

The Impact of Employee Engagement on Sustainable Transport Development

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Abstract: Employee participation refers to the level of emotional engagement and involvement an employee has in contributing to the organization and its goals.

This study analyzed 55 overlapping factors that influence employee participation, identified by four organizations and four academic researchers. Based on expert evaluations conducted by employees from the selected organization, five key factors were chosen for the study: leadership style, learning culture, work capacity and empowerment, rewards and recognition, and employee performance. To examine the relationships among these factors, a survey was conducted with 330 employees from a transportation maintenance organization. The data were analyzed using SPSS 26.0, applying factor analysis to assess the validity and reliability of measurement constructs, as well as correlation analysis. Furthermore, SmartPLS 4, a globally recognized statistical tool, was used to validate the hypothesis through path modeling and reliability tests, including Cronbach's Alpha.

The results revealed a strong, statistically significant association between employee engagement and sustainable transport development, with a participation coefficient of 0.950. These findings underscore the critical role of employee engagement in shaping sustainable practices within transport organizations—enhancing decision-making, operational efficiency, and long-term sustainability.

Keywords: employee performance, learning culture, motivation, management, human resources, capabilities

1. INTRODUCTION

In an era of rapid technological advancement and increasing organizational competition, enhancing employee participation has become a vital strategy for achieving long-term success. In addition to external and internal environmental factors, employee engagement is a key determinant of productivity and sustainability within organizations.

The stability of national development is an increasingly urgent issue. To address these challenges, international frameworks such as the United Nations Sustainable Development Goals (SDGs) provide a comprehensive approach to achieving long-term stability. Organizations must adopt policies that enhance competitiveness and actively engage employees in sustainable development initiatives. The SDG in 2030 agenda created 17 interconnected objectives aimed at eradicating poverty, protecting the environment, and promoting global

prosperity. These goals are structured around three fundamental pillars: society, economy, and environment (United Nations, 2015).

Mongolia's Sustainable Development Policy aligns with these global efforts, encompassing 17 goals, 169 targets, and 244 indicators. One critical goal, "Sustainable Cities and encourage citizens" emphasizes the role of public transport investments, green space improvements, and business development in fostering a resilient socio-economic system. By 2030, efforts aim to improve public transport in terms of accessibility, affordability, and sustainability, highlighting the crucial role of employee participation in advancing sustainable development.

Employee participation extends beyond compliance with labor laws and is directly linked to job stability, well-being, and organizational sustainability. Engaged employees experience greater optimism and a stronger sense of security, which contributes to their motivation and productivity. Work environments that provide employees with essential resources, learning opportunities, and a supportive team foster higher engagement levels.

A recent global survey by Gallup (2024) found that 41% of employees in Thailand reported low engagement levels. The degree of employee engagement varies significantly depending on organizational management practices. Employees in poorly managed organizations are 60% more likely to experience disengagement and workplace stress. Moreover, low engagement levels impose substantial economic costs, amounting to \$8.9 trillion globally, which represents 9% of the world's GDP (Gallup, 2024).

In today's competitive business environment, companies with high employee engagement report 21% higher profitability than their counterparts. This underscores the importance of leveraging human resources effectively to optimize organizational performance and sustainability.

This presentation aims to examine how employee participation influences the sustainable development of transportation organizations in Mongolia. Given the country's high urban density, traffic congestion, and heavy movement during peak hours, it is essential that all forms of transportation services remain efficient and sustainable to ensure access to work, education, shopping, and healthcare. Increasing employee participation in the sustainable development of transportation organizations has far-reaching benefits. Beyond improving internal performance, it also contributes to enhancing transport accessibility, increasing safety, and reducing environmental impacts.

Therefore, to ensure the sustainable development of organizations through increased employee participation, it is necessary to implement strategic directions such as reforming leadership, developing a learning culture and employee capacity, optimizing performance evaluation, and improving the incentive system. Implementing these strategic areas will not only enhance employee engagement and organizational effectiveness, but will also provide a solid foundation for the sustainable, accessible, and efficient development of transportation systems.

2. LITERATURE REVIEW

2.1. Sustainable development

Humanity has the ability to make development sustainable to ensure that it meets the needs of the present without compromising the ability of future generations to meet their own needs (United Nations., 1987).

Sustainable development is an ongoing process that enhances employee participation within organizations by addressing their professional needs, aspirations, and ambitions. It integrates economic, environmental, and social dimensions, ensuring that interconnected actions contribute to long-term organizational and societal stability. Achieving sustainability requires active policies, innovative strategies, cultural adaptation, and continuous skill development among employees (Jesús García-Arca, 2024).

Mongolia's long-term development policy focuses on creating smart cities that enhance livability, promote environmental sustainability, and prioritize citizen-centered development. Improving the quality and accessibility of social infrastructure and increasing public participation are essential components of this vision. Additionally, the "Human Development" goal within the "Labor Market" framework seeks to establish a balanced labor market, foster a knowledge-based economy, and ensure equitable employment and income opportunities for all citizens (VISION-2050, 2020).

To achieve these objectives, organizations play a pivotal role in sustainability by developing and implementing policies that enhance employee engagement. Increasing employee participation in sustainable transport initiatives, fostering equal access to employment, and addressing unemployment challenges require collective efforts among organizations. Sharing best practices and adopting collaborative strategies are essential for driving meaningful progress toward sustainable development.

The term 'sustainable development' in this study refers to the internal sustainability of organizations within the transportation sector. Specifically, it denotes the sustainability related to organizational operational efficiency, employee engagement, leadership, incentives, and performance.

2.2. Employee Engagement

Employee participation is the active contribution of employees through knowledge, ideas, and initiatives to support their organization's sustainable development. It is built on mutual trust between employees and the organization, fostering a relationship that enhances engagement and commitment. When employees commit to staying in an organization and develop a positive attitude, their level of engagement strengthens. This participation is characterized by enthusiasm, energy, focus, perseverance, and the willingness to fully invest effort into their work.

Since its emergence in 1990, employee participation has evolved as a key management practice. Researchers have defined it in various ways, emphasizing different aspects of engagement. William A. Kahn (1990) defined employee participation as the extent to which individuals bring their physical presence into their job roles. Harter J.K. (2002) described it as an individual's involvement in work, job satisfaction, and enthusiasm for their role. William H. Macey (2012) characterized employee engagement as a manifestation of personal initiative, adaptability, commitment, and perseverance directed toward achieving organizational goals.

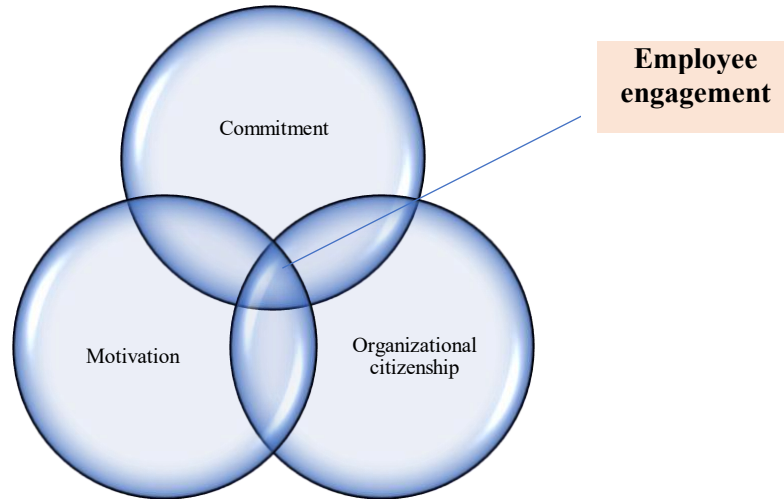
Organizational goals, values, unifying policies, and leadership efforts significantly influence the degree of employee participation (Anouk Decuypere, 2019). Engagement is a dynamic process that involves intellectual effort, emotional investment, and positive social interactions during job performance.

Employee engagement focuses on how to perform well, make a positive impression on others, and build relationships during the work process (Kerstin Alfes., 2010).

Employee engagement consists of two primary dimensions: job engagement and organizational engagement (Saks, 2006; Balain & Sparrow, 2009). Saks (2006) argued that social exchange theory serves as the foundation for understanding engagement, emphasizing

that reciprocal responsibilities between employees and organizations arise through mutual interactions.

Building on this understanding, the Institute for Employment Studies proposed a three-component engagement model comprising commitment, organizational citizenship, and motivation (Michael Armstrong, 2010). This model underscores the multifaceted nature of employee engagement and its crucial role in fostering organizational success (figure 1).



Source: (Michael Armstrong., 2010)

Figure 1. The IES Model of Employee Engagement

Strategic human resource management (HRM) practices play a critical role in shaping decision-making processes, influencing workplace behaviors, and addressing organizational challenges. Studies suggest that employee engagement, commitment, and job performance are key contributors to an organization's sustainable development. HRM practices act as a driving force in fostering these aspects, ultimately enhancing long-term organizational success (Uma Sankar Mishra et al., 2017).

Leadership styles and HRM activities play a crucial role in enhancing employee motivation and skill development, thereby supporting career advancement (Hee et al., 2019). The primary role of HRM is to cultivate a positive work environment, promote job satisfaction, and align human resource strategies with organizational objectives. A well-structured workplace fosters higher employee engagement, resulting in long-term commitment and increased productivity.

Employee tenure within an organization is often an indicator of job satisfaction and loyalty toward management and workplace culture. Studies have established that HRM frameworks directly influence employee participation by defining workplace responsibilities and engagement strategies (rnold B. Bakker, 2011).

Sustainable employment emphasizes the attainment of meaningful work-related goals, an increasingly important focus in developed economies. Gurbuz and Bakker examined the relationship between work engagement, job performance, and job satisfaction within the framework of sustainable employment. Their findings indicate that an aging workforce presents challenges, particularly due to the shrinking pool of skilled young professionals.

3. RESERCH METHODOLOGY

Organizations prioritize the attraction, development, and retention of talented employees to ensure long-term sustainability. In addition to talent management, fostering employee

engagement is essential, as it contributes to overall well-being, enhances productivity, and cultivates a positive work environment. As a result, scholars and organizations have conducted extensive research on the factors influencing employee engagement.

Table 1. Factors Influencing Employee Engagement

№	Organizations & Researchers	Number of Influencing Factors
1	SFA байгууллага	12
2	Deloitte Consulting LLP	10
3	Randstad Interim Inc	8
4	Gallup	4
5	Dhivyabharathi Parabakarana , Masri Bin Abdul Lasi	5
6	William A. Kahn	3
7	D Robinson, S Perryman, S Hayday	10
8	Schaufeli, W. et all	3
	TOTAL	55

An analysis conducted by leading industry organizations and academic researchers identified 55 factors that influence employee engagement (Appendix 1).

Among these, several overlapping factors were subjected to expert evaluation by five officials from the selected organization, including the executive officer, human resources manager, department head, and a representative employee. Based on their assessments, five factors that received a rating of 4 or higher were selected for further analysis (Appendix 2).

These factors, originally developed by Parabakarana and Abdul Lasi, are: learning culture, work capacity, incentives, leadership style, and employee performance (Dhivyabharathi & Masri Bin , 2021).

Learning Culture: A strong learning culture is essential for organizational growth and employee engagement. Managers foster such a culture through mentorship, professional development initiatives, and ongoing feedback. Establishing a learning-oriented environment enhances employees' skills, motivation, and professional development, ultimately contributing to long-term organizational success (Van Breda-Verduijn, 2016).

Beyond individual development, a strong learning culture also facilitates innovation management, empowering employees to address challenges and implement effective solutions. Leadership plays a critical role in supporting employee decision-making, which strengthens engagement and fosters a culture of continuous improvement.

Work Capacity and Empowerment: Employee empowerment refers to granting individuals the authority and autonomy necessary for decision-making in their daily tasks. When employees have the ability to make decisions, they contribute more effectively to management processes and leadership initiatives. A workplace that fosters autonomy not only enhances employee engagement but also promotes job satisfaction, integrity, and long-term organizational commitment.

Rewards and Recognition: Employee commitment and performance are crucial to organizational success, influencing factors such as innovation, productivity, and retention. Research suggests that reward programs enhance self-worth, motivation, and overall job satisfaction while also driving efficiency and influencing behavioral outcomes (Oosthuizen, 2001). Additionally, recognizing employee contributions strengthens engagement and encourages higher levels of performance (Marlisa Abdul Rahim, 2013).

Leadership Style: Effective leadership plays a key role in shaping employee engagement. Employees are more satisfied when their contributions are acknowledged, and their expectations are met, leading to increased job commitment and reduced turnover. Leadership

is also responsible for fostering professional growth by providing training opportunities, career development guidance, and constructive performance feedback ((Prasiska Ramadyaning Utami, 2019). The ability to motivate, recognize, and support employees is essential for maintaining a productive and engaged workforce.

Employee Performance: Transparent and fair performance evaluations are fundamental to sustaining employee engagement. Regular assessments enable employees to refine work behaviors, enhance productivity, and align their efforts with organizational objectives. Leadership and managerial approaches significantly influence employee performance, reinforcing the importance of continuous support and guidance.

These five factors - learning culture, work capacity and empowerment, rewards and recognition, leadership style, and employee performance - serve as the foundation for the research model developed to analyze employee engagement.

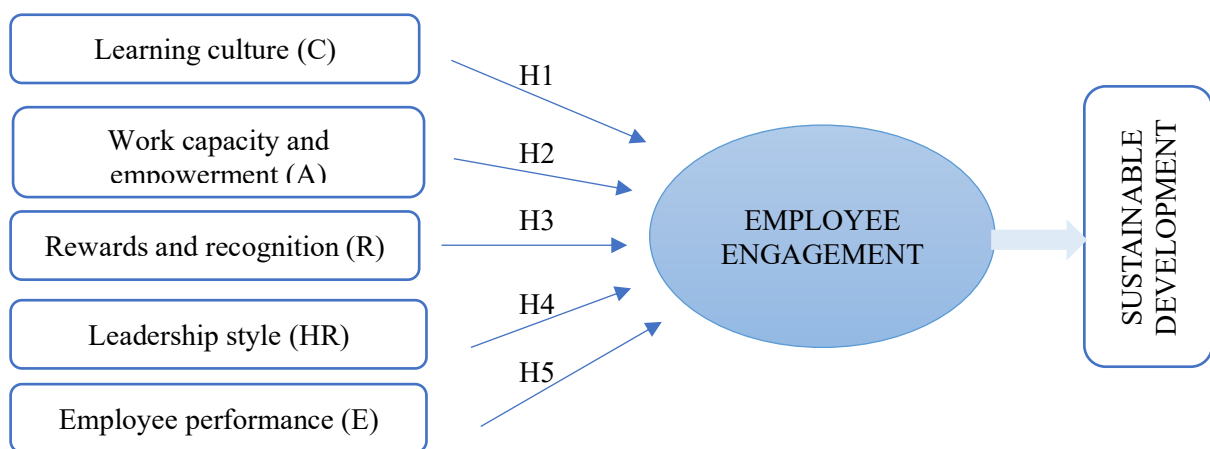


Figure 2. Methodological approach

In this study, employee engagement serves as the dependent variable, while the independent variables include learning culture, work capacity and empowerment, rewards, leadership style, and employee performance. It is hypothesized that increased employee engagement supports sustainable organizational development. Based on this framework, the following hypotheses are proposed (figure 2):

H1: A strong learning culture positively influences employee engagement.

H2: Greater work capacity and employee empowerment lead to higher employee engagement.

H3: Effective reward systems enhance employee engagement.

H4: Leadership style significantly impacts employee engagement.

H5: Higher employee performance is associated with greater employee engagement.

4. STUDY RESULTS

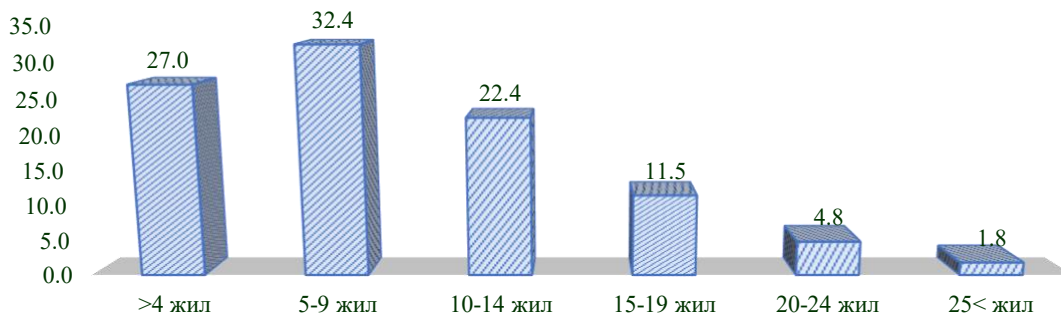
This study examines the factors influencing employee engagement in the sustainable development of a vehicle diagnostic service organization. The survey was conducted using Google Forms, with a total of 330 respondents participating. Data were analyzed using IBM SPSS 26 and SmartPLS.

Age Distribution of Respondents

An analysis of the respondents' age distribution revealed the following:

- 6% were aged 18–24
- 57.8% were aged 25–40
- 37.1% were aged 41–56
- 3.3% were aged 57 and above

The majority of respondents (57.8%) belonged to Generation Y (Millennials), individuals aged 25–40. This generation is characterized by growing up during the expansion of digital technology, including the internet, smartphones, and social media. Millennials are recognized for prioritizing work-life balance, adaptability to change, and a preference for experiences over material possessions (figure 3).

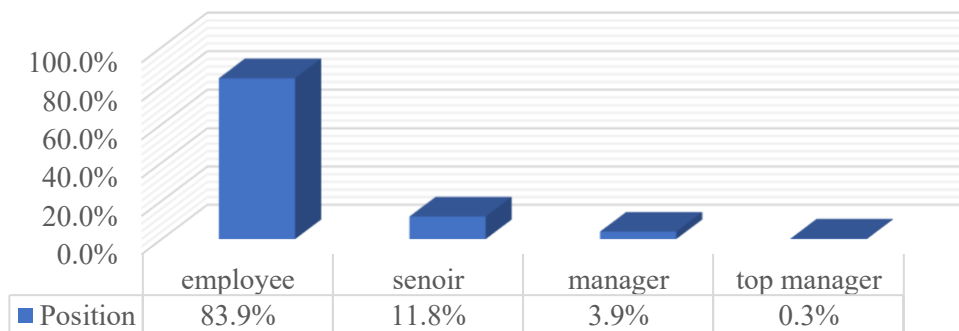


Source. Researcher's Analysis
Figure 3. Years of Work Experience

The predominance of Millennials in the survey suggests that most participants have established stable careers within the transport sector. This demographic composition may influence perspectives on employee engagement, as Millennials often prioritize workplace flexibility, career advancement opportunities, and roles that align with their values and professional aspirations.

When considering the education level of the employees participating in the study, 8.2% have completed secondary education, 77.9% hold a bachelor's degree, 13.6% have a master's degree, and 0.3% hold a doctoral degree. The fact that 77.9% of the employees have a bachelor's degree indicates that the organization is staffed with qualified professionals.

Among the employees participating in the study, 83.9% are operational staff such as specialists and employees, 11.8% are senior staff, 3.9% are managers, and 0.3% are top managers. The fact that 83.9% of the employees are operational staff indicates that specialists perform the majority of the operational work and actively participate in the organization's activities (figure 4).



Source. Researcher's Analysis
Figure 4. Position

Regarding leadership style, was rated as follows: 47.3% rated it as very good, 32.4% as good, 15.5% as average, 4.8% as poor.

For employee performance, was rated as follows: 63.0% rated it as very good, 26.4% as good, 10.6% as average.

Regarding learning culture, was rated as follows: 44.2% rated it as very good, 30.6% as good, 17.9% as average, 7.2% as poor.

For employee capacity & empowerment, was rated as follows: 10.6% rated it as poor, 26.4% as average, 28.2% as good, 34.8% as very good.

Regarding rewards & recognition, was rated as follows: 45.8% rated it as very good, 30.0% as good, 18.2% as average, 6.0% as poor.

In summary, employee engagement was rated as follows: 49.1% said it has a very good impact, 34.8% as good, 13.0% as average, 3.0% as poor.

Factor analysis was conducted to validate the proposed research hypotheses, confirming the appropriate categorization of the five selected factors. The Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy produced a value of **0.937**, confirming that the sample size was suitable for factor analysis. Additionally, the significance (*Sig.*) value of **.000** indicated a strong correlation among the variables, supporting the reliability of the factor analysis (table 2).

Table 2. KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.	.937
Bartlett's Test of Sphericity	Approx. Chi-Square
	5294.581
	Df
	190
	Sig.
	.000

Source. Researcher's Analysis

According to the research findings (table 3):

- Leadership style positively influences employee engagement, with the following factor loadings:
 - Employee performance: 0.421 (E)
 - Learning culture: 0.637 (C)
 - Work capacity & empowerment: 0.491 (A)
 - Rewards & recognition: 0.612 (R)
- The impact of employee performance on employee engagement is also positive:
 - Learning culture: 0.525 (C)
 - Work capacity & empowerment: 0.266 (A)
 - Rewards & recognition: 0.503 (R)
- The effect of learning culture (C) on employee engagement (ENG) is positive, with:
 - Work capacity & empowerment: 0.436 (A)
 - Rewards & recognition: 0.630 (R)
- The effect of work capacity & empowerment (A) on employee engagement (Eng) is positively correlated with:
 - Rewards & recognition: 0.414 (R)

Table 3: Correlations

		Employee engagement	Leadership style (HR)	Employee performance (E)	Learning culture (C)	Work capacity & empowerment (A)	Rewards & recognition (R)
Employee engagement	Pearson Correlation Sig. (2-tailed) N	1 330					
Leadership style (HR)	Pearson Correlation Sig. (2-tailed) N	.807** .000 330	1 330				
Employee performance (E)	Pearson Correlation Sig. (2-tailed) N	.629** .000 330	.421** .000 330	1 330			
Learning culture (C)	Pearson Correlation Sig. (2-tailed) N	.844** .000 330	.637** .000 330	.525** .000 330	1 330		
Work capacity & empowerment (A)	Pearson Correlation Sig. (2-tailed) N	.546** .000 330	.491** .000 330	.266** .000 330	.436** .000 330	1 330	
Rewards & recognition (R)	Pearson Correlation Sig. (2-tailed) N	.805** .000 330	.612** .000 330	.503** .000 330	.630** .000 330	.414** .000 330	1 330

** . Correlation is significant at the 0.01 level (2-tailed).

Source. Researcher's Analysis

According to the results presented in Table 3, several factors show a strong positive correlation with employee engagement. Specifically, leadership style ($r = 0.807$), learning culture ($r = 0.844$), and rewards and recognition ($r = 0.805$) demonstrate a strong association with employee engagement. Additionally, employee performance ($r = 0.629$) and work capacity and empowerment ($r = 0.546$) also show a positive correlation, though to a lesser extent. These findings support the hypothesis that leadership style, learning culture, and rewards and recognition significantly contribute to employee engagement.

Furthermore, the results of the ANOVA analysis suggest that the independent variables significantly explain variations in employee engagement, as evidenced by an F-value of 688.921. The hypothesis was tested at a significance level of $p < 0.05$, and the significance value (Sig. = 0.000b) confirms that the model is statistically significant, reinforcing the reliability of the findings (table 4).

Table 4. Anovaa result of the analysis

Model	Sum of Squares	df	Mean Square	F	Sig.
1 Regression	242.649	5	48.530	688.921	.000 ^b
Residual	22.824	324	.070		
Total	262.606	329			

a. Dependent Variable: Eng

b. Predictors: (Constant), R, A, E, HR, C

Source. Researcher's Analysis

The B coefficient analysis was conducted to determine the extent to which various factors influence employee engagement. The results indicate moderate positive relationships for leadership style – HR (B = 0.276), employee performance – E (B = 0.188), learning culture – C (B = 0.314), and rewards and recognition – R (B = 0.260). These findings suggest that leadership style, employee performance, learning culture, and rewards and recognition each make a meaningful contribution to enhancing employee engagement. In contrast, work capacity and empowerment – A exhibited a low positive effect (B = 0.059), indicating that this factor has a relatively weaker influence on employee engagement when compared to the other variables examined in the study (table 5).

Table 5. Correlation Analysis of Employee Engagement Factors
Coefficients^a

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1 (Constant)	-.375	.099		-3.774	.000
HR	.276	.021	.301	12.864	.000
E	.188	.025	.148	7.476	.000
C	.314	.021	.358	14.848	.000
A	.059	.013	.085	4.424	.000
R	.260	.021	.286	12.332	.000

a. Dependent Variable: Eng (Employee engagement)

Source. Researcher's Analysis

The organization, which provides transportation maintenance services, strictly adheres to safety and operational standards. Due to the highly standardized nature of roles such as drivers, mechanics, engineers, and repair technicians, employees have limited opportunities to freely express their ideas, share experiences, and make independent decisions. Consequently, employees are unable to fully exercise their authority and work capacity, which is reflected in the weak effect of this factor on employee engagement (B = 0.059). This is to reduce employee engagement, highlighting the need for the organization to implement targeted measures aimed at enhancing employee work capacity and empowerment. Formula representation:

$$\text{Employee engagement} = -0.375 + 0.276 \cdot \text{HR} + 0.188 \cdot \text{E} + 0.314 \cdot \text{C} + 0.059 \cdot \text{A} + 0.260 \cdot \text{R}$$

To confirm that employee engagement is positively related to the sustainable development of the selected vehicle maintenance organization, the NEW SmartPLS-4 program, which is internationally recognized and widely used in social science research, was used.

Specifically, leadership style – HR (0.756–0.922), employee performance – E (0.758–0.878), learning culture – C (0.851–0.905), work capacity and empowerment – A (0.780–0.862), and rewards and recognition – R (0.798–0.885) demonstrate strong factor loadings, indicating their significant contribution to employee engagement (figure 5).

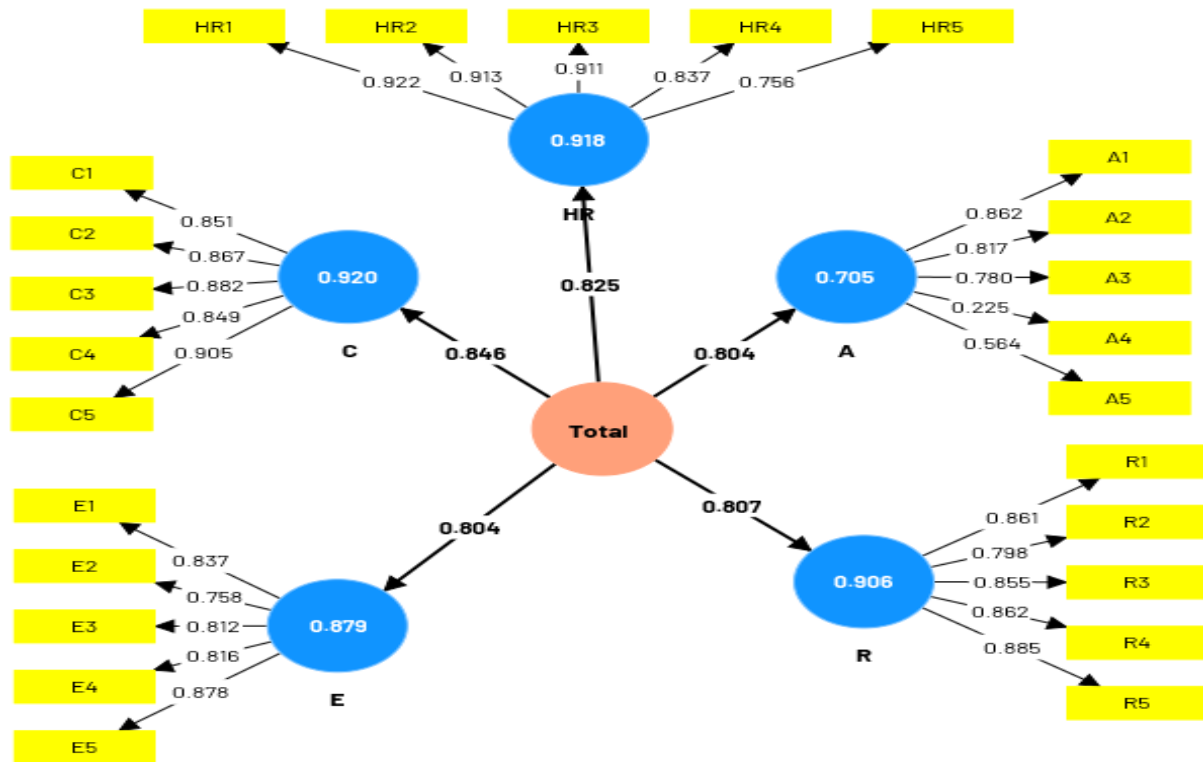


Figure 5. Results of Employee Engagement Indicator Correlations Processed Using Smart PLS4 Software

The most influential items are:

- **HR1**: "Management supports and motivates your work."
- **E5**: "I actively participate and feel motivated in my daily work."
- **C5**: "The organization supports employees' long-term professional growth through training programs."
- **A1**: "I feel management's support when making decisions."
- **R5**: "The organization's overall reward system is fair and aligns with my job performance."

These findings emphasize the importance of management support, motivation, professional development, decision-making autonomy, and a fair reward system in fostering employee engagement.

The reliability and validity analysis of employee engagement factors was assessed using Cronbach's Alpha and Composite Reliability (CR) coefficients. The Cronbach's Alpha values for learning culture ($\alpha = 0.920$), leadership style ($\alpha = 0.918$), rewards and recognition ($\alpha = 0.906$), employee performance ($\alpha = 0.879$), and work capacity and empowerment ($\alpha = 0.705$) all exceed the commonly accepted reliability threshold of 0.7, indicating strong internal consistency. The Composite Reliability (CR) coefficients also indicate high reliability across all factors: learning culture (CR = 0.921), leadership style (CR = 0.921), rewards and recognition (CR = 0.908), employee performance (CR = 0.887), and work capacity and empowerment (CR = 0.806). These results confirm the strong reliability and validity of the measurement model (table 6).

Table 6. Reliability and Discriminant Validity Analysis

	Work Capacity & Empowerment	Learning Culture	Employee Performance	Leadership Style	Rewards & Recognition	CA	CR	AVE
Work Capacity & Empowerment	0.693					0.705	0.802	0.480
Learning Culture	0.764	0.871				0.920	0.940	0.759
Employee Performance	0.708	0.762	0.821			0.879	0.912	0.674
Leadership Style	0.735	0.728	0.713	0.870		0.918	0.939	0.757
Rewards & Recognition	0.700	0.750	0.665	0.681	0.852	0.906	0.930	0.727

Source: Researcher's Analysis

The AVE (Average Variance Extracted) analysis demonstrates the influence of each factor on employee engagement. The results indicate that learning culture (AVE = 0.759), leadership style (AVE = 0.757), and rewards and recognition (AVE = 0.727) exhibit a very strong influence, while employee performance (AVE = 0.674) demonstrates a strong influence. In contrast, work capacity and empowerment (AVE = 0.480) show a weak influence, suggesting a lower explanatory power in the model (table 6).

The indicators measuring employee engagement in sustainable transport development range from 0.754 to 0.919, confirming the high reliability of the questionnaire. However, the lowest-rated indicator, **A4** ("There are obstacles that limit your ability to work independently and make decisions"), received an AVE score of 0.225, indicating a very weak influence. This result highlights the need for further examination and potential improvements in this area (figure 6).

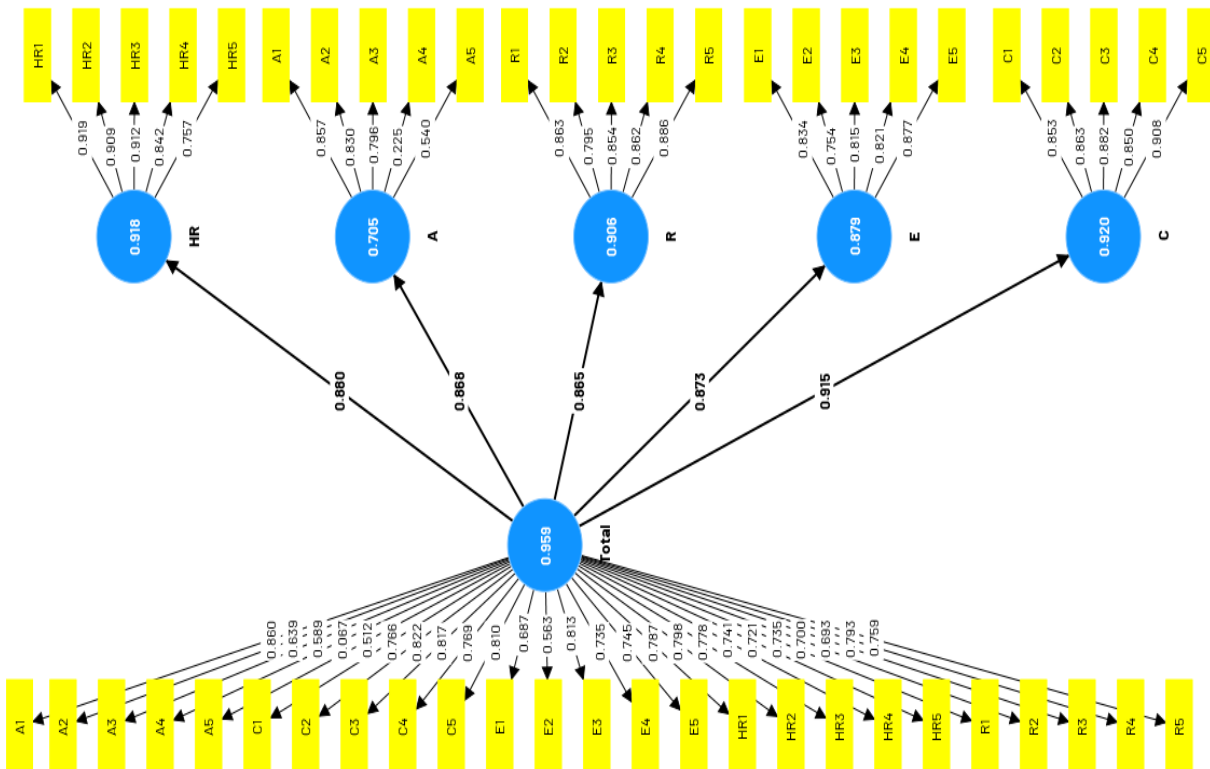


Figure 6: Results of Testing Employee Engagement Indicators on an Organizational Example, Processed Using Smart PLS4 Software.

The correlation coefficient analysis evaluates the correlation between employee engagement and key influencing factors. The results indicate strong positive correlations for leadership style ($r = 0.880$), employee performance ($r = 0.873$), work capacity and empowerment ($r = 0.868$), and rewards and recognition ($r = 0.865$). Additionally, learning culture exhibits a very strong correlation ($r = 0.915$), demonstrating its substantial impact on employee engagement (table 7).

Table 7. Results of hypothesis testing

Hypothesis	Employee engagement	
	Path	Regression weight
H1a	T→HR	0.880
H1b	T→E	0.873
H1c	T→C	0.915
H1d	T→A	0.868
H1e	T→R	0.865

Source: Researcher's Analysis

These findings align with theoretical and methodological perspectives emphasizing the critical role of cultivating a learning culture within organizations. Among all factors, learning culture emerged as the most influential, indicating that fostering an environment of continuous learning and development is essential for supporting employee participation.

This underscores that nurturing a learning culture is strategically important for achieving sustainable organizational development. Moreover, such an environment not only facilitates individual growth but also contributes substantially to the long-term sustainability and progress of the organization.

In summary, while all five factors significantly influence employee engagement, learning culture stands out as a key driver toward attaining sustainable development goals.

Furthermore, the overall employee engagement score ($r = 0.950$) demonstrates a strong, statistically significant relationship with sustainable transport development, reinforcing the research hypothesis.

These findings validate the positive impact of leadership style, employee performance, work capacity and empowerment, learning culture, and rewards and recognition on employee engagement, contributing to the sustainable development of transport organizations.

5. CONCLUSION

This study investigates the key factors influencing employee engagement in the context of sustainable transport development, a critical global objective given the transportation sector's integral role in national infrastructure and cross-sector impact. To ensure long-term sustainability, it is essential to improve employee performance, address workplace challenges, and promote active engagement within transport organizations.

To assess the relationship between employee engagement and sustainable transport development, a survey was conducted among 330 employees from transport organizations. The data were analyzed using SPSS 26.0. The Kaiser-Meyer-Olkin (KMO) test yielded a value of 0.937, indicating excellent sample adequacy, while a significance value ($\text{Sig.} = .000$) confirmed that the correlations among the variables were statistically significant.

Correlation analysis revealed strong positive relationships between employee engagement and key influencing factors: leadership style ($r = 0.807$), learning culture ($r = 0.844$), rewards and recognition ($r = 0.805$), employee performance ($r = 0.629$), and work

capacity and empowerment ($r = 0.546$). These findings provide empirical support for the research hypotheses.

Additionally, SmartPLS4 analysis validated the strong positive correlation between employee engagement and sustainable transport development. The results indicated high correlation coefficients for leadership style ($r = 0.880$), employee performance ($r = 0.873$), work capacity and empowerment ($r = 0.868$), rewards and recognition ($r = 0.865$), and learning culture ($r = 0.915$), with learning culture exhibiting the strongest correlation. Among these factors, learning culture (C) demonstrated the highest correlation ($r = 0.915$), indicating that a continuous learning and development environment is the most influential factor in supporting employee participation.

These findings emphasize the strategic role of employee engagement in driving sustainability within the transport sector. Specifically, the study highlights the importance of leadership, learning culture, and performance-driven human resource initiatives to support sustainable development goals.

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A study of overlapping factors influencing employee engagement

<i>No</i>	<i>Factors</i>	<i>SFA</i>	<i>Deloitte consulting</i>	<i>Randstad Interim</i>	<i>Gallup</i>	<i>Dhivyabharathi Parabakarana , Masri Bin Abdul</i>	<i>William A.Kahn</i>	<i>D Robinson</i>	<i>Schaufeli, et al</i>	<i>Total</i>
		1	2	3	4	5	6	7	8	
1	Organizational Culture	+	+					+		3
2	Leadership	+	+	+		+		+		5
3	Growth and Development	+	+	+	+			+		5
4	Recognition and Rewards	+				+		+	+	4
5	Work-Life Balance	+						+		2
6	Communication	+	+	+				+		4
7	Job Design and Autonomy	+	+	+			+			4
8	Team Collaboration	+			+					2
9	Employee Well-being	+	+							2
10	Organizational Values	+	+					+		3
11	Decision-Making	+								1
12	Feedback and Improvement	+								1
13	Personal values			+						1
14	Safe work environment			+						1
15	Employee experience		+	+	+					3
16	Clarity of job role			+						1
17	Basic				+					1
18	Learning culture		+			+		+		3
19	Work capacity and empowerment		+			+	+	+	+	5
20	Employee performance					+		+		2
21	Psychology						+		+	2
	Total	12	10	8	4	5	3	10	3	55

Appendix 2

A study of the overlap of factors influencing employee engagement by job role

<i>Nº</i>	<i>Factors</i>	<i>Top manager</i>	<i>Human resource manager</i>	<i>Head of department</i>	<i>Employer 1</i>	<i>Employer 2</i>	<i>Total</i>
1	Organizational Culture	+		+	+		3
2	Leadership	+	+	+	+	+	5
3	Growth and Development			+		+	2
4	Recognition and Rewards		+	+	+	+	4
5	Work-Life Balance				+	+	2
6	Communication	+		+			2
7	Job Design and Autonomy		+	+			3
8	Team Collaboration	+					1
9	Employee Well-being		+			+	2
10	Organizational Values	+					1
11	Employee experience						-
12	Learning culture		+	+	+	+	4
13	Work capacity and empowerment	+	+	+		+	4
14	Employee performance	+	+	+	+	+	5
15	Psychology		+				1
	Total	7	8	9	6	8	