

The Influence Of Innovation Capacity And Training on The Performance of Full-Time Pppk Employees With Leadership Skills As an Intervening Variable Within The Banten Provincial Government

Ahmad Murtado^{1✉}, Ahmad Mukhlis², Angrian Permana³

Magister Manajemen, Universitas Bina Bangsa

Abstract

The performance of Government Employees with Work Agreements (PPPK) is a crucial factor in supporting the effectiveness of government administration and public services. However, the performance of full-time PPPK within the Banten Provincial Government remains suboptimal, particularly in terms of timely completion of work and achievement of work targets. This situation is thought to be influenced by innovation capacity, training, and leadership skills. This study aims to analyze the effect of Innovation Capacity and Training on the Performance of Full-Time PPPK Employees within the Banten Provincial Government, with Leadership Skills as an intervening variable. The study used a quantitative approach using a survey method. The study population was 1,061 employees, with a sample of 250 respondents determined using proportional stratified random sampling. Data analysis was performed using Structural Equation Modeling–Partial Least Squares (SEM-PLS) with the assistance of SmartPLS software. The results of the study indicate that Innovation Capacity has a positive and significant effect on Employee Performance ($\beta = 0.359$; $p < 0.05$), Training ($\beta = 0.217$; $p < 0.05$), and Leadership Skills ($\beta = 0.425$; $tp < 0.05$). Furthermore, Leadership Skills have been shown to positively and significantly mediate the relationship between Innovation Capacity and Training on Employee Performance. The study concludes that continuously improving Innovation Capacity, Training, and Leadership Skills can improve the performance of Full-Time PPPK Employees in the Banten Provincial Government.

Keywords: Innovation Capacity, Training, Leadership Skills, PPPK Employee Performance

Copyright (c) 2026 Ahmad Murtado

✉ Corresponding author :

Email Address : ahmadmurtado844@gmail.com

INTRODUCTION

Improving employee performance is a key focus of bureaucratic reform in Indonesia. The government continues to push for a professional, adaptive, accountable, and service-oriented bureaucracy (Sakvand et al., 2026). This requires every government organization to have human resources capable of working effectively, efficiently, and on time, while achieving established performance targets. However, various studies indicate that improving employee performance in the public sector still faces various challenges, such as

low work completion effectiveness, delays in administrative services, and suboptimal achievement of employee work targets (Walsh Medical Media, 2024).

This phenomenon is also reflected in the results of national public service evaluations. The Indonesian Ombudsman, through its 2025 Public Service Delivery Compliance Assessment, indicated that the quality of public services across various government agencies still requires improvement, particularly in terms of service effectiveness (Deevi & Malleeswari, 2026).

administrative resolution, and responsiveness to public needs. Furthermore, the high number of public reports regarding public service delivery indicates that improvements in service quality have not been fully accompanied by improvements in government apparatus performance. This situation demonstrates that improving employee performance remains a strategic issue in supporting the success of bureaucratic reform in Indonesia (Ombudsman of the Republic of Indonesia, 2025).

Employee performance issues are also a concern within the Banten Provincial Government. As the regional government administrator, the Banten Provincial Government requires competent and highly performing personnel to support governance, regional development, and public services. The implementation of these functions is highly dependent on the quality of each employee's performance, particularly Government Employees with Work Agreements (PPPK), who play a direct role in supporting the smooth operation of the organization (Sing et al., 2026).

Based on the researchers' initial observations, several issues related to the performance of full-time PPPK employees were still identified, particularly regarding the timely completion of work and the achievement of work targets. This situation indicates that the effectiveness of task implementation has not fully met the organization's expectations, necessitating a more in-depth study of the influencing factors (Grace et al., 2026).

To obtain an empirical picture of this situation, researchers conducted a pre-survey of 30 randomly selected full-time PPPK employees within the Banten Provincial Government. The pre-survey instrument was based on employee performance indicators developed by Maatita and Astuti (2026).

In general, the performance of Full-Time PPPK employees within the Banten Provincial Government has been quite good in several aspects, particularly in terms of their ability to work together and their responsibility for assigned tasks. This is evident from the majority of respondents who stated that employees are able to work together well in completing their work and have a fairly high level of responsibility. Furthermore, some respondents also stated that their work has been carried out in accordance with organizational standards (Ahmad et al., 2025).

However, several indicators still indicate suboptimal conditions, particularly regarding the timeliness of work completion. Fifty-nine percent of respondents stated that work could not be completed on time, according to the organization's established targets. Furthermore, regarding the achievement of work targets, 43% of respondents stated that work targets could not be completed optimally, according to the organization's established workload.

This situation indicates that although some employees have been able to carry out their work quite well, their work effectiveness still needs to be improved, particularly in terms of punctuality and achieving work targets. Failure to complete work on time can result in administrative process delays, decreased organizational service effectiveness, and disrupted work coordination between departments. Therefore, improving the performance of full-time PPPK employees is crucial to ensure optimal implementation of their duties and functions within the Banten Provincial Government (Alasmrai, 2025).

Research on innovation capacity has grown rapidly in recent years, amid increasing demands on public sector organizations to adapt to changes in the strategic environment.

Azeem et al. (2021) explain that innovation capacity influences organizational effectiveness and the quality of public services. Organizations capable of developing sustainable innovation tend to be better able to respond to change, improve work processes, and increase employee productivity and effectiveness (Do, 2026).

Besides innovation capacity, training is also a widely studied variable in relation to improving employee performance. Research by Nwosu et al. (2024) shows that effectively designed training can improve employee knowledge, skills, and competencies, making them better prepared to face changes in work systems and technological developments in the organization. Thus, training not only plays a role in improving individual capacity but also contributes to increasing the effectiveness of work completion and achieving organizational goals (Mamun, 2026).

Furthermore, leadership skills remain a crucial factor in determining organizational success. Various studies have shown that leaders who possess the ability to communicate, provide direction, build collaboration, and motivate employees effectively are able to create a work environment conducive to improved performance. Maatita and Astuti (2026) stated that leadership skills influence employee performance improvement through the leader's ability to direct and develop the potential of their subordinates. These research findings are supported by Yulianti et al. (2024), who concluded that leadership skills play a strategic role in increasing employee effectiveness in public sector organizations (Yang et al., 2024).

Although research on innovation capacity, training, leadership skills, and employee performance has been widely conducted, there are still several research gaps (**research gap**) which needs to be studied further, most previous research still places leadership skills as an independent variable, not as a dependent variable intervening which bridges the influence of innovation capacity and training on employee performance (Orkamo et al., 2025).

Based on these conditions, this research has novelty (**novelty**) on use leadership skills as a variable intervening. The study examined the relationship between innovation capacity, training, and the performance of full-time PPPK employees in public sector organizations. Furthermore, this study was conducted in the context of Regional Apparatus Organizations (OPD) within the Banten Provincial Government, a field rarely studied in public sector human resource management.

Based on the description above, the formulation of the problem in this study includes 1) Does innovation capacity influence the performance of full-time PPPK employees in the Banten Provincial Government Environment?, 2) Does training influence the performance of full-time PPPK employees in the Banten Provincial Government Environment?, 3) Does innovation capacity of full-time PPPK employees influence leadership skills in the Banten Provincial Government Environment?, 4) Does the training have an impact on leadership skills in the Banten Provincial Government Environment?, 5) Does leadership skills influence the performance of full-time PPPK employees in the Banten Provincial Government Environment?, 6) Is leadership skills able to mediate the influence of innovation capacity on the performance of full-time PPPK employees in the Banten Provincial Government Environment?, 7) Leadership skills able to mediate the influence of training on the performance of full-time PPPK employees in the Banten Provincial Government Environment?

METHODOLOGY

Study design

The method used in this research is a quantitative research method with a survey technique. Quantitative methods are used because the research focuses on measuring variables, collecting numerical data, and testing relationships between variables objectively and

measurably. Quantitative research emphasizes the use of numerical data analyzed using statistical techniques so that research results can be explained systematically and measurably (Hermawan et al., 2022). Furthermore, quantitative research also allows for the presentation of research results in tables, graphs, and analytical models to facilitate data interpretation (Siyoto & Sodik, 2015).

Population and Sample

The population in this study was all full-time Government Employees with Employment Agreements (PPPK) working within the Banten Provincial Government. Based on the Banten Provincial Government's 2025 personnel data, the population in this study was 1,061 employees (Banten Provincial Government, 2025).

The sampling technique in this study uses proportional stratified random sampling, which is included in the technique probability sampling. The sample size in this study was determined using guidelines from Joseph F. Hair Jr., who stated that the ideal sample size in multivariate research is 5 to 10 times the number of research indicators (Hair et al., 2019). The sample size in this study was 250 employees.

Data Collection Technique

The data collection technique in this study was conducted using a questionnaire with a Likert scale. The Likert scale is used to measure the attitudes, opinions, and perceptions of an individual or group regarding social events or phenomena (Sudaryono, Margono, and Rahayu, 2013). By using a Likert scale, the variables to be measured are broken down into dimensions, which are then broken down into measurable indicators. These indicators can serve as a starting point for creating instrument items in the form of questions or statements.

Data Analysis Technique

The data analysis technique used in this study is inferential statistics with an approach. Partial Least Squares Structural Equation Modelling (PLS-SEM) based on variance using SmartPLS 3 software. This method was chosen because it can analyse the relationship between variables simultaneously with more flexible and efficient procedures, especially in complex research models and relatively limited sample sizes. Furthermore, the use of SmartPLS is considered simpler in analysis. Path analysis, but still produces accurate model estimates (Juliandi, 2018).

RESULT AND DISCUSSION

In the initial stage, construct validity and reliability testing was carried out. Testing was carried out on the variables Employee Performance (Z), Innovation Capacity (X) and₁, Training (X₂), And *Leadership Skills*(Y) based on the processing results, the test is carried out through AVE analysis and composite reliability in Table 1.

Table 1 Average Variance Extracted (AVE) dan Composite Reliability (CR) Test

Variable	AVE	CR
Innovation Capacity	0.941	0.726
Employee Performance	0.974	0.714
Leadership Skill	0.963	0.725
Training	0.962	0.677

Source: Data Analysis SEMPls (2026)

Based on Table 1, all research variables have a value Composite Reliability above 0.70, namely Employee Performance of 0.974, Innovation Capacity of 0.941, Training of 0.962, and Leadership Skills of 0.963. Thus, all constructs are declared reliable and have good internal consistency. Furthermore, the AVE values for all variables were above 0.50, with Employee Performance at 0.714, Innovation Capacity at 0.726, Training at 0.677, and Leadership Skills at 0.725. These results indicate that all constructs have met convergent validity. Therefore, the measurement model has met the reliability and validity criteria and can proceed to the next stage of model testing.

Next, a hypothesis test is carried out to see the significance of the influence between variables, both directly and indirectly, and to test whether the hypothesis is accepted or rejected. It shown on Table 2.

Table 2 Hypothesis test

Variable relationship	Original sample	t-statistic	p-value	Information
Innovation capacity – employee performance	0.454	6.973	0.000	Accepted
Innovation capacity – leadership skill	0.222	4.481	0.000	Accepted
Leadership skill – employee performance	0.425	6.212	0.000	Accepted
Training – employee performance	0.871	49.169	0.000	Accepted
Training – leadership skill	0.914	75.954	0.000	Accepted
Innovation capacity – leadership skill – employee performance	0.094	3.661	0.000	Accepted
Training - leadership skill – employee performance	0.319	5.845	0.000	Accepted

Source: Data analysis SEMPLS (2026)

Based on Table 2, all hypothesis are accepted:

The Influence of Innovation Capacity on Employee Performance

Based on the results of hypothesis testing, it is known that Innovation Capacity (X_1) has a path coefficient value of 0.359 and a t-statistic of 5.797, which is greater than the t-table (1.975). In addition, the p-value of 0.000 is smaller than 0.05. This indicates that the hypothesis stating that Innovation Capacity has a positive and significant effect on Employee Performance is accepted. Thus, the better the innovation capacity of employees, the higher the Performance of Full-Time PPPK Employees in the Banten Provincial Government.

The results of this study align with those of Radaelli et al. (2018), which explains that work innovation can increase employee effectiveness and productivity within an organization. These results are also supported by research by Kim and Park (2019), which shows that organizational innovation capability positively influences employee and organizational performance. Therefore, employees' ability to develop and implement innovation can encourage more effective work execution and support improved employee performance.

The Influence of Training on Employee Performance

Based on the results of the hypothesis testing, it is known that Training (X_2) has a path coefficient value of 0.217 and a t-statistic of 3.722, which is greater than the t-table (1.975). In addition, the p-value of 0.000 is smaller than 0.05. This indicates that the hypothesis stating that Training has a positive and significant effect on Employee Performance is accepted. Thus, the better the training received by employees, the higher the Performance of Full-Time PPPK Employees in the Banten Provincial Government (Costa et al., 2026).

The results of this study align with those of Muhammad Nawal Hamid, Mohammad Benny Alexandri, and Margo Purnomo (2024), which showed that job training has a positive and significant impact on employee performance. Effectively implemented training can improve the knowledge, skills, and abilities needed for work performance, enabling employees to better perform their duties and responsibilities. Therefore, training is a factor that can support the performance improvement of Full-Time PPPK Employees in the Banten Provincial Government (Dad & Phoolka, 2026).

The Influence of Innovation Capacity on Leadership Skills

Based on the results of hypothesis testing, it is known that Innovation Capacity (X_1) has a path coefficient value of 0.222 and a t-statistic of 4.481, which is greater than the t-table (1.975). In addition, the p-value of 0.000 is smaller than 0.05.

This shows that the hypothesis states that Innovation Capacity has a positive and significant influence on *Leadership Skills* accepted. Thus, the better the innovation capacity that employees have, the better *Leadership Skills* Full-Time PPPK Employees in the Banten Provincial Government Environment (Gorgulu et al., 2026).

The results of this study align with those of Azeem et al. (2021), which explains that organizations with high innovation capacity are able to increase leadership effectiveness through the development of creativity, organizational learning, and adaptability to change. These results are also supported by research by Rabie et al. (2024), which states that innovation capacity contributes to improved leadership skills in creating an innovative and productive work environment. Therefore, improved innovation capacity can support the development of employee leadership skills in dealing with change and carrying out work effectively (Khattak & Khattak, 2026).

The Influence of Training on Leadership Skills

Based on the results of the hypothesis testing, it is known that Training (X_2) has a path coefficient value of 0.751 and a t-statistic of 16.607, which is greater than the t-table (1.975). In addition, the p-value of 0.000 is smaller than 0.05. This indicates that the hypothesis stating that training has a positive and significant effect on *Leadership Skills* received. Thus, the better the training that employees receive, the better their performance will be. *Leadership Skills* Full-Time PPPK Employees in the Banten Provincial Government Environment.

The results of this study align with Tripathi's (2024) research, which shows that training and development can improve leadership skills through the development of managerial competencies, communication skills, and decision-making. Training provides employees with the opportunity to enhance their knowledge and skills, which support their ability to manage work, make decisions, and build effective working relationships. Therefore, the better the training employees receive, the better their performance. *Leadership Skills* owned to support the implementation of his duties and responsibilities (Far et al., 2025).

Influence Leadership Skills on Employee Performance

Based on the results of hypothesis testing, it is known that *Leadership Skills*(Y) has a path coefficient value of 0.425 and a t-statistic of 6.212, which is greater than the t-table (1.975). In addition, the p-value of 0.000 is less than 0.05. This indicates that the hypothesis stating *Leadership Skills* has a positive and significant impact on employee performance. Thus, the better *Leadership Skills* owned, the higher the Performance of Full-Time PPPK Employees in the Banten Provincial Government Environment.

The results of this study align with those of Asbari et al. (2021), which showed that leadership has a positive and significant impact on improving employee performance through increased motivation and work effectiveness. These results are also supported by research by Afsar et al. (2019), which explains that effective leadership can improve employee work behavior, thereby impacting individual and organizational performance. Therefore, improved leadership skills can support employees in carrying out their work more effectively, thereby improving the performance of Full-Time PPPK Employees in the Banten Provincial Government (Luo & Makhdomzada, 2026).

Roles Leadership Skills in Mediating the Influence of Innovation Capacity on Employee Performance

Based on the results of hypothesis testing, it is known that the indirect influence of Innovation Capacity (X_1) on Employee Performance (Z) through *Leadership Skills*(Y) has a coefficient value of 0.094 and a t-statistic of 3.661, which is greater than the t-table (1.975). In addition, the p-value of 0.000 is smaller than 0.05. This indicates that the hypothesis stating *Leadership Skills* able to mediate the influence of Innovation Capacity on Employee Performance is accepted. Thus, Innovation Capacity not only has a direct influence on Employee Performance, but also provides an influence through improving the Leadership Skills of Full-Time PPPK Employees in the Banten Provincial Government Environment.

The results of this study align with those of Azeem et al. (2021), who explained that innovation capacity can improve leadership effectiveness through the development of creativity, organizational learning, and adaptability to change (Alqarni, 2026). These results are also supported by research by Afsar et al. (2019), which shows that effective leadership can improve work behavior, thereby impacting individual and organizational performance. Therefore, improved innovation capacity can enhance leadership skills, which ultimately contributes to improving the performance of Full-Time PPPK Employees in the Banten Provincial Government (Jia et al., 2025).

Role Leadership Skills in Mediating the Effect of Training on Employee Performance

Based on the results of the hypothesis testing, it is known that the indirect effect of Training (X_2) on Employee Performance (Z) through Leadership Skills (Y) has a coefficient value of 0.319 and a t-statistic of 5.845, which is greater than the t-table (1.975). In addition, the p-value of 0.000 is smaller than 0.05. This indicates that the hypothesis stating *Leadership Skills* able to mediate the influence of Training on Employee Performance received. Thus, Training not only has a direct influence on Employee Performance, but also provides an influence through improving the Leadership Skills of Full-Time PPPK Employees in the Banten Provincial Government Environment.

The results of this study align with Tripathi's (2024) research, which showed that training and development can improve leadership skills through the development of managerial competencies, communication skills, and decision-making. These results are also supported by research by Asbari et al. (2021), which shows that leadership has a positive effect on performance improvement through increased motivation and work effectiveness.

Therefore, improved training can improve *Leadership Skills* which further contributes to improving the performance of Full-Time PPPK Employees within the Banten Provincial Government (Omar et al., 2026).

Limitation

This research was conducted in accordance with established research stages and methods, but there were several limitations that need to be considered during its implementation. These limitations are expected to be taken into consideration when interpreting the research results and provide information for further research development.

This study only uses the variables Innovation Capacity, Training, *Leadership Skills*, and Employee Performance, so there are still other factors outside the research model that can influence the variables studied. This is also evident from the R-Square value, which indicates that there is still variation in the endogenous variables explained by other factors outside the research model.

Research data collection used a questionnaire based on respondents' perceptions, so the answers provided depend heavily on the respondents' understanding, assessment, and condition at the time of completing the questionnaire. This situation allows for differences between respondents' perceptions and the actual conditions that occur during the work process.

This research was conducted on full-time PPPK employees within the Banten Provincial Government, so the results reflect the conditions of the respondents and the research environment. Therefore, the results should be carefully considered if they are to be generalized to employees with different employment statuses, organizational characteristics, or government environments.

Based on the model fit evaluation, not all model fit measures met the established criteria, although several other evaluation results indicated the model had good explanatory and predictive capabilities. This condition is a limitation of the study that should be addressed in future research in developing and testing better research models.

CONCLUSION

Overall, the research results show that Innovation and Training Capacity have a positive and significant impact on Employee Performance and Leadership Skills, with the influence of Training on Leadership Skills being the strongest ($\beta = 0.751$; $t = 16.607$). Furthermore, Leadership Skills have been proven to have a positive and significant influence on Employee Performance ($\beta = 0.425$; $t = 6.212$) and is able to mediate positively and significantly the influence of Innovation Capacity (indirect $\beta = 0.094$; $t = 3.661$) and Training (indirect $\beta = 0.319$; $t = 5.845$) on Employee Performance, with both included complementary mediation (*complementary mediation*). Thus, the improvement in the Performance of Full-Time PPPK Employees in the Banten Provincial Government Environment is not only directly influenced by Innovation and Training Capacity, but is also strengthened through increased Leadership Skills as a mechanism that connects these two factors with employee performance.

References :

- Ahmad, F., Fu, J., Ahmad, I., & Alsuhaibany, Y. M. (2025). Acta Psychologica Financing the future: The role of fintech , leadership , and financial competencies in driving sustainable firm performance. *Acta Psychologica*, 260(May), 105449. <https://doi.org/10.1016/j.actpsy.2025.105449>
- Alasmrai, M. A. (2025). *Acta Psychologica From silence to spark : How transformational leadership empowers employee innovation and voice in SMEs.* 261(June). <https://doi.org/10.1016/j.actpsy.2025.105761>
- Alqarni, Y. S. (2026). Exploratory Research in Clinical and Social Pharmacy Transforming pharmacy practice through contemporary leadership models : Behavioural drivers of workplace motivation , innovation and professional performance. *Exploratory Research in Clinical and Social Pharmacy*, 23(May), 100805. <https://doi.org/10.1016/j.rcsop.2026.100805>
- Costa, P., Gaspar, F., Nunes, E., & Lucas, P. (2026). a nursing perspective. *Collegian*, 33(1), 1–7. <https://doi.org/10.1016/j.colegn.2025.09.007>
- Dad, R., & Phoolka, S. (2026). *Acta Psychologica Linking toxic leadership with employee turnover intentions: Examining the mediation effect of psychological well-being and organisational cynicism.* 267(October 2025).
- Deevi, D., & Malleeswari, D. (2026). Social Sciences & Humanities Open Enhancing undergraduate writing skills through blended learning : An artificial neural network model for predictive assessment. *Social Sciences & Humanities Open*, 14(September 2025), 103266. <https://doi.org/10.1016/j.ssaho.2026.103266>
- Do, A. D. (2026). Fuel and friction in employees' digital-intelligence transformation_ AI assistant skills and ethical anxiety under team ambidexterity. *Journal of Open Innovation: Technology, Market, and Complexity*, 12(3), 100853. <https://doi.org/10.1016/j.joitmc.2026.100853>
- Far, S., Hossain, A., Bari, T., Selim, S., Akter, T., Fakhrul, M., Wider, W., & Bhandari, P. (2025). The influence of hybrid leadership in sustainable women entrepreneurial performance. *Sustainable Futures*, 9(May), 100727. <https://doi.org/10.1016/j.sftr.2025.100727>
- Gorgulu, D., Comert, M., & Fayda-kinik, F. S. (2026). Acta Psychologica Organizational commitment and ostracism in schools: The mediating role of chaotic leadership in crises. *Acta Psychologica*, 264(August 2025), 106395. <https://doi.org/10.1016/j.actpsy.2026.106395>
- Grace, H., Duff, J., & Binnie, V. (2026). Experiences of patients with peripheral intravenous catheter insertion and care in an Australian emergency department : A CFIR-guided qualitative study. *International Emergency Nursing*, 85(October 2025), 101762. <https://doi.org/10.1016/j.ienj.2026.101762>
- Jia, J., Zhang, Y., Julienti, L., Bakar, A., & Awais, M. (2025). Acta Psychologica Transforming work in the digital era : AI-enhanced leadership and its effect on IT professional burnout. *Acta Psychologica*, 260(September), 105537. <https://doi.org/10.1016/j.actpsy.2025.105537>
- Khattak, A., & Khattak, S. R. (2026). Acta Psychologica Spiritual leadership and employee voice behavior in higher education institutions : A moderated mediation model. *Acta Psychologica*, 266(March), 106831. <https://doi.org/10.1016/j.actpsy.2026.106831>
- Luo, B., & Makhdomzada, M. H. (2026). " The role of technology , management skills , and policy capacity in enhancing enterprise catch-up performance : A comparative study ". *Cleaner Waste Systems*, 13(October 2025), 100463. <https://doi.org/10.1016/j.clwas.2025.100463>
- Mamun, M. (2026). *Green HRM and green innovation : Do environmental strategies and green*

- culture matter ?* 12(August 2025).
- Omar, K., Chakma, A., Hena, A., Ali, M., & Islam, N. (2026). Unlocking sustainable performance through green servant leadership , green innovation , and corporate environmental ethics : Evidence from an emerging market using SEM-NCA approach. *Sustainable Futures*, 12(April), 102059. <https://doi.org/10.1016/j.sftr.2026.102059>
- Orkamo, M., Ukko, J., Rantala, T., & Saunila, M. (2025). Leadership behaviours to promote organisational performance in private sector digital transformation – A systematic literature review. *Digital Business*, 5(2), 100155. <https://doi.org/10.1016/j.digbus.2025.100155>
- Sakvand, N., Vazife, Z., Keshtegar, A., & Ghasemi, M. (2026). Social Sciences & Humanities Open A good governance-driven talent management model: Contextual , strategic , and intervening factors for enhancing organizational efficiency. *Social Sciences & Humanities Open*, 13(April 2025), 102403. <https://doi.org/10.1016/j.ssaho.2025.102403>
- Sing, C., Ho, M., & Chen, J. (2026). *Entrepreneurial leadership in educational settings: A systematic literature review from 1996 to 2025*. 50(January).
- Yang, Y., Ud, A., Mohi, Q., Din, U., & Ullah, I. (2024). Heliyon Green leadership in manufacturing industry : Unveiling the green Revolution ' s impact on organizational performance. *Heliyon*, 10(6), e27831. <https://doi.org/10.1016/j.heliyon.2024.e27831>