

THE ROLE OF ETHICAL LEADERSHIP IN ENHANCING EMPLOYEE INNOVATION AND JOB EMBEDDEDNESS

Muhammad Irfan Nasution, Rindi Antika, Nugraha Pratama

Universitas Muhammadiyah Sumatra Utara
Jalan Kapten Mukhtar Basri No. 3 Medan, Indonesia
muhammadirfan@umsu.ac.id

Abstract: *This study aims to examine and analyse the influence of self-efficacy and ethical leadership on employee innovation behaviour, both directly and indirectly through job embeddedness. This study uses a causal approach with quantitative methods. The study population consisted of all employees of PT PLN (Persero) ULP Medan Selatan, with a saturated sampling technique yielding 102 respondents. Data analysis was conducted using the Structural Equation Modelling–Partial Least Squares (SEM-PLS) approach, which includes testing the outer model, inner model, and hypothesis testing. Data processing was performed using the SEM-PLS software. The results indicate that self-efficacy, ethical leadership, and job embeddedness have a positive and significant impact on employee innovation behaviour. Additionally, self-efficacy and ethical leadership were found to have a significant impact on job embeddedness. Furthermore, the results of the indirect effect analysis confirmed that job embeddedness serves as an essential mediating variable in the relationship between self-efficacy and ethical leadership, influencing employee innovation behaviour. This finding confirms that increasing employee innovation is not only determined by individual factors and moral leadership, but is also greatly influenced by the level of employee engagement with their work and organisation.*

Keywords: *Employee Engagement; Ethical Leadership, Innovation Behaviour*

Introduction

The increasingly dynamic and competitive work environment requires organisations to focus not only on performance achievement but also on retaining qualified employees. High workforce mobility leads to increased recruitment costs, loss of organisational knowledge, and disruption to sustainable performance (Uppathampracha & Liu, 2022). This condition emphasises the importance of studying the factors that influence employee innovation behaviour and job embeddedness in industry.

The concept of job embeddedness has evolved into a more comprehensive approach to explaining why employees remain with an organisation. Job embeddedness refers to the extent to which employees are deeply rooted in their jobs, as measured by the dimensions of links, fit, and sacrifice (Shah et al., 2020; Ahmad, 2024; Awan et al., 2021). Previous research has demonstrated that job embeddedness plays a significant role in reducing turnover and enhancing employee performance and commitment (Amankwaa et al., 2022). However, research on the determinants of job embeddedness still needs to be developed, particularly by integrating

individual psychological factors and leadership relevant to the demands of organisational innovation.

One influential psychological factor is self-efficacy, which refers to an individual's belief in their ability to complete tasks and overcome work challenges (Wang et al., 2025). Employees with high self-efficacy tend to be more confident, persistent, and adaptable, enabling them to effectively respond to job demands and the organisational environment (Chughtai et al., 2024; Farisi & Nurhayati, 2024). This increases perceptions of fit and strengthens organisational commitment. Previous studies have demonstrated that self-efficacy is positively correlated with job satisfaction, work engagement, and performance (Wongsuwan & Na-Nan, 2022; Bandura, 2023).

In addition to individual factors, leadership style plays a crucial role in shaping employee attitudes and behaviour. Ethical leadership emphasises integrity, fairness, and moral exemplarity in leader behaviour and decision-making (Dahiya et al., 2025). Ethical leadership fosters a fair and psychologically safe work environment, thereby enhancing employee trust and commitment. Previous research has found that ethical leadership has a positive influence on job satisfaction (Freire & Bettencourt, 2020), organisational commitment (Qing et al., 2020), and employee retention intentions (Ng & Salamzadeh, 2020). In the context of job embeddedness, ethical leadership has the potential to strengthen working relationships (links), value alignment (fit), and perceptions of sacrifice if employees leave the organisation (Al Halbusi et al., 2021).

In modern organisations, employee innovation is a vital behaviour for maintaining competitiveness and sustainability. Employee innovation refers to an individual's behaviour in generating and implementing new ideas that benefit the organisation (Nasifoglu Elidemir et al., 2020; Nasution et al., 2025). Innovative employees tend to feel that their work is more meaningful and has a strategic role, thereby strengthening their sense of belonging and attachment to the organisation (Berisha et al., 2025). Self-efficacy is the primary foundation for innovation, as individuals who are confident in their abilities are more willing to take initiatives and face risks. On the other hand, ethical leadership fosters a climate that supports innovation through fairness and trust, enabling employees to feel secure in their ability to innovate (Ye et al., 2023; Shafique et al., 2019).

Although the relationship between self-efficacy, ethical leadership, and various work outcomes has been extensively researched, studies integrating employee innovation as a mediating variable in the relationship between self-efficacy and ethical leadership on job embeddedness are still relatively limited, particularly in the context of organisations in developing countries. Therefore, this study is important to fill this research gap by examining how individual psychological factors and ethical leadership can strengthen job embeddedness through employee innovative behaviour. The results of this study are expected to provide theoretical contributions to the development of organisational behaviour literature as well as practical implications for sustainability-oriented human resource management.

Hypothesis Development

Self-Efficacy Influences Employee Innovation

Self-efficacy is an individual's belief in their ability to organise and execute the actions necessary to achieve a specific performance (Iddris et al., 2023). In an organisational context, self-efficacy is a crucial psychological resource that influences how employees deal with

challenges, uncertainty, and the demands of change (Shao et al., 2022). Employees with high self-efficacy tend to have confidence, persistence, and a strong learning orientation, which are key prerequisites for innovative behaviour (Teng et al., 2020). Employee innovation refers to an individual's behaviour in generating, promoting, and implementing new ideas that contribute to improving organisational effectiveness (Mumtaz & Parahoo, 2019); (Elidemir et al., 2020).

Based on Social Cognitive Theory, self-efficacy influences individual behavioural choices, effort levels, and resilience in the face of adversity (Shengyao et al., 2024). Employees with high self-efficacy will demonstrate greater persistence in developing and implementing new ideas. Empirical research shows that self-efficacy is positively related to employee creativity and innovative behaviour (Tierney & Farmer, 2002). Furthermore, self-efficacy also increases intrinsic motivation, which is a crucial factor in driving innovation in the workplace (Wan et al., 2022).

Another study found that self-efficacy contributes to increased learning and exploration of new knowledge, ultimately strengthening an individual's innovative abilities (Wan et al., 2022). Based on this description, the following hypothesis is proposed:

H1: Self-efficacy has a positive and significant effect on employee innovation

The Influence of Ethical Leadership on Employee Innovation

Ethical leadership is a leadership style characterised by fairness, honesty, and integrity, and the ability to serve as a moral role model for subordinates in decision-making and work interactions (Ullah et al., 2021). In the context of modern organisations that demand continuous adaptation and renewal, ethical leadership plays a crucial role in creating a psychologically safe and trust-based work environment (Ye et al., 2023). Innovative behaviour often involves risk, uncertainty, and the possibility of failure. Therefore, moral support and fairness from leaders are crucial factors in encouraging employees to innovate. Ethical leaders tend to treat subordinates fairly, value their ideas, and create a work climate open to dissent (Yang & Liu, 2022)

Theoretically, ethical leadership encourages innovative behaviour by increasing employee trust and intrinsic motivation (Hoang et al., 2023). When employees feel treated fairly and valued, they are more willing to actively participate in the innovation process. Empirical research shows that ethical leadership is positively related to employee creativity and innovation (Masianoga & Chakauya, 2023). Based on this description, the following hypothesis is proposed:

H2: Ethical leadership has a positive and significant effect on employee innovation

Job Embeddedness Influences Employee Innovation

Job embeddedness is a concept that describes the extent to which employees are embedded in an organisation through the strength of social relationships (links), the fit between the individual and the job (fit), and the perceived sacrifices that must be made if leaving the organisation (sacrifice)(Chen, 2022). High levels of job embeddedness reflect a strong employee attachment to the organisation, both psychologically and socially (Yoon et al., 2022). Employees with high job embeddedness tend to have a strong sense of belonging, emotional involvement, and commitment to the organisation's success, thus being more motivated to make innovative contributions (Dogbe et al., 2020).

Theoretically, employees who feel aligned with the organisation's values and goals and have strong work relationships are more motivated to engage in extra-role behaviours, including

innovation (Dogbe et al., 2020). Furthermore, the perception of high sacrifices associated with leaving the organisation encourages employees to invest their energy and creative ideas in the organisation's advancement. Previous research has shown that job embeddedness is positively related to employee proactive and innovative behaviour (Chen, 2022). Based on this description, the following hypothesis is proposed:

H3: Job embeddedness has a positive and significant effect on employee innovation.

Self-Efficacy Influences Job Embeddedness

Employees with high self-efficacy generally feel more capable of meeting job demands, thus increasing perceptions of fit and well-being at work (Wang et al., 2025). Furthermore, achieving work success strengthens social and professional relationships in the workplace, ultimately increasing employee attachment to the organisation (H. Kim & Park, 2023).

Theoretically, individuals with high self-efficacy tend to have more substantial work commitment and engagement, which contributes to increased job embeddedness. Previous research shows that self-efficacy is positively related to work engagement and organisational commitment (Yu et al., 2020). Therefore, self-efficacy is viewed as a psychological factor that plays a crucial role in strengthening job embeddedness. Based on this description, the following hypothesis is proposed:

H4: Self-efficacy has a positive and significant effect on job embeddedness

Ethical Leadership Influences Job Embeddedness

Ethical leadership is a leadership style that emphasises integrity, fairness, and moral exemplarity in decision-making and interactions with subordinates (Khattak et al., 2022). Ethical leadership not only acts as a guide but also as a role model, creating a fair, transparent, and trust-based work environment. This is a crucial factor in shaping employee attitudes and attachment to the organisation (Islam et al., 2024).

Job embeddedness refers to the extent to which employees are integrated into the organisation through the dimensions of work relationships (links), congruence of values and goals (fit), and perceived sacrifice if they were to leave the organisation (Ramaite et al., 2022). Ethical leadership can strengthen these three dimensions. Fair and consistent treatment from leaders enhances the quality of relationships between superiors and subordinates, strengthens the alignment of individual values with the organisation, and fosters a sense of security and trust that is difficult to abandon. Empirical research indicates that ethical leadership is positively associated with organisational commitment and employee retention intentions (Hussain et al., 2024) (Bedi et al., 2016). Based on this description, the following hypothesis is proposed:

H5: Ethical leadership has a positive and significant effect on job embeddedness.

The Mediating Role of Job Embeddedness in the Relationship Between Self-Efficacy and Ethical Leadership and Employee Innovation

Self-efficacy and ethical leadership are individual and contextual factors that significantly influence employee work behaviour, including employee innovation. However, the influence of these two variables on innovative behaviour is not always direct; instead, it occurs through psychological and social conditions that strengthen employee attachment to the organisation. In this regard, job embeddedness is seen as a relevant mediating mechanism. Job

embeddedness plays a strategic role as a mediating mechanism that explains how self-efficacy and ethical leadership can effectively translate into employee innovation. High self-efficacy makes employees confident in their ability to generate and implement new ideas, but innovation is more likely to occur when employees feel psychologically and socially connected to the organisation (Thakur & Bhatnagar, 2017). Based on this description, the following hypotheses are proposed:

H6: Job embeddedness mediates the relationship between self-efficacy and employee innovation.

H7: Job embeddedness mediates the relationship between ethical leadership and employee innovation.

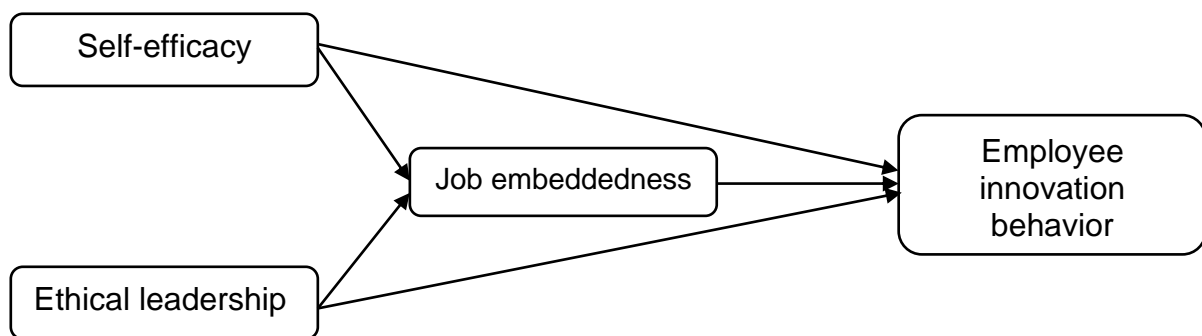


Figure 1. Research Model

Method

This study employs a quantitative research approach to examine and analyse the relationships and direct and indirect influences between independent variables, mediating variables, and dependent variables through statistical hypothesis testing. The independent variables in this study are Self-Efficacy (X1) and Ethical Leadership (X2), the dependent variable is Employee Innovation (Y), and the mediating variable is Job Embeddedness (Z). The study population consisted of all employees of PT PLN (Persero) ULP Medan Selatan, who were selected using a saturated sampling technique, resulting in a total of 102 employees as respondents. Data were collected through questionnaires, and data analysis was performed using the Structural Equation Modelling–Partial Least Squares (SEM-PLS) method. Data analysis included an evaluation of the measurement model (outer model) to assess the validity and reliability of the instrument, as well as an evaluation of the structural model (inner model) to examine causal relationships and test the research hypotheses.

Results And Discussion

Based on the results of construct validity and reliability testing, it can be explained that all indicators in each variable showed higher factor loading values for the construct they measured compared to other constructs. This condition reflects the fulfilment of the discriminant validity criterion, indicating that each indicator was able to clearly differentiate the variables of Self-Efficacy, Ethical Leadership, Employee Innovation, and Job Embeddedness. In other words, the indicators used were placed appropriately and consistently to represent their respective latent

constructs. These results indicate that the research instrument has a good level of validity, thus accurately measuring the concepts studied and can be reliably used in the structural model analysis stage and subsequent hypothesis testing.

Tabel 1. Average Variance Extracted (AVE)

Construct	Average Variance Extracted (AVE)
Self-efficacy	0.578
Employee innovation behavior	0.667
Ethical leadership	0.526
Job embeddedness	0.555

Based on the results of construct reliability and validity testing, all constructs in this study have an adequate level of reliability and validity. The Average Variance Extracted (AVE) values for the variables of Self-Efficacy, Employee Innovation, Ethical Leadership, and Job Embeddedness are each above the minimum limit of 0.50. This indicates that each construct can explain more than half of the variance of its constituent indicators. Thus, it can be concluded that all latent variables in this study meet the criteria of good convergent validity. Consequently, the measurement instrument used is deemed valid and reliable, representing the concepts studied and suitable for use in the structural model analysis stage and subsequent hypothesis testing.

Hypothesis Testing

Hypothesis testing in this study was conducted to determine the magnitude of the direct and indirect influences between the variables formulated in the research model. This study aimed to investigate whether Self-Efficacy and Ethical Leadership have a significant influence on Employee Innovation, either directly or through the mediating role of Job Embeddedness. Hypothesis testing analysis was conducted using the Structural Equation Modelling–Partial Least Squares (SEM-PLS) approach by examining the path coefficient, t-statistic, and p-value generated through the bootstrapping procedure. A theory is accepted if the t-statistic is greater than 1.96 and the p-value is less than 0.05 at the 5 per cent significance level. The results of this hypothesis testing are then presented in the form of a structural model in the following figure, which illustrates the direction and strength of the relationship between the variables in the study.

Table 2. Testing of Direct Effect and Indirect Effect

Hypothesis	Original Sample (O)	Sample Mean	STDEV	T-Statistics	P-Values
Self-efficacy → Employee innovation behaviour	0.383	0.365	0.104	3.673	0.000
Self-efficacy → Job embeddedness	0.582	0.583	0.069	8.421	0.000

Ethical leadership → Employee innovation behaviour	0.201	0.200	0.056	3.617	0.000
Ethical leadership → Job embeddedness	0.399	0.398	0.072	5.534	0.000
Job embeddedness → Employee innovation behaviour	0.404	0.424	0.113	3.592	0.000
Self-efficacy → Job embeddedness → Employee innovation behaviour	0.235	0.247	0.074	3.167	0.002
Ethical leadership → Job embeddedness → Employee innovation behaviour	0.161	0.168	0.053	3.034	0.003

The results of the hypothesis testing indicate that all relationships between variables in this research model are significant. Self-efficacy has a positive and significant impact on employee innovation behaviour, suggesting that an individual's confidence in their abilities fosters innovative behaviour in the workplace. Furthermore, self-efficacy also has a significant impact on job embeddedness, suggesting that employees with high levels of self-efficacy tend to have a stronger attachment to their jobs. Ethical leadership has a positive and significant impact on both employee innovation behaviour and job embeddedness, confirming its role in fostering a work environment that supports innovation and enhances employee engagement. Furthermore, job embeddedness has a positive and significant effect on employee innovation behaviour, such that the higher the employee's attachment to the organisation, the greater their tendency to behave innovatively. These findings also confirm the mediating role of job embeddedness, where job embeddedness significantly mediates the influence of self-efficacy and ethical leadership on employee innovation behaviour, meaning that the influence of these two variables on employee innovation is not only direct but also strengthened through increased employee engagement.

Discussion

Self-efficacy on Employee Innovation Behaviour and Job Embeddedness

The results of this study indicate that self-efficacy has a positive and significant effect on employee innovation behaviour and job embeddedness. The influence of self-efficacy on employee innovation behaviour indicates that an individual's belief in their own abilities is a crucial psychological factor in encouraging the emergence of new ideas, the courage to take risks, and the willingness to experiment in completing work. Yamin, (2022) Emphasised that individuals with high self-efficacy tend to set challenging goals, demonstrate greater persistence, and are more adaptable to change, key characteristics of innovative behaviour. These findings are also supported by research by Din & Khan, (2025), stated that creative self-efficacy plays a significant role in enhancing employee innovation in the workplace.

Furthermore, self-efficacy was shown to have a more substantial influence on job embeddedness ($\beta = 0.582$; $p < 0.001$), indicating that employees with high levels of self-confidence in their competencies tend to feel more suited to their jobs, have stronger working relationships, and perceive greater sacrifices if they have to leave the organisation. This aligns with the job embeddedness theory proposed by Wang et al., (2025), suggest that work engagement is influenced by an individual's perception of the suitability and value of their role within the organisation. Employees with high self-efficacy feel capable of meeting job demands and contributing optimally, thereby strengthening their psychological and social bonds with the organisation (H. Kim & Park, 2023). Thus, self-efficacy not only functions as a direct driver of innovative behaviour, but also as an important mechanism in strengthening job embeddedness, which ultimately creates a more stable, productive, and innovative work environment that is sustainable.

Ethical Leadership on Job Embeddedness and Employee Innovation Behaviour

The results indicate that ethical leadership has a positive and significant impact on employee innovation behaviour and job embeddedness, confirming the crucial role of ethical leadership in shaping employee behaviour and engagement. The effect of ethical leadership on employee innovation behaviour ($\beta = 0.201$; $p < 0.001$) suggests that leaders who uphold the values of honesty, fairness, and integrity can create a safe psychological climate for employees to propose new ideas and conduct experiments without fear of sanctions or unfair treatment. This finding aligns with the view of Ye et al., (2022), stated that ethical leadership encourages positive employee behaviour through moral role modelling and strengthening ethical norms within the organisation. In the context of innovation, a strong ethical climate fosters employee trust in leadership, making employees more willing to take initiatives and exhibit innovative behaviour (Wen et al., 2021).

Furthermore, ethical leadership was also found to have a significant influence on job embeddedness ($\beta = 0.399$; $p < 0.001$), suggesting that ethical leadership plays a crucial role in enhancing employee engagement with the organisation. Fair and consistent leaders in decision-making can build quality working relationships, enhance the sense of organisational justice, and strengthen value congruence between employees and the organisation. This aligns with the job embeddedness theory proposed Khattak et al., (2022), which emphasises that social relationships and value congruence are key factors that retain employees within the organisation. Previous research also indicates that ethical leadership contributes to increased affective commitment and organisational trust, ultimately strengthening job embeddedness (S. Kim et al., 2021). Thus, ethical leadership not only serves as a driver of innovative behaviour but also as an important foundation in building strong and sustainable employee engagement within the organisation.

Job Embeddedness on Employee Innovation Behaviour

The results of this study indicate that job embeddedness has a positive and significant effect on employee innovation behaviour ($\beta = 0.404$, $p < 0.001$), suggesting that the level of employee engagement in their work plays a significant role in encouraging innovative behaviour.

This finding is also supported by previous research, which shows that job embeddedness is positively correlated with various positive work behaviours, including extra-role behaviour, organisational commitment, and innovative performance (Yamin, 2022). Thus, job embeddedness serves as an important mechanism that strengthens employee innovation behaviour, as high engagement encourages employees to invest emotionally and cognitively in creating added value for the organisation.

Self-efficacy and ethical leadership in influencing employee innovation behaviour, mediated by job embeddedness.

The results of the indirect effect test indicate that job embeddedness acts as a significant mediating variable in the relationship between self-efficacy and ethical leadership on employee innovation behaviour. This indicates that an individual's belief in their own abilities not only directly drives innovative behaviour but also strengthens employee engagement with their work, ultimately increasing their propensity to innovate. Employees with high self-efficacy tend to be more confident in facing work challenges, more proactive in building work relationships, and better able to adapt to organisational values and demands. This condition strengthens the fit and links dimensions of job embeddedness, so employees feel more psychologically and socially connected to the organisation. This attachment fosters a sense of security and commitment, encouraging employees to take initiative, propose new ideas, and actively participate in innovative activities.

These findings confirm that job embeddedness plays a key mediating role (Jufrizen & Sianipar, 2023), in the relationship between self-efficacy and ethical leadership on employee innovation behaviour. High self-efficacy not only increases employee confidence but also strengthens psychological and social attachment through increased fit and links, thus encouraging the courage to innovate. Similarly, ethical leadership creates a fair and trusting work environment that strengthens job embeddedness, so employees feel more engaged and responsible towards the organisation. With this strong attachment, the influence of self-efficacy and ethical leadership can be more effectively translated into employee innovative behaviour.

Conclusion

Based on the research results and discussion, self-efficacy and ethical leadership play a significant role in enhancing employee innovation behaviour, both directly and indirectly through job embeddedness. Self-efficacy has been shown to have a positive and significant effect on employee innovative behaviour, indicating that an individual's belief in their abilities encourages the courage to propose new ideas, try different work methods, and actively engage in innovative activities. Furthermore, self-efficacy also has a significant impact on job embeddedness, suggesting that employees with high levels of self-confidence tend to have a stronger attachment to their work and organisation.

Ethical leadership has also been shown to have a positive and significant effect on employee innovation behaviour and job embeddedness. Leadership that upholds the values of ethics, fairness, and integrity can create a conducive work environment, foster trust, and strengthen the relationship between employees and the organisation. The findings of this study also confirm that job embeddedness acts as a significant mediating variable, where employee engagement with work and the organisation strengthens the influence of self-efficacy and ethical

leadership on employee innovative behaviour. Thus, increasing employee innovation is determined not only by individual factors and leadership, but also by the extent to which employees feel engaged and comfortable within the organisation. These findings suggest that organisations should develop employee self-efficacy, implement ethical leadership, and enhance job embeddedness to foster sustainable innovation.

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