

How does knowledge sharing and employee engagement mediate transformational leadership on creative performance

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Abstract: Employee creative performance is very important and urgent in driving innovation, increasing productivity, and maintaining a competitive advantage in building global competitiveness, which is becoming increasingly complex nowadays. The Resource-Based View (RBV) theory is considered one of the alternatives for building Employee Creative Performance. The RBV theory considers the ability of the company's human resources to create competitive advantages, among which the focus of this research is on Transformational Leadership, Knowledge Sharing, and Employee Engagement towards Employee Creative Performance. Employees of the Directorate General of Sea Transportation, Ministry of Transportation of the Republic of Indonesia participated in data collection. Two hundred twenty-four fully completed questionnaires were returned via the Google Form application on WhatsApp. Next, the collected data were analyzed using the PLS-SEM method. The analysis results show that transformational leadership has a significantly positive impact on employee creative performance, both directly and mediated by knowledge sharing and employee engagement. The findings of this study offer a model of employee creative performance based on the structured relationship of transformational leadership, knowledge sharing, and employee engagement.

Keywords: Employee creative performance, Employee engagement, Knowledge sharing, Transformational leadership.

1. Introduction

The Directorate General of Sea Transportation, Ministry of Transportation of the Republic of Indonesia, has articulated a vision in Law Number 17 of 2008 concerning Shipping, emphasizing the significant role of Port authorities in fostering local, regional, and national economic growth: "The realization of an effective, efficient, and competitive national sea transportation system that enhances value as infrastructure and serves as the backbone of national and state life." To facilitate the realization of this vision, five organizational missions have been established, aimed at executing transportation activities in the waters to ensure the safe, secure, rapid, smooth, orderly, regular, comfortable, and effective movement of people and goods; to perform reliable and highly competent port operations, guaranteeing efficiency and global competitiveness to bolster national and regional development from an archipelagic perspective; to ensure the safety and security of maritime and port transportation; to implement maritime environmental protection in the archipelagic waters; and to consolidate the roles of the community, business sector, and government through restructuring and regulatory reform. Enhancing the creative output of employees is a tangible measure in achieving that vision and goal. The inventive output of employees significantly influences the organization's competitiveness, particularly as it requires unique contributions in the form of creative ideas or other innovative discoveries to advance effectively. The Directorate General of Sea Transportation of the Ministry of Transportation of the Republic of Indonesia has initiated different collaborative projects with specific entities to improve staff creativity. Nonetheless, from the cooperative initiatives scheduled between 2020 and 2024, only 60% to 70% of the collaboration has been actualized.

Employee creative performance does not just form within the employees themselves. Employee creative performance can be formed with the role of a leader through the applied leadership style [1]. According to Rahman, et al. [2] transformational leadership is said to be able to encourage and foster employee creativity. This is supported by the research findings of Sulistiyani and Rahardja [3]; Gathii [4]; Ma and Jiang [5]; Suifan, et al. [6]; Sayyadi [7]; Golden III and Shriner [8]; Alieksieieva, et al. [9]; Asad, et al. [10]; [11] and Dezar and Yuniawan [12] which show that transformational leadership impacts employee performance, including employee creativity. However, unlike the research by Sabri and Bagherimajid [13] and Neffe, et al. [14] which showed that transformational leadership does not significantly affect employee creative performance. It is important to conduct a more in-depth and comprehensive study by identifying other variables that are considered capable of mediating the gap in the relationship between transformational leadership and employee creative performance. Initially, this research attempts to explore the relationship between transformational leadership and managerial performance mediated by knowledge sharing [15]. The replacement of the variable informational technology with employee engagement mediating the relationship between transformational leadership and employee creative performance distinguishes this study from [15] while also serving as a novelty in the development of goal-setting theory.

Transformational leaders strengthen the sense of loyalty among organizational members, which can stimulate knowledge sharing [16]. Thus, the relationship between transformational leadership and knowledge sharing is very closely related. According to Valipour, et al. [17] knowledge sharing is very important for developing products and processes through creativity. The process of knowledge sharing can build a positive reputation in the business world, which can enhance the potential for business partner relationships, thereby fostering the development of creativity. Transformational leaders change the norms and values of employees, motivating them to exceed their own expectations [18]. Employees who receive personal support, inspiration, and quality coaching from their leaders will experience challenging, engaging, and satisfying work. This will have consequences for employee engagement in their work Tims, et al. [19]. Besieux, et al. [20] and Narosaputra [21] found that there is a positive relationship between transformational leadership and employee engagement. Rhoades and Eisenberger [22] state that employees with high engagement will exert more effort at work and perform better in generating creative behaviors.

The goal of this study was to look into how transformational leadership affects employees' creative performance, with knowledge sharing and employee engagement acting as middlemen. Our research sheds light on the important roles that knowledge sharing and employee engagement play in the relationship between transformational leadership and employee creative performance. This is a topic that has been controversial, inconsistent, and debated before. Second, these results show that transformational leadership styles are needed to improve the creative performance of public sector employees, especially in the Directorate General of Sea Transportation, Ministry of Transportation of the Republic of Indonesia, which is currently not meeting expectations, by encouraging knowledge sharing and employee engagement.

2. Literature Review

Penrose [23] introduced the resource-based view (RBV) theory in the realm of management science. The RBV theory, as resources and capabilities of the company, is important for the company because it is the core or foundation of competitive advantage and performance Wernerfelt [24]. Ghazali [25] states that RBV is an organizational managerial framework used to achieve competitive advantage by utilizing the company's strategic resources. RBV focuses on the management of a company's internal resources to identify assets, capabilities, and competencies that have the potential to provide a superior competitive advantage. The resource-based view (RBV) provides an understanding of the importance of internal resources in the effort to achieve sustainable competitive advantage. This perspective states that performance is a function of a leader's (manager's) success in building their organization to maintain valuable, rare, inimitable, and non-substitutable resources [26].

Currently, creative performance has become a focal point [27]. The creative performance of employees has been proven to have a vital effect on the competitiveness level of the organization, especially since organizations greatly need contributions of novelty in the form of creative ideas or other renewed discoveries to build the organization towards a better direction. Employee creative performance can be formed with the role of a leader through the applied leadership style Mumford, et al. [28]. Rahman, et al. [2] states that among the various forms of leadership styles, transformational leadership is said to be capable of encouraging and fostering employee creativity. Robbins and Davidhizar [29] and Robbins and Coulter [30] states that transformational leadership behavior is the most active and effective form of leadership, a form in which leaders closely interact with followers, who are also more motivated by them. This will have consequences for employee engagement in their work [19]. Employee engagement is a desirable psychological state, resilient in nature, accompanied by positive performance behaviors. Harter, et al. [31] state that employee engagement is a construct that fosters a positive influence on individuals in the workplace, which in turn will affect employees' creative performance.

Solikhah, et al. [32] states that the Resource Based Theory, also commonly referred to as the Resource Based View, is one of the fundamental theories that supports intellectual capital. This theory believes that a company will achieve excellence if it possesses resources with good knowledge. Nurjaman [33] state that knowledge is one of the important aspects for resources. Transformational leadership enhances knowledge management [34]. Transformational leaders inspire their teams to collaborate, innovate, and learn. These leaders encourage innovation, creativity, and knowledge sharing [35]. Knowledge sharing is very important for developing products and processes through creativity. The process of knowledge sharing can build a positive reputation in the business world, which can enhance the potential for business partner relationships, thereby boosting the development of creativity [17].

2.1. Transformational Leadership dan Employee Creative Performance

Creativity has been recognized as a prerequisite for the 21st century to achieve organizational sustainability Nakano and Wechsler [36]. George and Zhou [37] mention that the dimensions of employee creativity include: generating new ideas, creating solutions, and the willingness to work hard. [38] mentions four dimensions of employee creativity, namely: Fluency of thought, Flexibility of thought, Elaboration, and Originality. Amabile and Pratt [39] explains that the dimensions of creativity encompass four conceptual components from two internal and external dimensions of employees, namely: Domain-relevant skills, Creativity-relevant processes, Task motivation, and social environment. Based on that explanation, this research summarizes 5 (five) dimensions relevant to the issues of creative employee performance developing at the Ministry of Transportation of the Republic of Indonesia, namely: Willingness to work hard, Originality, Domain-relevant skills, Creativity-relevant processes, and Task motivation.

Employee creativity as the generation of new products and the use of ideas and procedures for innovation is beneficial for the growth and success of the organization [35, 40]. Both employees and managers play a crucial role in developing and maintaining a creative and innovative organization [16, 40-42]. Therefore, researchers continue to explore the antecedents of employee creativity performance in the workplace [43]. The leadership style of a leader is one of the most important factors in shaping employee creativity. Leaders with a transformational leadership style are described as a process where leaders stimulate and encourage creativity, provide motivation, and are directly involved in supporting and guiding employees to achieve the organization's vision and goals [3-12, 16, 44-46] proposed 4 (four) dimensions of transformational leadership that influence employee creative performance: intrinsic motivation, idealized influence, intellectual stimulation, and individual consideration. Research Ma and Jiang [5]; Kark, et al. [43] and Mahmood, et al. [47] show that transformational leadership style significantly motivates employee creative performance Based on the explanation above, we propose hypothesis-1 (H1) as follows:

H₁: Transformational leadership significantly affects employee creative performance.

2.2. The Influence of Transformational Leadership on Knowledge Sharing

Knowledge sharing is the process of providing knowledge by building communication between individuals [48]. Knowledge Sharing has two dimensions, namely knowledge collecting and knowledge disseminating, also known as knowledge donating [48]. Knowledge Collecting is an effort to persuade others to share what they know. Whereas knowledge donating is the communication that occurs when an individual is expected to transfer their intellectual capital [16, 49] state that transformational leadership strengthens the sense of loyalty among organizational members, which can stimulate knowledge sharing. Masa'deh, et al. [50]; Le and Lei [51] and Le and Lei [51] show that transformational leadership significantly affects knowledge sharing. Employees proactively share and gather knowledge with their colleagues for innovation under the transformational leadership style. Based on the explanation above, we propose hypothesis 2 (H2) as follows:

H₂: Transformational leadership significantly influences knowledge sharing.

2.3. The Influence of Transformational Leadership on Employee Engagement

The concept of employee engagement has been widely discussed in the field of human resource management. Tritch [52] states that employees with high engagement are workers who are fully involved and enthusiastic about their jobs. Schaufeli, et al. [53] formulated engagement as the opposite of burnout, which is a state where employees feel positive and satisfied with their work. This motivational construct is characterized by the presence of vigor, dedication, and absorption in employees. Bass [44] mentions four basic principles that influence engagement, three of which are leaders who inspire confidence in the future, management that values employees, and top management that demonstrates real responsibility to employees. These three principles are characteristics of transformational leadership style. This style is expected to inspire and motivate employees to work towards organizational goals, and leaders are able to attract the best subordinates by expressing confidence in their abilities. Zhang and Bartol [54] and Popli and Rizvi [55] show that transformational leadership has a direct influence and can enhance employee engagement. Mozammel and Haan [56] and Balwant, et al. [57] consistently show that transformational leadership has a significant positive effect on employee engagement. Therefore, we propose hypothesis 3 (H3) in this study:

H₃: Transformational leadership significantly affects employee engagement.

2.4. The Influence of Knowledge Sharing on Employee Creative Performance

Employee creativity can be said to be the development of individuals in building new ideas or products. Employee creativity is not only about new ideas or innovations, but also about the creativity in finding solutions to problems within the organization. Knowledge sharing can help the process of generating new ideas, such as products, services, and business processes Carmeli, et al. [58] and Wang and Wang [59]. Valipour, et al. [17] found that the exchange of employee skills is very important for seeking creative solutions, and it is crucial for developing current products and processes. Chen, et al. [60] proved that there is a positive relationship between the innovation creation process that requires Employee Creativity and Knowledge Sharing. Based on that explanation, hypothesis 4 (H4) is proposed:

H₄: Knowledge sharing significantly affects employee creative performance.

2.5. The Influence of Employee Engagement on Employee Creative Performance

The concept of employee engagement is becoming increasingly important in human resource management because it has been proven to be related to better organizational performance, higher productivity, and lower absenteeism and turnover rates. Therefore, many organizations consider employee engagement as one of the important factors for achieving long-term success. Employees who have a high level of engagement with their work will be more open to new things, allowing them to

work more creatively [61]. The relationship between employee engagement and employee creative performance is a topic that has attracted the attention of many researchers. Hakanen, et al. [62] showed that employees with a high level of engagement tend to have better creative performance. Zhou and Shalley [63] show that employee engagement can influence employee creativity through certain psychological processes, such as increased focus, courage, and cognitive flexibility. Zhang and Bartol [64]; Cain, et al. [65] and Kosar [66] show that employee engagement can enhance employees' creative performance. Based on this explanation, we propose hypothesis 5 (H5) in our research:

H₅: Employee Engagement significantly affects employee creative performance.

2.6. The Influence of Transformational Leadership on Employee Creative Performance Mediated by Knowledge Sharing

The practice of knowledge sharing has proven to assist leaders in enhancing organizational knowledge development efforts, which can help the management process in organizations to be managed more effectively [67]. Knowledge sharing can enhance the role of leaders in fostering employee creativity [1]. Research conducted by Dewi, et al. [68] shows that transformational leadership supports a knowledge-sharing culture and can enhance coworkers' willingness to contribute and gather knowledge, which in turn affects the speed and quality of employee creativity. Transformational leadership is a leadership style that supports a knowledge-sharing culture to enhance coworkers' willingness to donate and collect knowledge, which ultimately affects the speed and quality of employee creativity [69]. The collaborative and empowering approach of leaders can help integrate knowledge among all members, to generate novelty in products and processes [70]. Transformational leadership inspires knowledge sharing by communicating a vision that enhances employee creativity among employees Haase, et al. [71]. Hardono and Setiawan [72] and Williams, et al. [73] show that transformational leadership significantly affects employee creativity when mediated by knowledge sharing. Based on the explanation above, we propose hypothesis 6 (H6):

H₆: Knowledge sharing significantly mediates the influence of transformational leadership on employee creative performance.

2.7. The Influence of Transformational Leadership on Employee Creative Performance Mediated by Employee Engagement

Transformational Leadership involves leaders who are able to motivate employees, create a work environment that supports innovation, and encourage individual development. This has a positive impact on Employee Engagement, with employees feeling more emotionally involved and committed to their work and the organization. Employee engagement itself is an important factor in enhancing employee productivity and creativity, as engaged employees are more likely to contribute creative ideas. High employee engagement creates an environment that supports Employee Creative Performance, enabling employees to innovate and contribute new ideas. The importance of effective communication in transformational leadership also opens up opportunities for collaboration and idea exchange. Transformational leaders also serve as role models, inspiring employees to follow their lead in finding creative solutions. Employee satisfaction and a positive work environment also impact Employee Engagement, as happy employees tend to be more creative. In all of this, the close relationship between Transformational Leadership, Employee Engagement, and Employee Creative Performance creates positive outcomes for the organization, enhancing productivity, innovation, and competitiveness. Salma and Ramli [11] show that transformational leadership has both direct and indirect effects on employee creativity, through high work engagement within the organization. Therefore, the proposed hypothesis is as follows:

H₇: Employee Engagement significantly mediates the influence of transformational leadership on employee creative performance.

3. Methodology

We propose a model of the variable relationships investigated in our study as shown in Figure 1.

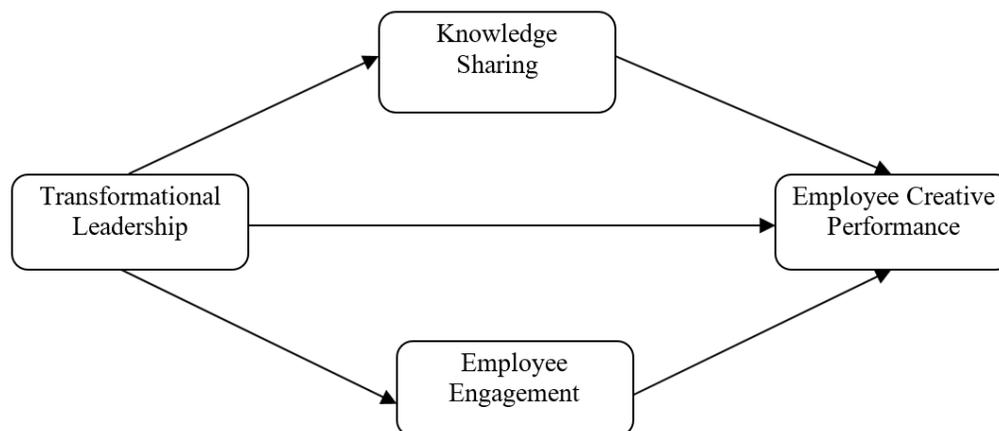


Figure 1.
Conceptual Framework.

This research is quantitative in nature, which is a research approach that emphasizes the collection and analysis of quantitative data. The design of the questionnaire and data collection were carried out using an online survey tool (Google Form distributed through WhatsApp Group contacts). The collected data were analyzed using Smart PLS SEM. This analysis allows for the quantitative analysis of certain attributes of transformational leadership, knowledge sharing, employee engagement, and their impact on employee creative performance.

In the literature review session, the author conducted an extensive literature review by accessing major academic databases such as ResearchGate, JSTOR, Sage, SpringerLink, and Elsevier, with the aim of building a research framework and developing initial research hypotheses. Through this combination of research methods, this paper aims to explore how transformational leadership affects employee creative performance at the Directorate General of Sea Transportation, Ministry of Transportation of the Republic of Indonesia through knowledge sharing and employee engagement.

The population of this study consists of employees of the Directorate General of Sea Transportation, Ministry of Transportation of the Republic of Indonesia, distributed across the North Sumatra Port Technical Implementation Unit, totaling 505 employees. Using the Slovin formula, a research sample of 224 employees was obtained. Next, the sample was taken using a random sampling approach, so that each population has an equal opportunity to become part of the research sample. The selected population becomes the sample, which is then used as respondents to answer the research questionnaire.

The questionnaire in this study consists of five sections. The initial section includes demographic details of the respondents to help analyze variations in employee creative performance among different demographics, such as gender, age, education, length of service, and job position. The second section discusses transformational leadership, the third section knowledge sharing, the fourth section discusses employee engagement, and the fifth section assesses employee creative performance. Sections two to five are evaluated using a five-point Likert scale. The options are "strongly disagree," "disagree," "neutral," "agree," and "strongly agree," which are each coded as 1, 2, 3, 4, and 5 [74]. To ensure response accuracy and avoid participant confusion, each section is clearly labelled. The measurement of each variable studied in this research can be seen in

Table 1.
Measurement of Variables.

No	Variabel	Indicator
1	Auditor Experience (X1)	<ul style="list-style-type: none"> a. Working for More than 10 Years b. Behavior of Public Accountants c. Collaboration of Public Accountants with International Financial Services d. Personal Branding Auditor e. Value of Auditor's Honest Service
2	Auditor Training (X2)	<ul style="list-style-type: none"> a. Attending workshops twice a year b. Development of fraud detection technology capabilities c. Professional degrees according to the needs of the auditor d. Cibercognitiv e. Understanding the changes in science and technology to complete financial reports f. The ability to communicate effectively to win clients' trust
3	Cyber Security to Detect Fraud (Y)	<ul style="list-style-type: none"> a. Clear, Concise, and Accurate Financial Report Information b. The report results are per the Standard Regulations. c. Security Log Analysis d. Using Multi-Factor Authentication and applications or AI that help check e. Role-Based Access Control Role
4	Professional Skepticism (Z)	<ul style="list-style-type: none"> a. Verification of Financial Evidence b. Evaluating the Reasonableness of Managerial Estimates c. Transaction Pattern Analysis d. Reassessing the Report Conclusion

4. Results and Discussion

The convergent validity of the items is approved through Cronbach Alpha, composite reliability, and AVE. Cronbach Alpha has been used to verify the internal consistency of survey items and data reliability. According to the research by Tabachnick and Fidell [75] the Cronbach alpha value should be > 0.5 or > 0.7 . Table 3 illustrates the Cronbach alpha values for all variables being greater than 0.7, which meets the criteria set by Tabachnick and Fidell [75]. Additionally, all variables have composite reliability greater than 0.7, meeting the criteria set by Straub [76]. Furthermore, Fornell and Larcker [77] in their research provided the criterion that AVE must be higher than 0.50 for convergent validity. As seen in Table 3, the AVE values meet the criteria for all variables because they are greater than 0.50 [78]. After convergent validity, the next step is to conduct discriminant validity analysis used on the variation of latent variables [79]. Discriminant validity is assessed using HTMT. Table 4 illustrates the HTMT ratios established by Henseler, et al. [80]; all HTMT values are less than 0.85 [81].

Table 2.
Measurement Model Result.

Variables	Dimensions	Items	Loadings	Cronbach Alpha	Composite Reliability	AVE			
Transformational Leadership (TL)	Inspirational motivation (IM)	IM1	0.925	0.899	0.937	0.832			
		IM2	0.912						
	Idealized influence (II)	IM3	0.899						
		II1	0.886				0.885	0.929	0.813
	Intellectual stimulation (IS)	II2	0.923						
		II3	0.896						
	Individual consideration (IC)	IS1	0.837				0.781	0.871	0.693
		IS2	0.815						
		IS3	0.846						
	Knowledge Donating (KD)	Knowledge Sharing (KS)	IC1				0.8	0.864	0.902
IC2			0.832						
Knowledge Collecting (KC)		IC3	0.805						
		IC4	0.849						
		IC5	0.738						
Vigor (V)	Knowledge Donating (KD)	KD1	0.892	0.945	0.956	0.785			
		KD2	0.875						
	Knowledge Collecting (KC)	KD3	0.903						
		KD4	0.913						
		KD5	0.866						
		KD6	0.867						
Dedication (D)	Vigor (V)	KC1	0.886	0.882	0.916	0.691			
		KC2	0.866						
	Employee Engagement (EE)	KC3	0.905						
		KC4	0.573						
Employee Creative Performance (ECP)	Absorption (A)	V1	0.816	0.795	0.88	0.71			
		V2	0.883						
		V3	0.826						
	Willingness to work hard (WH)	D1	0.739	0.814	0.878	0.644			
		D2	0.847						
	Originality (O)	D3	0.85						
		D4	0.77						
Employee Creative Performance (ECP)	Domain-relevant skills (DRS)	A1	0.51	0.637	0.805	0.592			
		A2	0.888						
		A3	0.852						
		WH1	0.929	0.84	0.926	0.862			
		WH2	0.928						
	Creativity-relevant process (CRP)	O1	0.914	0.788	0.904	0.825			
		O2	0.902						
		DRS1	0.868	0.931	0.948	0.784			
	Task motivation (TM)	Domain-relevant skills (DRS)	DRS2	0.909					
			DRS3	0.9					
Creativity-relevant process (CRP)		DRS4	0.888						
		DRS5	0.863						
		CRP1	0.679	0.875	0.909	0.67			
CRP2	0.756								
CRP3	0.886								

		CRP4	0.902			
		CRP5	0.846			
		TM1	0.881	0.851	0.909	0.77
		TM2	0.887			
		TM3	0.865			

Table 3.
Results of Descriptive Statistical Analysis.

Indicators	Minimum	Maximum	Mean	Std. Deviation	Skewness	Kurtosis
IM1	1	5	4.3259	0.82888	-1.530	2.969
IM2	1	5	4.2946	0.89481	-1.374	1.786
IM3	1	5	4.3750	0.78808	-1.161	0.794
II1	1	5	4.3304	0.81343	-1.432	2.744
II2	1	5	4.3482	0.83327	-1.620	3.444
II3	1	5	4.2857	0.85157	-1.244	1.527
IS1	1	5	4.1205	0.84637	-0.949	1.217
IS2	1	5	3.7455	1.07665	-0.674	-.098
IS3	1	5	3.9866	0.85485	-0.757	.593
IC1	1	5	4.2902	0.82053	-1.271	1.915
IC2	1	5	4.2366	0.82685	-0.946	.595
IC3	1	5	4.1473	0.85793	-0.976	.937
IC4	1	5	4.2098	0.78990	-1.053	1.693
IC5	1	5	3.9955	0.94465	-1.022	1.145
KD1	1	5	3.8170	0.98758	-0.837	.400
KD2	1	5	3.8170	0.94108	-0.832	.864
KD3	1	5	3.8304	0.99675	-0.860	.608
KD4	1	5	3.8571	0.97830	-0.898	.467
KD5	1	5	3.9196	0.95775	-1.043	1.038
KD	1	5	3.9509	0.87941	-0.822	.766
KC1	1	5	4.0045	0.86017	-1.032	1.399
KC2	1	5	3.9196	0.91953	-0.992	1.263
KC3	1	5	4.0402	0.82189	-0.906	1.193
KC4	1	5	3.9955	0.81740	-0.936	1.572
V1	1	5	4.4196	0.65801	-1.082	2.202
V2	1	5	4.3795	0.65866	-0.782	.379
V3	1	5	4.2991	0.67949	-0.626	.024
D1	1	5	4.4777	0.64192	-0.840	-.346
D2	1	5	4.4286	0.67251	-0.942	.468
D3	1	5	4.3438	0.65793	-0.789	.787
D4	1	5	4.2589	0.78375	-1.281	2.783
A1	1	5	3.7902	0.98221	-0.771	.445
A2	1	5	4.2813	0.64676	-0.346	-.708
A3	1	5	4.3973	0.61970	-0.516	-.623
WH1	1	5	4.2143	0.80278	-0.880	.377
WH2	1	5	4.1339	0.85228	-1.137	1.708
O1	1	5	4.0982	0.81971	-0.824	.905
O2	1	5	4.0402	0.85924	-0.976	1.264
DRS1	1	5	4.0893	0.84761	-1.018	1.237
DRS2	1	5	4.0670	0.91327	-0.953	0.594
DRS3	1	5	4.0670	0.88332	-0.919	0.893
DRS4	1	5	4.1071	0.84021	-0.846	0.773
DRS5	1	5	4.1295	0.83972	-0.937	0.782
CRP1	1	5	3.7723	1.01422	-0.727	0.165
CRP2	1	5	3.8482	0.93473	-0.756	0.544
CRP3	1	5	4.0625	0.78416	-0.505	-0.212
CRP4	1	5	4.0357	0.79153	-0.775	0.845

CRP5	1	5	4.1161	0.79511	-0.967	1.552
TM1	1	5	4.1607	0.79295	-0.949	1.426
TM2	1	5	4.3393	0.77579	-1.312	2.097
TM3	1	5	4.1964	0.83467	-1.224	1.850

Table 3. Shows that all kurtosis values are below 3, and the current flat condition of the data distribution is very similar to a normal distribution. The skewness value is close to 0, and the current data distribution has shifted to resemble a normal distribution.

4.1. Structural Equation Model Assessment

The developed hypothesis was tested using PLS-SEM. The criterion used to accept the hypothesis is that the p-value must not exceed 0.05 (5%). As seen in Table 4, all hypotheses are accepted.

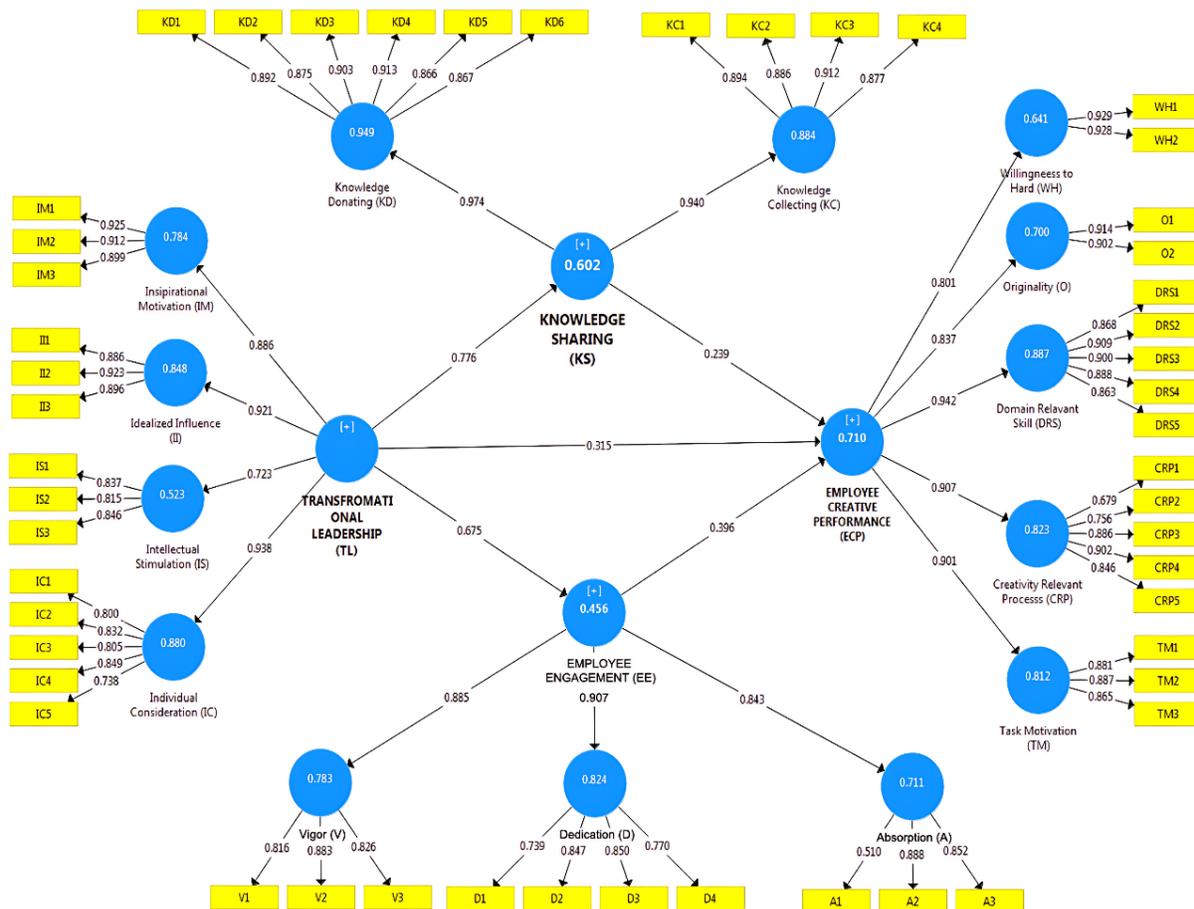


Figure 2. Algorithm, Reflective Model.

This interprets that transformational leadership has a positive influence of 0.776 on knowledge sharing, 0.675 on employee engagement, and 0.315 on employee creative performance. Meanwhile, knowledge sharing has a positive influence of 0.239 on employee creative performance, and employee engagement also has a positive influence of 0.396 on employee creative performance. Transformational leadership has a positive effect of 0.168 on employee creative performance mediated by knowledge sharing and a positive effect of 0.267 mediated by employee engagement.

Table 6 shows the R² value for knowledge sharing is 0.602, the adjusted R² value is 0.601, employee engagement has an R² value of 0.456 and an adjusted R² value of 0.454, and employee creative performance has an R² value of 0.710 and an adjusted R² value of 0.706. According to Ghozali and Latan [82] the GoF value can be seen from the R-Square or Adjusted R² with the criteria > 0.70 - 1.00 indicating a very strong GoF; > 0.45 - ≤ 0.70 indicating a strong GoF; > 0.25 - ≤ 0.45 indicating a moderate GoF; and ≤ 0.25 indicating a weak GoF. Thus, the SEM model produced in this study falls within the strong and very strong criteria, making it suitable for implementation in building knowledge sharing, employee engagement, and employee creative performance at the Directorate General of Sea Transportation, Ministry of the Republic of Indonesia.

The hypothesis was tested using the Bootstrapping model as shown in Table 7. Transformational leadership has a significant positive effect on employee creative performance (β 0.316, t-calculated 3.454 > t-table n 224 α 5% 1.651 and p value 0.001 < α 0.05), Hypothesis 1 (H1) is accepted. Transformational leadership also has a significant positive effect on knowledge sharing (β 0.776, t-calculated 22.589 > t-table n 224 α 5% 1.651 and p value 0.001 < α 0.05), Hypothesis 2 (H2) is accepted. Similarly, transformational leadership has a significant positive effect on employee engagement (β 0.675, t-calculated 21.101 > t-table n 224 α 5% 1.651 and p value 0.001 < α 0.05), Hypothesis 3 (H3) is accepted. Knowledge sharing has a significant positive effect on employee creative performance (β 0.239, t-calculated 3.259 > t-table n 224 α 5% 1.651 and p value 0.001 < α 0.05), Hypothesis 4 (H4) is accepted. Knowledge sharing has a significant positive effect on employee creative performance (β 0.396, t-statistic 6.006 > t-table n 224 α 5% 1.651 and p value 0.000 < α 0.05), Hypothesis 5 (H5) is accepted. Transformational leadership has a significant positive effect on employee creative performance mediated by knowledge sharing (β 0.168, t-statistic 3.145 > t-table n 224 α 5% 1.651 and p value 0.001 < α 0.05), hypothesis 6 (H6) is accepted. Similarly, transformational leadership also has a significant positive effect on employee creative performance mediated by employee engagement (β 0.257, t-statistic 5.564 > t-table n 224 α 5% 1.651 and p value 0.001 < α 0.05), hypothesis 7 (H7) is accepted.

Table 4.
Hypothesis Testing.

Hypothesis	Regression Path	Effect Type	β -value	t-value	p-value	Remark
H1	TL -> ECP	Direct	0.316	3.454	0.001	Supported
H2	TL -> KS	Direct	0.776	22.589	0.000	Supported
H3	TL -> EE	Direct	0.675	21.101	0.000	Supported
H4	KS -> ECP	Direct	0.239	3.259	0.001	Supported
H5	EE -> ECP	Direct	0.396	6.006	0.000	Supported
H6	TL -> KS-> ECP	Indirect	0.168	3.145	0.001	Supported
H7	TL -> EE-> ECP	Indirect	0.257	5.564	0.000	Supported

Figure 1 and Table 4 directly and indirectly show that all the analyzed variables significantly affect employee creative performance. All proposed hypotheses are supported. The testing of the first three hypotheses (H1, H2, and H3) shows that transformational leadership significantly affects employee creative performance, knowledge sharing, and employee engagement. The testing of the next two hypotheses (H4 and H5) shows that knowledge sharing and employee engagement significantly affect employee creative performance, and the testing of the last two hypotheses (H6 and H7) shows that transformational leadership also significantly affects employee creative performance mediated by knowledge sharing and employee engagement. This is in line with the research by Sulistiyani and Rahardja [3]; Gathii [4]; Ma and Jiang [5]; Suifan, et al. [6]; Sayyadi [7]; Golden III and Shriner [8]; Aliksieieva, et al. [9]; Asad, et al. [10]; Salma and Ramli [11] and Dezar and Yuniawan [12] which show that transformational leadership has a significant impact on employee creative performance, Masa'deh, et al. [50]; Xie, et al. [34]; Jiang and Chen [35] research showing that transformational leadership significantly affects knowledge sharing, Zhang and Bartol [54]; Popli and Rizvi [55]; Zhang

and Bartol [64]; Mozammel and Haan [56] and Balwant, et al. [57] research showing that transformational leadership significantly affects employee engagement. Jiang and Chen [35] and Azizah, et al. [15] show that knowledge sharing significantly affects employee creative performance, while the research by Hardono and Setiawan [72] and Azizah, et al. [15] also indicates that knowledge sharing significantly mediates the relationship between transformational leadership and employee creative performance. Research by Hakanen, et al. [62]; Zhou and Li [83]; Zhou and Shalley [63]; Cain, et al. [65] and Kosar [66] shows that employee engagement significantly enhances employee creative performance. Salma and Ramli [11] show that employee engagement significantly influences the relationship between transformational leadership and employee creative performance.

Studies on leadership have revealed a positive relationship between leadership and employee creative behavior [39]. Transformational leaders will guide their followers towards good moral values, direct their followers to commit to organizational values, appreciate their followers, encourage their followers to be creative, and inspire their followers to achieve organizational goals. Leaders who use the transformational leadership style are certainly knowledgeable, have integrity, and are intelligent, allowing them to build relationships through the implementation of knowledge sharing across different positions. Yaghoubi, et al. [16] show that leaders with a transformational leadership style strengthen the sense of loyalty among organizational members, which can stimulate knowledge sharing. Knowledge sharing involves consultation between individuals to acquire knowledge [84]. This refers to the process of acquiring knowledge from other individuals through consultation and persuasion. Both of these knowledge-sharing processes build a good reputation in business, which enhances relationships with potential business partners, thereby fostering innovation development Ritala, et al. [85]. Valipour, et al. [17] found that the exchange of employee skills is very important for finding creative solutions. This means that the implementation of transformational leadership followed by knowledge sharing effectively enhances employee creative performance. The better the implementation of transformational leadership, the better the knowledge sharing, and employee creative performance will improve.

5. Conclusions

This research shows that transformational leadership has a significant positive effect on employee creative performance, knowledge sharing, and employee engagement. Knowledge sharing and employee engagement have a significant positive impact on employee creative performance. Transformational leadership significantly enhances employee creative performance, with knowledge sharing and employee engagement serving as mediators. This means that the implementation of the transformational leadership style by the head of the Directorate General of Sea Transportation, Ministry of Transportation of the Republic, leads to intrinsic motivation, idealized influence, intellectual stimulation, and individual consideration for knowledge sharing and greater involvement in work, which ultimately enhances employee creative performance. The results of this study show that transformational leadership directly influences knowledge sharing, employee engagement, and employee creative performance. Similarly, employee engagement and employee creative performance also have a significant positive impact on employee creative performance.

Indirectly, transformational leadership also affects employee creative performance, mediated by knowledge sharing and employee engagement. Theoretically, the findings of this study have implications for the development of the resource-based view (RBV) theory. A company will achieve competitive advantage if it possesses resources with high employee creative performance, good knowledge, high work engagement, and leaders who can transform in building their organization to maintain valuable, rare, difficult-to-imitate, and irreplaceable resources. Practically, the findings of this research have implications for the Directorate General of Sea Transportation, Ministry of Transportation of the Republic of Indonesia. When aiming to develop employee creative performance, management must implement a transformational leadership style at all levels of management, from low-level management to middle-level management to top-level management, followed by building knowledge sharing and employee engagement.

Transparency:

The authors confirm that the manuscript is an honest, accurate, and transparent account of the study; that no vital features of the study have been omitted; and that any discrepancies from the study as planned have been explained. This study followed all ethical practices during writing.

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