

# How Great are Implication Factors for Employee Engagement in Application-Based Technology Company?

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Received: 1<sup>st</sup> December 2021/ Revised: 15<sup>th</sup> March 2022/ Accepted: 15<sup>th</sup> March 2022

**How to Cite:** Azmy, A. (2022). How Great are Implication Factors for Employee Engagement in Application-Based Technology Company? *Binus Business Review*, 13(2), 119–132. <https://doi.org/10.21512/bbr.v13i2.7932>

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## ABSTRACT

Dimensions of organizational culture, training and development, job environment, and supervisor relationship have implications for employee engagement. Employee engagement is needed to produce high-quality work results in the application company. The purpose of the research was to analyze the factors with implications for employee engagement. The research objective was an application-based technology company in Indonesia. The sampling approach used a stratified method. Then, the number of respondents was 100 people. Meanwhile, the analysis method applied Partial Least Square (PLS). The results reveal that four variables have implications for employee engagement. The training and development dimension has the highest implications for employee engagement. The company must implement organizational culture in accordance with its core business values. Then, the conduciveness of the work environment must be increased to provide a positive psychological effect for employees. Similarly, supervisor relationships must be well maintained to monitor the work process. These four variables prove that the application-based technology company needs an increase in employee engagement to generate new business ideas. Innovation and creativity can be generated through employee engagement. The conclusion is that application-based technology company must pay attention to the application of culture organization and the sustainability of training and development programs, provide a comfortable job environment, and maintain supervisor relationships with their employees.

**Keywords:** implication factors, employee engagement, application-based technology company

## INTRODUCTION

Employee engagement is a key success factor in maximizing employee potential in the process of achieving performance and completing work. An information technology company needs employee engagement to improve organizational productivity and business performance (Heslina & Syahrani, 2021; Ugargol & Patrick, 2018). Technology company must give employees the freedom to improvise in seeking innovation and creativity with the latest business ideas. Hence, implementing employee engagement aims to increase the sense of ownership of all employees and overall business interests (Dajani, 2015; Syahrani, 2021; Steinheider & Verdorfer, 2017). Increased engagement with employees tends to have implications for the process of achieving business

targets and happiness at work. Employee engagement will have positive implications for the two-way relationship between the company and employees (Chauhan, Sagar, & Ghildiyal, 2020; Yang et al., 2019). Then, employee contribution and productivity are needed to achieve what the company targets. Employee engagement that is carried out consistently can comprehensively increase employees' motivation, retention, productivity, and business performance (Ahmed, Umrani, Zaman, Rajput, & Aziz, 2020).

Increasing employee engagement requires commitment and consistency in employees and the company as a business organization (Alam, Kartar Singh, & Islam, 2021; Viswanathan, Lal, Prasad, & Parveen, 2019; Yousf & Khurshid, 2021). The factors that influence employee engagement are organizational culture, supervisor relationship, and job environment

(Mohamed & Ali, 2016; Ling Suan & Mohd Nasurdin, 2016; Tyagi, 2017).

Organizational culture is a system that regulates employees' activities that are in line with values, morals, rules of conduct, and standards in running business processes effectively in accordance with their passions (Kaliannan & Adjovu, 2015). It can be a tool or process for achieving work targets that are charged to employees. The effectiveness of organizational culture is done by setting the company's standards and ensuring all employees so that it can be implemented consistently.

Organizational culture manifests employees in expressing togetherness in task behavior connected to work processes physically, cognitively, and emotionally so that they play an active role in achieving overall performance (Saratun, 2016; Wardini & Nawangsari, 2021). Implementation of positive organizational culture can have significant implications for employee engagement (Parent & Lovelace, 2018). Organizational culture can show positive changes that are demonstrated through work behaviours and processes (Sharma & Agrawal, 2015). The organizational culture that is implemented consistently can increase employee engagement (Bhardwaj & Kalia, 2021; Samanta, 2021). The application of organizational culture must assume diversity as an organizational strength in creating the latest innovations in business processes (Chiemeke, Ashari, & Muktar, 2019; Kayani, Khattak, & Hameed, 2019; Sharma & Agrawal, 2015). New ideas in enterprise applications require an organizational culture that supports employees' flexibility and improvisation. Diversity is one component that provides opportunities for all employees to foster creativity and new ideas according to market needs (Inegbedion, Sunday, Asaleye, Lawal, & Adebajji, 2020). Organizational culture can create positive work behaviours and discipline employees in achieving the company's business targets. It affects how employee behaviours will lead to similarities in productivity in high intensity (Mathew, 2007; Mohammadi, 2020). Hence, organizational culture can be used as a predictor for creating a work climate and monitoring employees' behaviours (Ehrhart & Kuenzi, 2017).

Next, employees need a work environment that is comfortable, conducive, and flexible so that they can produce a positive contribution to company performance. The job environment as a predictor of employee engagement behaviour is believed to improve individual and organizational performance comprehensively. So, the job environment plays an essential role in creating a sense of security and comfort for employees in increasing employee engagement (Mohd, Shah, & Zailan, 2016).

The job environment determines the employees' work quality in achieving company business targets (Langford, Fellows, Hancock, & Gale, 1995). Several studies explain that providing a good job environment has implications for increased employee engagement (Mohd et al., 2016; Osborne & Hammoud, 2017).

It will have the consequence that the company must provide a job environment to improve employee productivity and satisfaction (Prasetyo & Purba, 2020). However, it is also implied that the job environment has no implications for employee engagement (Nasidi, Makera, Kamaruddeen, & Jemaku, 2019). It is very reasonable that the comfort of the job environment is not necessarily significant to increase employee engagement without changing behaviour and work processes. However, organizations must implement a healthy and competitive culture for all employees. Implementing organizational culture can cause positive employee behaviour, which will have implications for business processes and performance comprehensively.

The job environment is not only a psychological aspect, but also increase the comfort of working from physical aspects (Atyah, 2020; Zeng et al., 2020). It impacts employees' health to increase the company's business contribution. The job environment will determine the quality of work produced by employees (Reimann & Tisch, 2021). Hence, meeting employees' needs in completing work is an important aspect that must always be a top priority.

Next, training and development are also important components of increasing employee engagement. It is a voluntary short-term learning intervention to establish or improve compatibility between current job requirements and a single individual's knowledge, skills, and attitudes (Cohen, 2017). Development is the path that a person learns through events that will be more valuable (Kirkpatrick & Kirkpatrick, 2016). The aim is to assist the public in utilizing the skills and knowledge provided by guidance and training, not only for their current career but also for future careers. Development also reflects several concepts consisting of greater maturity, emotional development, and periodic corporate self-confidence improvement that can identify new competencies and skills needed by employees in running the company's business processes (Dachner, Ellingson, Noe, & Saxton, 2021). Training and development have significant implications for employee engagement (Abogsesa & Kaushik, 2018; Ibrahim, Rodzi, & Zin, 2021; Nasidi, Waziri, Sunday, & Halim, 2020; Siddiqui & Sahar, 2019). It is one of the main elements in successfully implementing employee engagement. The training and development program will guarantee increased skills, and new knowledge will increase employee engagement (Mahadevan & Yap, 2019).

Training and development are needed to improve employee engagement comprehensively. Employees need career development programs to increase involvement in work processes (Osibanjo et al., 2020; Saluy & Kemalasari, 2018). Employee career development systems must be established through training and development programs that are consistent and tailored to the company's business needs. Business applications should be adaptive and demanding for consumers' needs. Skill and competency are crucial for employees to improve the achievement of job targets because business changes

are swift, and the complexity of consumer needs must be answered with business innovation.

Supervisor relationship is the support from superiors at work, including emotional (empathy, acceptance of ideas, and caring), informative (providing feedback on work performance or guidance), and material (financial budget, resources, and technology) to increase employees' motivation, performance and effectiveness (Dlouhy & Casper, 2021; Eva, Meacham, Newman, Schwarz, & Tham, 2019; Hsieh & Wang, 2015; Pohl & Galletta, 2017). The supervisor relationship has implications for employee engagement (Ibrahim, Suan, & Karatepe, 2019; Jonsdottir & Kristinsson, 2020; Jose & Mampilly, 2015). Work unit leaders or supervisors must understand how to maximize employees' competencies and abilities in achieving the company's business targets. The effectiveness and efficiency of the work process are very dependent on the supervisor's ability to control, explain, and coordinate directly with employees. Supervisors must have effective communication skills and work operational explanations for employees. Supervisors can also provide job autonomy and freedom to determine business ideas and involve employees in decision making (Vera, Martínez, Lorente, & Chambel, 2016). Therefore, the supervisor relationship can be used as an employee engagement predictor in creating productivity and performance comprehensively.

Based on the conceptual framework in Figure 1, the hypotheses in the research model are as follows.

H1: Organizational culture has a positive effect on employee engagement,

H2: Training and development have a positive effect on employee engagement,

H3: Job environment has a positive effect on employee engagement,

H4: Supervisor relationship has a positive effect on employee engagement.

The research analyzes several employee engagement predictors. It includes organizational culture, job environment, supervisor relationship, and training and development. These four variables are analyzed and measured to what extent their implications are for employee engagement. It is to see how employees contribute to increasing their engagement through organizational culture, training and development, job environment, and supervisor relationship. These four variables may have different implications for employee engagement. The research is expected to provide information to business organizations, especially application-based technology company, to increase employee engagement to achieve business targets. An application-based technology company needs new contributions and innovations from all employees. The company provides application development services according to consumers' needs. The research results are also expected to be a piece of information in increasing employee engagement in an application-based technology company. Employee engagement can produce work quality according to the company's expectations. Recommendations from the research results can be used as an evaluation to increase employee engagement to create a quality in the business.

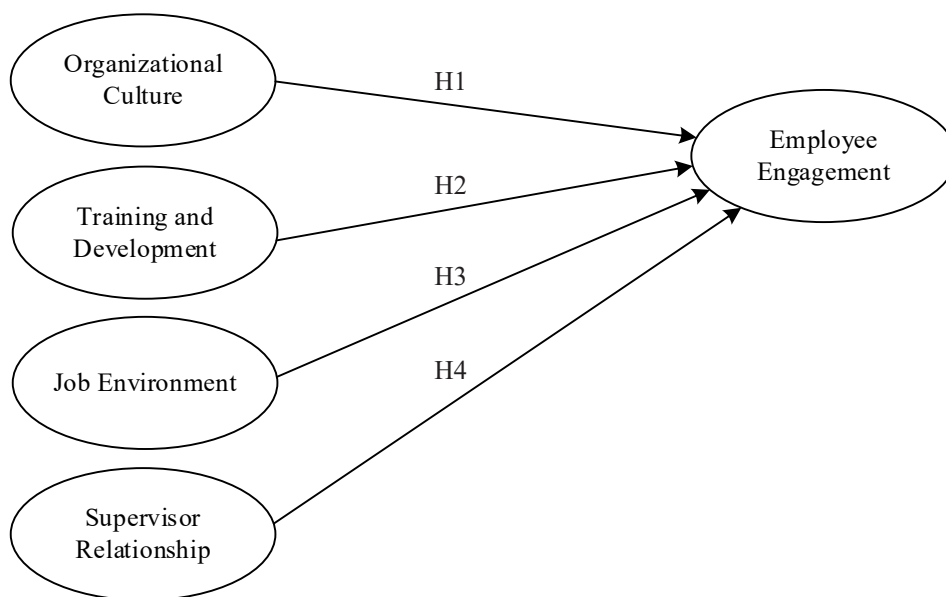


Figure 1 Research Model

## METHODS

The respondents in the research are 100 people. The sampling method applies a purposive approach. This process is adapted to the needs of research data. The research object is employees who work in the application-based technology company. Then, data are collected using a questionnaire with a five-points Likert scale. It consists of 1 (very dissatisfied), 2 (dissatisfied), 3 (neutral), 4 (satisfied), and 5 (very satisfied). Table 1 shows the indicators used to measure the effect of independent variables on the dependent variable.

The research uses the Partial Least Square (PLS) method. The indicators are used to describe extracts of variables in the research model. The research uses a formative regression model. This model will analyze the effect of several independent variables on the dependent variable. The independent variable has indicators that represent the measurement of the relationship with the dependent variable. The independent variables are organizational culture, job environment, training and development, and supervisor relationship. Meanwhile, the dependent

variable is employee engagement. Figure 1 shows the research model.

This research analyzes the inner and outer models. The research examines the feasibility of the model and the relationship between independent and dependent variables. Then, the research model shows the dimensions that affect employee engagement.

## RESULTS AND DISCUSSIONS

The number of respondents is 100 people. Table 2 shows the respondent's profile. The respondents' characteristics are divided into four components: age, gender, tenure, and education. Age is dominated by people aged 26 to 30 years (30 people). The result is followed by 21–25 years (25 people), over 35 years (15 years), and less than 20 years (5 people). Moreover, the respondents are mainly male (60 people). The rests are female (40 people). For their tenure, it is dominated by 1–5 years (37 people). There are also people with experiences of 11–15 years (30 people), 6–10 years (26 people), and over 15 years (7 people). Meanwhile, the education level is dominated by bachelor's degree (40 people), followed

Table 1 Research Variables and Indicators

Variable	Indicator	Previous Research
Organizational Culture	<ul style="list-style-type: none"> <li>• Appreciation contribution (CO6)</li> <li>• High spirit teamwork culture (CO10)</li> <li>• Acceptance diversity culture (CO11)</li> <li>• Strong corporation among employees (CO12)</li> </ul>	(Al Shehri, McLaughlin, Al-Ashaab, & Hamad, 2017; Naidoo & Martins, 2014; Sharma & Agrawal, 2015)
Training and Development	<ul style="list-style-type: none"> <li>• Consistency training program based on employees' needs (TD1)</li> <li>• Sustainability training and development program based on employees' needs (TD2)</li> <li>• Provision of technology to improve the quality of training (TD4)</li> <li>• Application development for employees' business idea innovation (TD5)</li> <li>• Employees' career development system based on job promotion (TD6)</li> <li>• Technological problems which are resolved on time with the effectiveness of communication by the company (TD7)</li> </ul>	(Jain & Khurana, 2017; Mahadevan & Yap, 2019)
Job Environment	<ul style="list-style-type: none"> <li>• Provision of air conditioners for employees' convenient work processes (JO2)</li> <li>• Job environment to increase the focus on achieving employee performance (JO3)</li> <li>• Workspace to provide privacy for employees (JO4)</li> <li>• Job environment to provide employees with physical and psychological comfortableness (JO5)</li> </ul>	(Azmy, 2019; Mohd et al., 2016; Nasidi et al., 2019; Osborne & Hammoud, 2017; Raziq & Maulabakhsh, 2015)
Supervisor Relationship	<ul style="list-style-type: none"> <li>• Supervisor provides feedback on the work results by employees (SR6)</li> <li>• The supervisor makes discussions with employees about business ideas and innovation (SR7)</li> <li>• The supervisor helps to develop employee potential with full trust (SR8)</li> </ul>	(Azmy, 2019; Jose & Mampilly, 2015; Vera et al., 2016)

Table 2 Respondents' Profile

<b>Respondents' Characteristics</b>	<b>Items</b>	<b>Amount</b>
Age	< 20 Years	5
	21–25 Years	25
	26–30 Years	30
	31–35 Years	25
	> 35 Years	15
Gender	Male	60
	Female	40
Tenure	1–5 Years	37
	6–10 Years	26
	11–15 Years	30
	> 15 Years	7
Education	Vocational / High School	25
	Diploma	20
	Bachelor's Degree	40
	Master's Degree	15

Table 3 Outer Loading

<b>Indicator</b>	<b>Organizational Culture</b>	<b>Employee Engagement</b>	<b>Job Environment</b>	<b>Supervisor Relationship</b>	<b>Training and Development</b>
CO		0,580			
CO10	0,748				
CO11	0,773				
CO12	0,829				
CO6	0,769				
JR		0,677			
JR2			0,806		
JR3			0,901		
JR4			0,907		
JR5			0,751		
SR		0,829			
SR6				0,890	
SR7				0,923	
SR8				0,875	
TD		0,860			
TD1					0,660
TD2					0,647
TD4					0,746
TD5					0,852
TD6					0,767
TD7					0,728



by vocational or high school (25 people), diploma (20 people), and master's degree (15 people). Based on the characteristics of the respondents, they are dominated by the productive age and the millennial generation. Employees have become long-term company assets and are ready to be developed into future leaders.

The research results will explain the feasibility of each variable indicator, validity, reliability, and multicollinearity assumptions. This initial process analyzes the feasibility of the indicators on each variable with implications for employee engagement. Table 3 shows the results of outer loading. It can be seen that each indicator has a value above 0,6. This stage explains that each indicator is feasible to be used in the research model. The process is carried out by filtering questions that meet the outer loading value for each indicator. It is done to explain the ability of indicators to represent variables in the research model. The next step is to test the validity and reliability of

the data. Table 3 shows the results.

Based on Table 4, Cronbach's alpha and composite reliability values are above 0,7. Meanwhile, Average Variance Extracted (AVE) values are above 0,5. This stage explains that the research data have met the validity and reliability of the indicators. The feasibility of the data can be used to interpret the research model. The next stage examines the multicollinearity assumption on indicators and the relationship between independent variables on employee engagement. Table 5 shows the Outer Variance Inflation Factor (VIF) values. It explains the collinearity of the dimension indicators.

Based on Table 5, it can be seen that all indicator values of variable dimensions are below 10. It means that all indicators have no multicollinearity relationship to employee engagement. Table 6 shows the inner VIF Values. It explains the relationship of multicollinearity dimensions to employee engagement.

Table 4 The Results of Validity and Reliability Tests

Variables	Cronbach's Alpha	Rho-A	Composite Reliability	Average Variance Extracted
Organizational Culture	0,785	0,787	0,861	0,609
Employee Engagement	0,725	0,762	0,83	0,556
Job Environment	0,863	0,878	0,908	0,712
Supervisor Relationship	0,878	0,88	0,925	0,803
Training and Development	0,828	0,833	0,876	0,542

Table 5 The Results of Outer Variance Inflation Factor (VIF) Values

Indicator	VIF
CO	1,272
CO10	1,528
CO11	1,720
C012	1,972
C06	1,671
JR	1,318
JR2	1,783
JR3	3,701
JR4	3,730
JR5	1,592
SR	1,835
SR6	2,714
SR7	3,225
SR8	2,021
TD	1,905
TD1	1,608
TD2	1,635
TD4	3,066
TD5	3,910
TD6	1,852
TD7	1,679

Table 6 shows the values of VIF on the independent variable. The values are still below 10. It implies that the independent variables on employee engagement are free from multicollinearity. The next stage analyzes the implications of the independent variables in the research model on employee engagement. This stage sees how the implications of independent variables are proxied by organizational culture, training and development, job environment, and supervisor relationship for employee engagement. However, the process begins with analyzing the indicators that represent each independent variable on employee engagement.

Indicators used in the independent variables (organizational culture, training and development, job environment, and supervisor relationship) influence employee engagement. Based on Table 7, all indicators used in the research model have p-values less than 0,05. It means that the indicators used in the research model have implications for employee engagement.

Table 8 shows that the variables, including organizational culture, training and development, job environment, and supervisor relationship, can influence employee engagement by 92,4%. Meanwhile, variables outside of the research model influence the remaining 7,6%. The next stage analyzes the hypothesis between the independent and dependent variables. This stage tests how much the independent variables influence the dependent variable. Independent variables used in research include organizational culture, training and development, job environment, and supervisor relationship. Meanwhile, the dependent variable to be measured is employee engagement. These four independent variables are measured by how much influence they have on employee engagement.

In Table 9, all independent variables have implications for employee engagement. It is due to the p-value of  $0,000 < 0,05$  and t-statistic value  $> 1,98$  (t-table). The four independent variables affect employee engagement. So, it can be concluded that

Table 6 The Result of Inner Variance Inflation Factor (VIF) Values

Variables	VIF (Employee Engagement)
Organizational Culture	1,382
Job Environment	1,205
Supervisor Relationship	1,408
Training and Development	1,821

Table 7 Significance Test of Indicators

Variables	Original Sample	Sample Mean	Standard Deviation	T-Statistic	P-Values
CC <= EE	0,580	0,576	0,090	6,449	0,000
CC10 <= CO	0,748	0,747	0,063	0,946	0,000
CC11 <= CO	0,773	0,769	0,063	12,281	0,000
CC12 <= CO	0,829	0,827	0,059	14,026	0,000
CC6 <= CO	0,769	0,770	0,056	13,751	0,000
JR <= EE	0,677	0,670	0,080	8,452	0,000
JR 2 <= JR	0,806	0,792	0,059	13,670	0,000
JR3 <= JR	0,901	0,900	0,020	44,786	0,000
JR4 <= JR	0,907	0,908	0,015	61,977	0,000
JR5 <= JR	0,751	0,740	0,089	8,431	0,000
SR <= EE	0,829	0,830	0,031	26,913	0,000
SR6 <= SR	0,890	0,890	0,032	27,637	0,000
SR7 <= SR	0,923	0,922	0,023	39,500	0,000
SR8 <= SR	0,875	0,875	0,032	27,625	0,000
TD <= EE	0,860	0,860	0,026	32,064	0,000
TD1 <= TD	0,660	0,655	0,060	10,986	0,000
TD2 <= TD	0,647	0,644	0,052	12,433	0,000
TD4 <= TD	0,746	0,743	0,059	12,734	0,000
TD5 <= TD	0,852	0,851	0,034	25,291	0,000
TD6 <= TD	0,767	0,763	0,051	15,133	0,000
TD7 <= TD	0,728	0,724	0,068	10,751	0,000

all alternative hypotheses starting from H1 to H4 can be accepted, and H0 is rejected. The highest factor value with the highest contribution to employee engagement is training and development with 41,5%. Then, the other results are culture organization with 22%, job environment with 38,6%, and supervisor relationship with 27,2%. Then, Figure 2 shows a conceptual framework that describes the implications of organizational culture, training and development, job environment, and supervisor relationship on increasing employee engagement.

Organizational culture has a significant effect on employee engagement. It is proven that the p-values are  $0,000 < 0,05$  and  $5,514 > 1,98$  (t-table). The results prove H1 is accepted, and H0 is rejected. Organizational culture has a positive relationship with employee engagement (22%). The indicators of organizational culture include an appreciation of

contribution, high spirit of teamwork culture, diversity acceptance, and strong corporation among employees. Those indicators affect employee engagement. It can be concluded that the implementation of organizational culture can consistently increase employee engagement (Budiono, Hamidah, & Yasin, 2019; Machmed Tun Ganyang, 2019; Nurcholis & Budi, 2020; Pepira-Mensah & Kyeremeh, 2018). A good organization can appreciate the contributions made by its employees. The awards given can be financial and non-financial. Implementation can be carried out in the company by providing rewards and bonuses for business ideas and innovations. So, the four indicators used in the research can explain how teamwork, diverse culture, appreciation for employee contributions, and collaboration between employees are the keys to the successful implementation of organizational culture on employee engagement.

Table 8 The Coefficient Determination

R-squared	0,924
Adj R-Squared	0,921

Table 9 Significance Test of Independent Variables on Employee Engagement

Variables	Original Sample	Sample Mean	Standard Deviation	T-Statistic	P-Values
Organizational Culture	0,220	0,225	0,040	5,514	0,000
Training and Development	0,415	0,413	0,052	7,978	0,000
Job Environment	0,386	0,381	0,061	6,293	0,000
Supervisor Relationship	0,272	0,270	0,038	7,090	0,000

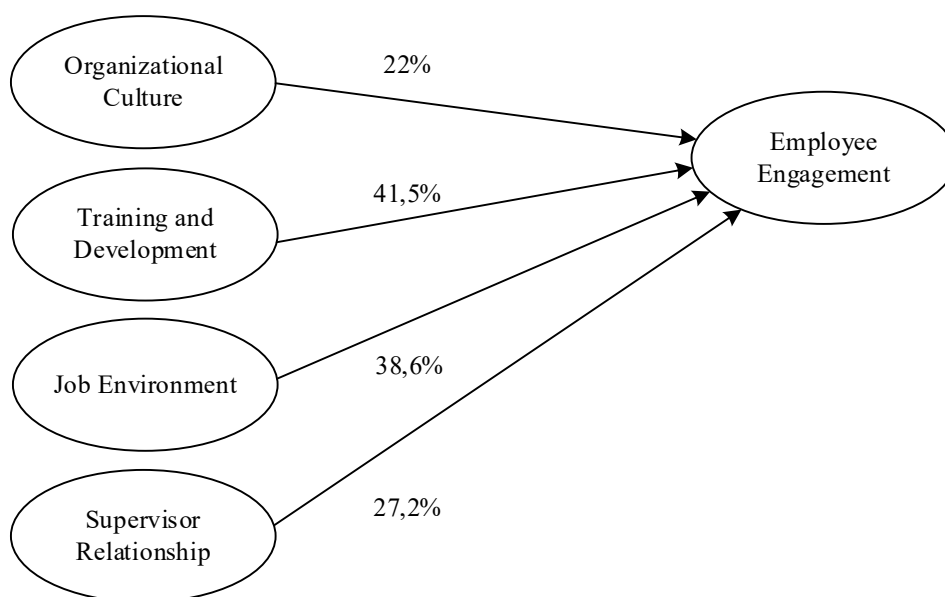


Figure 2 Percentage of Variable Increase in Employee Engagement



Next, training and development have a significant effect on employee engagement. It can be seen from the p-values of  $0,000 < 0,05$  and  $7,978 > 1,98$  (t-statistics). This value means that H2 is accepted, and H0 is rejected. The job environment has a significant effect on employee engagement. The training and development positively affects employee engagement with a percentage of 41,5%. Indicators used in measuring this dimension include consistency of training programs, technology provision, application of employee development programs, management of career development, and communication effectiveness as solutions to training technology problems. It can be concluded that the implementation of training and development programs can increase employee engagement (Sendawula, Nakyejwe Kimuli, Bananuka, & Najjemba Muganga, 2018; Siddiqui & Sahar, 2019). The company must have training programs for the short term and long term. These programs will illustrate how the company's ability to detect competencies and abilities that employees must own. Then, the provision of technology must be in accordance with company needs and employee development program applications to support the implementation of training and development to run comprehensively. Moreover, the company must make career management that can significantly contribute to achieving business targets. The right career system can foster employee loyalty to the company and increase productivity. Then, the communication process must be carried out effectively if there are problems with the technology in employee training and development programs.

Similarly, the job environment has a significant effect on employee engagement. The p-values are  $0,000 < 0,05$  and  $6,293 > 1,98$  (t-table). The value indicates that the job environment influences employee engagement. H3 is accepted, and H0 is rejected. The job environment provides a good psychological sense for employees. The job environment has implications for employee engagement with 38,6%. Indicators describing the job environment consist of providing air conditioning, the job environment to improve work focus, workspace for employees, and the comfort of the work environment. All indicators used can represent the job environment on employee engagement. It can explain that the environment influences employee engagement (Azmy, 2019; Hanaysha, 2016; Judeh, 2021; Massoudi & Hamdi, 2017; Mohd et al., 2016). The company must realize that the job environment will increase employee productivity (Alarcon, Arzaga, Baguio, Sanvictores, & Platon, 2021; Shobe, 2018). The key factor is the company's ability to provide a safe, comfortable, and healthy job environment. Hence, the job environment can retain employees in the long run.

Last, the supervisor relationship also has a significant effect on employee engagement. The p-values are  $0,000 < 0,05$  and  $7,090 > 1,98$  (t-table). It means that H4 is accepted and H0 is rejected. The supervisor relationship influences employee

engagement. The indicators include supervisors' feedback ability, employees' participation in creating business ideas and innovations by supervisors, and supervisors' confidence in terms of developing employees' capabilities. These indicators explain that supervisor relationship influences employee engagement (Azmy, 2019; Jose & Mampilly, 2015; Reina, Rogers, Peterson, Byron, & Hom, 2018; Ariani, 2013). Three indicators used in this dimension describe the capabilities of the supervisor. A supervisor's role is crucial in increasing employee engagement. Feedback given by the supervisor is significant for employees in improving work processes and employee performance. This feedback will be very effective where supervisors conduct effective supervision of employees. Supervisors must also involve employees in discussing business ideas and innovations. Supervisors can discuss and brainstorm a new idea with employees. Then, an effective communication process can increase cohesiveness in work done individually and in groups. Supervisors must encourage employees in terms of personal development and competence. Hence, the company provides further study and short courses for employees. It also affects the company's ability to retain the best employees in the long run.

From the results, the four variables affect employee engagement. In theory, the results prove that organizational culture significantly influences employee engagement. This variable reinforces some of the research results that implementing organizational culture can positively influence employee engagement. It is expected to produce positive behavior towards employees who influence job involvement.

Training and development have a significant effect on employee engagement. Training and development are needed in employee engagement to fill the needs of competence and leadership regeneration. The challenge for an application-based technology company is to adapt to the speed of technological change constantly. It means that it must have a training and development program for employee capabilities so that businesses can adapt to the consumers' needs. This variable strengthens the theory of several research results that training and development significantly influence employee engagement (Ababneh, LeFevre, & Bentley, 2019; Chaudhry, Jariko, Mushtaque, Mahesar, & Ghani, 2017). Hence, it is needed to improve employee competencies according to company business.

Moreover, the research result proves that the job environment can increase employee engagement in terms of productivity and achievement of the company's business targets. It has a significant effect on employee engagement. It aims to maintain employees' productivity in achieving work targets. The company must create a comfortable and conducive job environment. The job environment must be flexible and provide the tools needed to maintain conducive conditions.

The supervisor relationship also significantly influences employee engagement. The supervisor

relationship can direct and foster good relations with employees as the success key to employee engagement. So, the company must pay attention to the supervisor relationship as it positively impacts business achievement. Moreover, the supervisor is responsible for the work of his/her subordinates in all divisions of the company. The supervisor must direct and supervise the work results. Hence, the applications made by employees can be adequately used by consumers and can solve their problems.

Next, employee engagement has important implications for a company's business productivity. The research results explain that all variables used significantly affect employee engagement. Implementation of employee engagement will increase productivity (Garima, 2019; Sharma & Sharma, 2014; Zondo, 2020). The research results indicate that the company should pay attention to organizational culture, training and development, job environment, and supervisor relationship to increase employee engagement in achieving the targets. For example, implementing organizational culture is expected to produce employees' behavior according to the company's business processes. Technology business requires the employees to work with groups and to accept diversity. Working in teams can generate innovations and new ideas needed by the market. Meanwhile, diversity in a company can provide unique human resources in terms of character, competence, and personality.

## CONCLUSIONS

The results show that organizational culture, training and development, job environment, and supervisory relationships affect employee engagement. Training and development have the highest implications for employee engagement. So, the company as a business organization must be able to map out new competencies according to business needs. Moreover, organizational culture, job environment, and supervisor relationship affect employee engagement significantly. It is concluded from the research results that business organizations can increase employee engagement from the aspect of culture, environmental conduciveness, and leadership support. Therefore, employee engagement can produce quality work in accordance with the company's expectations.

Application-based technology company always need to update its employees' ideas and innovations. So, the company must provide a job environment in accordance with the company's business characteristics. For example, the company must provide an environment with cool and comfortable temperatures, and the workspace must be flexible and increase the movement of employees. Therefore, a job environment is needed to support the business of an application-based technology company.

The company must promote supervisors with

effective communication competencies to employees. In addition to technical competence, supervisors must have good interpersonal skills and be capable of building discussions with employees. Moreover, supervisors have a role in providing feedback to employees regarding their performance, business processes, and targets. Supervisors must give complete trust to employees to develop their abilities, skills, and competencies. Complete trust can be given by promoting staff to take part in available short courses or development programs at the company.

A good organization must respect employee contribution and performance. Appreciation can be in the form of financial and non-financial. For example, awards can be carried out according to the company's capabilities. Moreover, the diversity of the organization can be used as a strength. Acceptance of diversity culture is a form of organization to accept all people from various aspects of religion, race, skin, and anything else to work in an application company. Everyone has the same opportunity and is determined by the skill and competence to build organizational competitiveness. The company must continuously improve the team's culture, and all employees must work together to achieve business targets. Strengthening cohesiveness and cooperation between employees makes the company a business organization on a global scale. Application-based technology company must realize that business technology changes very quickly. Therefore, building the organizational culture can increase employee engagement in the company.

The research has limitations in analyzing the factors that influence employee engagement. The dimensions used are still limited, although the coefficient of determination of these four variables has a significant effect on employee engagement. The research can be continued by using other variables, such as compensation (Indriyani, 2017), job satisfaction (Bellani, Ramadhani, & Tamar, 2017), person-job fit (Cai, Cai, Sun, & Ma, 2018; Lee & Kim, 2020), and perception of reality (Caulfield & Senger, 2017). In future research, the object of research can be continued in the application-based company because there are still many dimensions of employee engagement that must be studied in more depth and comprehensively. Another approach that can be used is to use personal traits as a moderating variable or a Systematic Literature Review (SLR) approach to get critical factors with significant implications for employee engagement. Therefore, future research can be developed with new variables and approaches according to scientific needs.

## REFERENCES

- Al Shehri, M., McLaughlin, P., Al-Ashaab, A., & Hamad, R. (2017). The impact of organizational culture on employee engagement in Saudi banks. *Journal of Human Resources Management Research*, 2017,

- 1–23. <https://doi.org/10.5171/2017.761672>
- Ababneh, O. M. A., LeFevre, M., & Bentley, T. (2019). Employee engagement: Development of a new measure. *International Journal of Human Resources Development and Management*, 19(2), 105–134. <https://doi.org/10.1504/IJHRDM.2019.098623>
- Abogsesa, A. S., & Kaushik, G. (2018). Impact of training and development on employee performance: A study of Libyan Bank. *International Journal of Civic Engagement and Social Change*, 4(3), 53–68. <https://doi.org/10.4018/ijcesc.2017070104>
- Ahmed, U., Umrani, W. A., Zaman, U., Rajput, S. M., & Aziz, T. (2020). Corporate entrepreneurship and business performance: The mediating role of employee engagement. *SAGE Open*, 1–10. <https://doi.org/10.1177/2158244020962779>
- Alam, I., Kartar Singh, J. S., & Islam, M. U. (2021). Does supportive supervisor complements the effect of ethical leadership on employee engagement? *Cogent Business & Management*, 8(1), 1–15. <https://doi.org/10.1080/23311975.2021.1978371>
- Alarcon, A. L., Arzaga, L. J. O., Baguio, L. B., Sanvictores, M. S. L. O., & Platon, J. R. (2021). The impact of work environment on the productivity and job satisfaction of the employees in BPO companies in Quezon City. *International Journal of Information, Business and Management*, 13(1), 125–143.
- Ariani, D. W. (2013). The relationship between employee engagement, organizational citizenship behavior, and counterproductive work behavior. *International Journal of Business Administration*, 4(2), 46–56. <https://doi.org/10.5430/ijba.v4n2p46>
- Atyah, R. (2020). The effects of the physical environment design on teachers' workplace comfort: A critical review. *International Journal of Architectonic, Spatial, and Environmental Design*, 14(3), 17–30. <https://doi.org/10.18848/2325-1662/CGP/V14I03/17-30>
- Azmy, A. (2019). Employee engagement factors in a higher education institution. *Binus Business Review*, 10(3), 187–200. <https://doi.org/10.21512/bbr.v10i3.5857>
- Bellani, E., Ramadhani, S. R., & Tamar, M. (2017). Job satisfaction as predictor of employee engagement. In *Proceedings of the 8<sup>th</sup> International Conference of Asian Association of Indigenous and Cultural Psychology (ICAAIP 2017)* (pp. 15–19). Atlantic Press. <https://doi.org/10.2991/icaaip-17.2018.4>
- Bhardwaj, B., & Kalia, N. (2021). Contextual and task performance: Role of employee engagement and organizational culture in hospitality industry. *Vilakshan - XIMB Journal of Management*, 18(2), 187–201. <https://doi.org/10.1108/xjm-08-2020-0089>
- Budiono, I., Hamidah, H., & Yasin, M. (2019). The effect of prophetic leadership, organizational culture on employee engagement at sufism-based Islamic boarding school. *Journal of International Conference Proceedings*, 2(3), 99–106. <https://doi.org/10.32535/jicp.v2i3.649>
- Cai, D., Cai, Y., Sun, Y., & Ma, J. (2018). Linking empowering leadership and employee work engagement: The effects of person-job fit, person-group fit, and proactive personality. *Frontiers in Psychology*, 9, 1–12. <https://doi.org/10.3389/fpsyg.2018.01304>
- Caulfield, J. L., & Senger, A. (2017). Perception is reality: Change leadership and work engagement. *Leadership & Organization Development Journal*, 38(7), 927–945. <https://doi.org/10.1108/LODJ-07-2016-0166>
- Chaudhry, N. I., Jariko, M. A., Mushtaque, T., Mahesar, H. A., & Ghani, Z. (2017). Impact of working environment and training & development on organization performance through mediating role of employee engagement and job satisfaction. *European Journal of Training and Development Studies*, 4(2), 33–48.
- Chauhan, S., Sagar, V., & Ghildiyal, T. C. (2020). A study of organizational supporting factors for acceptance of engagement in technology-enhanced learning. *International Journal of Advanced Science and Technology*, 29(12s), 1–8.
- Chiemeke, K. C., Ashari, H., & Muktar, S. N. (2019). Moderating relationship of organizational culture between quality of work life and employee engagement. *International Business Management*, 13(11), 577–586.
- Cohen, E. (2017). Employee training and development. In *CSR for HR* (pp. 153–162). Routledge.
- Dachner, A. M., Ellingson, J. E., Noe, R. A., & Saxton, B. M. (2021). The future of employee development. *Human Resource Management Review*, 31(2), 1–15. <https://doi.org/10.1016/j.hrmr.2019.100732>
- Dajani, M. A. Z. (2015). The impact of employee engagement on job performance and organisational commitment in the Egyptian banking sector. *Journal of Business and Management Sciences*, 3(5), 138–147.
- Dlouhy, K., & Casper, A. (2021). Downsizing and surviving employees' engagement and strain: The role of job resources and job demands. *Human Resource Management*, 60(3), 435–454. <https://doi.org/10.1002/hrm.22032>
- Ehrhart, M. G., & Kuenzi, M. (2017). The impact of organizational climate and culture on employee turnover. In *The Wiley Blackwell handbook of the psychology of recruitment, selection and employee retention*. John Wiley & Sons Ltd. <https://doi.org/10.1002/9781118972472.ch23>
- Eva, N., Meacham, H., Newman, A., Schwarz, G., & Tham, T. L. (2019). Is coworker feedback more important than supervisor feedback for increasing innovative behavior? *Human Resource Management*, 58(4), 383–396. <https://doi.org/10.1002/hrm.21960>
- Garima, S. (2019). Building engagement in the workplace for employee productivity: A conceptual review. *SIDDHANT - A Journal of Decision Making*, 19(1), 34–44. <https://doi.org/10.5958/2231-0657.2019.00006.5>
- Hanaysha, J. (2016). Testing the effects of employee engagement, work environment, and organizational learning on organizational commitment. *Procedia - Social and Behavioral Sciences*, 229, 289–297.



- <https://doi.org/10.1016/j.sbspro.2016.07.139>
- Heslina, H., & Syahrani, A. (2021). The influence of information technology, human resources competency and employee engagement on performance of employees. *Golden Ratio of Human Resource Management*, 1(1), 01–12.
- Hsieh, C. C., & Wang, D. S. (2015). Does supervisor-perceived authentic leadership influence employee work engagement through employee-perceived authentic leadership and employee trust? *The International Journal of Human Resource Management*, 26(18), 2329–2348. <https://doi.org/10.1080/09585192.2015.1025234>
- Ibrahim, H., Rodzi, M. H. A. M., & Zin, M. L. M. (2021). Factors influencing employee engagement in a financial institution. *Annals of Contemporary Developments in Management & HR (ACDMHR)*, 3(1), 33–42. <https://doi.org/10.33166/acdmhr.2021.01.004>
- Ibrahim, S. N. H., Suan, C. L., & Karatepe, O. M. (2019). The effects of supervisor support and self-efficacy on call center employees' work engagement and quitting intentions. *International Journal of Manpower*, 40(4), 688–703. <https://doi.org/10.1108/IJM-12-2017-0320>
- Inegbedion, H., Sunday, E., Asaleye, A., Lawal, A., & Adebajji, A. (2020). Managing diversity for organizational efficiency. *SAGE Open*, 1–10. <https://doi.org/10.1177/2158244019900173>
- Indriyani, A. U. (2017). Effect of compensation and benefit to employee engagement through organisation brand in Indonesia's startup company. *Jurnal Manajemen Teori dan Terapan | Journal of Theory & Applied Management*, 10(1), 83–92. <https://doi.org/10.20473/jmtt.v10i1.4805>
- Jain, S., & Khurana, N. (2017). Enhancing employee engagement through training and development. *Asian Journal of Management*, 8(1), 1–6. <https://doi.org/10.5958/2321-5763.2017.00001.4>
- Jonsdottir, I. J., & Kristinsson, K. (2020). Supervisors' active-empathetic listening as an important antecedent of work engagement. *International Journal of Environmental Research and Public Health*, 17(21), 1–11. <https://doi.org/10.3390/ijerph17217976>
- Jose, G., & Mampilly, S. R. (2015). Relationships among perceived supervisor support, psychological empowerment and employee engagement in Indian workplaces. *Journal of Workplace Behavioral Health*, 30(3), 231–250. <https://doi.org/10.1080/15555240.2015.1047498>
- Judeh, M. (2021). Effect of work environment on employee engagement: Mediating role of ethical decision-making. *Problems and Perspectives in Management*, 19(3), 221–229. [https://doi.org/10.21511/ppm.19\(3\).2021.19](https://doi.org/10.21511/ppm.19(3).2021.19)
- Kaliannan, M., & Adjovu, S. N. (2015). Effective employee engagement and organizational success: A case study. *Procedia - Social and Behavioral Sciences*, 172, 161–168. <https://doi.org/10.1016/j.sbspro.2015.01.350>
- Kayani, N. Z., Khattak, M. A., & Hameed, R. M. (2019). Linking leadership to knowledge management success of Pakistani Telecom sector: Intermediating role of organizational culture and employee engagement. *City University Research Journal*, 9(3), 473–497.
- Kirkpatrick, J. D., & Kirkpatrick, W. K. (2016). *Kirkpatrick's four levels of training evaluation*. ATD Press.
- Langford, D., Fellows, R. F., Hancock, M. R., & Gale, A. W. (1995). Organizational Behaviour. In *Human resources management in construction*. Routledge. <https://doi.org/10.4324/9781315844695-9>
- Lee, M. S., & Kim, H. S. (2020). The effects of service employee resilience on emotional labor: Double-mediation of person–job fit and work engagement. *International Journal of Environmental Research and Public Health*, 17(19), 1–15. <https://doi.org/10.3390/ijerph17197198>
- Ling Suan, C., & Mohd Nasurdin, A. (2016). Supervisor support and work engagement of hotel employees in Malaysia: Is it different for men and women? *Gender in Management*, 31(1), 2–18. <https://doi.org/10.1108/GM-11-2014-0105>
- Machmed Tun Ganyang, G. (2019). The the impact of organization culture and work environment on employee engagement and it's implication on employee performance of the automotive industry in Jakarta, Indonesia. *Archives of Business Research*, 7(9), 64–70. <https://doi.org/10.14738/abr.79.6789>
- Mahadevan, A., & Yap, M. H. (2019). Impact of training methods on employee performance in a direct selling organization, Malaysia. *IOSR Journal of Business and Management (IOSR-JBM)*, 21(10), 7–14.
- Massoudi, A. H., & Hamdi, S. S. A. (2017). The consequence of work environment on employees productivity. *IOSR Journal of Business and Management (IOSR-JBM)*, 19(01), 35–42. <https://doi.org/10.9790/487x-1901033542>
- Mathew, J. (2007). The relationship of organisational culture with productivity and quality: A study of Indian software organisations. *Employee Relations*, 29(6), 677–695. <https://doi.org/10.1108/01425450710826140>
- Mohamed, S. A., & Ali, M. (2016). The impacts of supervisor support on employees' engagement. *International Journal of Research & Review*, 14(3), 14–20.
- Mohammadi, S. (2020). Organizational culture and its impact on organizational productivity. *International Journal of Human Capital in Urban Management (IJHCUM)*, 5(3), 267–276.
- Mohd, I. H., Shah, M. M., & Zailan, N. S. (2016). How work environment affects the employee engagement in a telecommunication company. In *3<sup>rd</sup> International Conference on Business and Economics* (pp. 21–23).
- Naidoo, P., & Martins, N. (2014). Investigating the relationship between organizational culture and work engagement. *Problems and Perspectives in Management*, 12(4), 433–441.
- Nasidi, Y., Makera, A. U., Kamaruddeen, A. M., & Jemaku, I. M. (2019). Assessing the impact of work environment on employee engagement among

- non-academic staff of the university. *SEISENSE Journal of Management*, 2(1), 57–68. <https://doi.org/10.33215/sjom.v2i1.84>
- Nasidi, Y., Waziri, A. G., Sunday, A. A., & Halim, B. Y. (2020). Influence of training and career development on employee engagement among non-academic staff of university. *International Journal of Intellectual Discourse (IJID)*, 3(2), 383–395.
- Nurcholis, G., & Budi, W. (2020). The impact of organizational culture and perceived organizational support on employee engagement. In *Proceedings of the 5<sup>th</sup> ASEAN Conference on Psychology, Counselling, and Humanities (ACPCH 2019)* (pp. 240–246). Atlantis Press. <https://doi.org/10.2991/assehr.k.200120.050>
- Osborne, S., & Hammoud, M. S. (2017). Effective employee engagement in the workplace. *International Journal of Applied Management & Technology*, 16(1), 50–67. <https://doi.org/10.5590/IJAMT.2017.16.1.04>
- Osibanjo, A., Adeniji, A., Salau, O., Atolagbe, T., Osoko, A., Edewor, O., & Olowu, J. (2020). Bolstering human capital management and engagement in the health sectors. *Cogent Business & Management*, 7(1), 1–16. <https://doi.org/10.1080/23311975.2020.1794676>
- Parent, J. D., & Lovelace, K. J. (2018). Employee engagement, positive organizational culture and individual adaptability. *On the Horizon*, 26(3), 206–214. <https://doi.org/10.1108/OTH-01-2018-0003>
- Pepra-Mensah, J., & Kyeremeh, E. A. (2018). Organisational culture: A catalyst for employee engagement in the Ghanaian public sector. *Global Journal of Human Resource Management*, 6(3), 11–28.
- Pohl, S., & Galletta, M. (2017). The role of supervisor emotional support on individual job satisfaction: A multilevel analysis. *Applied Nursing Research*, 33(February), 61–66. <https://doi.org/10.1016/j.apnr.2016.10.004>
- Prasetyo, F. I., & Purba, C. B. (2020). The influence of leadership style, career development and work environment to employee engagement at PT Indo Japan Steel Center. *International Journal of Innovative Science and Research Technology*, 5(7), 1290–1300. <https://doi.org/10.38124/ijisrt20jul780>
- Raziq, A., & Maulabakhsh, R. (2015). Impact of working environment on job satisfaction. *Procedia Economics and Finance*, 23, 717–725. [https://doi.org/10.1016/s2212-5671\(15\)00524-9](https://doi.org/10.1016/s2212-5671(15)00524-9)
- Reimann, M., & Tisch, A. (2021). Editorial: Job quality in digitalized work environments. *SozW Soziale Welt*, 72(4), 373–383. <https://doi.org/10.5771/0038-6073-2021-4-373>
- Reina, C. S., Rogers, K. M., Peterson, S. J., Byron, K., & Hom, P. W. (2018). Quitting the boss? The role of manager influence tactics and employee emotional engagement in voluntary turnover. *Journal of Leadership & Organizational Studies*, 25(1), 5–18. <https://doi.org/10.1177/1548051817709007>
- Samanta, A. K. (2021). Organizational culture and employee engagement: A review of selected studies. *Asian Journal of Management*, 12(2), 201–204. <https://doi.org/10.52711/2321-5763.2021.00030>
- Saluy, A. B., & Kemalasari, N. (2018). The impact of compensation, career development and employee engagement towards employee performance. *Saudi Journal of Business and Management Studies (SJBMS)*, 3(5), 515–522.
- Saratun, M. (2016). Performance management to enhance employee engagement for corporate sustainability. *Asia-Pacific Journal of Business Administration*, 8(1), 84–102. <https://doi.org/10.1108/APJBA-07-2015-0064>
- Sendawula, K., Nakyejwe Kimuli, S., Bananuka, J., & Najjemba Muganga, G. (2018). Training, employee engagement and employee performance: Evidence from Uganda's health sector. *Cogent Business and Management*, 5(1), 1–12. <https://doi.org/10.1080/23311975.2018.1470891>
- Sharma, B. R., & Agrawal, S. (2015). Factors influencing employee engagement: An exploratory study. *The Indian Journal of Social Work*, 76(4), 485–506.
- Sharma, M. S., & Sharma, M. V. (2014). Employee engagement to enhance productivity in current scenario. *International Journal of Commerce, Business and Management*, 3(4), 595–604.
- Shobe, K. (2018). Productivity driven by job satisfaction, physical work environment, management support and job autonomy. *Business and Economics Journal*, 9(2), 1–9. <https://doi.org/10.4172/2151-6219.1000351>
- Siddiqui, D. A., & Sahar, N. (2019). The impact of training & development and communication on employee engagement – A study of banking sector. *Business Management and Strategy*, 10(1), 23–40. <https://doi.org/10.5296/bms.v10i1.14592>
- Steinheider, B., & Verdorfer, A. P. (2017). Climate change? Exploring the role of organisational climate for psychological ownership. In *Theoretical orientations and practical applications of psychological ownership*. Springer. [https://doi.org/10.1007/978-3-319-70247-6\\_14](https://doi.org/10.1007/978-3-319-70247-6_14)
- Syahroni. (2021). *Evaluation of mediating effect of psychological ownership in relationship between leadership and digital transformation toward employee engagement* (Graduate thesis). Sekolah Tinggi Manajemen IPMI.
- Tyagi, V. (2017). Working environment- As a predictor of employee engagement with reference to academicians. *Effulgence*, 14(2), 19–27. <https://doi.org/10.33601/effulgence.rdias/v14/i2/2016/19-27>
- Urgogol, J. D., & Patrick, H. A. (2018). The relationship of workplace flexibility to employee engagement among information technology employees in India. *South Asian Journal of Human Resources Management*, 5(1), 40–55. <https://doi.org/10.1177/2322093718767469>
- Vera, M., Martínez, I. M., Lorente, L., & Chambel, M. J. (2016). The role of co-worker and supervisor support in the relationship between job autonomy and work engagement among portuguese nurses: A multilevel study. *Social Indicators Research*, 126, 1143–1156. <https://doi.org/10.1007/s11205-015-0931-8>

- Viswanathan, R., Lal, N. S., Prasad, V., & Parveen, J. (2019). Does job satisfaction and employee commitment pave way for employee engagement in IT sector. *International Journal of Recent Technology and Engineering (IJRTE)*, 8(2S4), 307–313. <https://doi.org/10.35940/ijrte.B1058.0782S419>
- Wardini, B. S., & Nawangsari, L. C. (2021). The influence of employer branding and organizational culture on employee engagement with motivation as mediators on the millennials generation at KAP TSFBR. *European Journal of Business & Management Research*, 6(4), 388–393. <https://doi.org/10.24018/ejbmr.2021.6.4.1007>
- Yang, W., Nawakitphaitoon, K., Huang, W., Harney, B., Gollan, P. J., & Xu, C. Y. (2019). Towards better work in China: Mapping the relationships between high-performance work systems, trade unions, and employee well-being. *Asia Pacific Journal of Human Resources*, 57(4), 553–576. <https://doi.org/10.1111/1744-7941.12205>
- Yousf, A., & Khurshid, S. (2021). Impact of employer branding on employee commitment: Employee engagement as a mediator. *Vision*. <https://doi.org/10.1177/09722629211013608>
- Zeng, Z., Liu, J., Xie, Q., Wu, Y., Wang, H., & Lu, L. (2020). A national cross-sectional survey on work environment associated with psychological well-being and job satisfaction among Chinese employees. *Asia Pacific Journal of Public Health*, 32(4), 201–208. <https://doi.org/10.1177/1010539520914420>
- Zondo, R. W. D. (2020). The influence of employee engagement on labour productivity in an automotive assembly organisation in South Africa. *South African Journal of Economic and Management Sciences*, 23(1), 1–9. <https://doi.org/10.4102/sajems.v23i1.3043>