors in which they operate. In this way, business managers gain an advantage over their competitors in the competitive environment they are in by focusing on employee productivity. Within the scope of the research, the mediating role of employee productivity in the effect of transformational leadership on logistics performance was determined. This finding is important because the transformational leader focuses on improving

the skills of employees with his/her broad vision and intellectual personality. However, a manager who demonstrates transformational leadership behavior pays close attention to his/her employees and changes their attitudes and behaviors in a way that contributes to the success of the organization. In addition, the transformational leader positively affects the productivity of employees and indirectly their performance, thanks to his/her broad vision and innovative approach. This finding of the research, which supports the existing literature, provides evidence that although transformational leadership behaviors are one of the main determinants of logistics performance, employee productivity is also an important variable in this relationship.

There are various limitations in evaluating the findings obtained in the research. Conducting the research on employees working as moto-couriers in a digital marketing company is insufficient to generalize the research findings. In addition, it is thought that other variables that may affect logistics performance, other than transformational leadership and employee productivity, can be used both as a direct effect and as a mediating effect. It is considered that the limitations of this research can be eliminated by adding different variables to future studies and expanding the research sample.

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