

The Role of Transformational Leadership on Employee Turnover Intention at Mining Site Employees in Isolated Areas (Hardship Location)

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Abstract. *This study aims to analyze the influence of Transformational Leadership on Turnover Intention with Psychological Well-being as a mediating variable in employees of a mining contractor company in Murung Raya, Central Kalimantan. The background of this study is driven by the phenomenon of high potential employee turnover caused by the pressure of the work environment in isolated areas without access to communication signals (blank spots) and the perception of psychological contract violations due to changes in work roster policies (reduced leave quota). In conditions of limited facilities and social access, the role of leaders becomes a crucial factor in maintaining mental stability and employee loyalty. This study used a quantitative approach with an explanatory design. The study population was 142 staff employees working at the site, with a minimum sample size of 100 respondents determined using the Simple Random Sampling technique. Data collection was conducted online using a Google Form questionnaire due to the office's paperless implementation. Data were analyzed using the Partial Least Square (PLS)-based Structural Equation Modeling (SEM) method with the assistance of SmartPLS software. The results of this study are expected to empirically prove that the application of a transformational leadership style characterized by idealized influence, inspirational motivation, intellectual stimulation, and individual consideration has a significant positive effect on improving employee psychological well-being. Furthermore, high levels of psychological well-being are expected to mediate the influence of leadership in reducing turnover intention. These findings provide managerial implications that in locations of hardship with limited transactional incentives, a leadership approach that taps into the psychological and emotional aspects is the most effective retention strategy.*

Keywords: *Isolated Area (Hardship Location); Mining Industry; Psychological Well-being; Transformational Leadership; Turnover Intention.*

1. Introduction

The Importance of Employee Retention in the National Mining Industry Landscape 2025

The Indonesian mining industry in 2025 faces a highly complex strategic duality. On the one hand, the sector is recording impressive production records, but on the other hand, the challenge of human resource (HR) management is reaching an unprecedented critical point. Based on aggregate industry data, Indonesia is set to solidify its position as the world's leading nickel producer in 2024-2025, controlling more than 60% of global output, and recording record coal production of 836 million tons. This growth in physical output, however, is not in line with the availability and stability of a competent workforce willing to be placed on the front lines of extraction operations, which are increasingly moving to remote areas as reserves in easily accessible areas dwindle. In the context of strategic management, human capital in this sector has transformed from a mere operational input into a vital asset that determines the sustainability of production. This phenomenon is exacerbated by the dynamics of the global and domestic labor markets where there is a shift in the preferences of the new generation of workers (Gen Z and Millennials) who tend to prioritize work-life balance and personal mental health, an antithesis of the nature of conventional mining work that demands physical isolation and extreme mental resilience.

Employee retention in mining locations classified as hardship locations is a highly pressing issue due to its significant financial and operational implications. The costs of turnover in the mining industry far exceed standard recruitment costs. These costs include the cost of logistical mobilization to remote areas, the cost of rigorous mandatory safety induction training, lost productivity during the learning curve for new employees, and operational risks resulting from the loss of tacit knowledge regarding the geological and technical characteristics of a particular site. Furthermore, high employee turnover rates can destabilize team dynamics, increase the workload on remaining personnel, and are statistically positively correlated with increased occupational safety incidents. In their 2025 report, mining HR practitioners highlighted that the threat of layoffs and voluntary turnover are major obstacles to achieving production targets set by the government and shareholders. Therefore, an organization's ability to establish retention mechanisms that are not solely transactional (salary) based, but also address psychological and leadership aspects, is the last line of defense for the stability of the national mining industry.

The Concept of Turnover Intention and Triggering Factors in the Remote Area Ecosystem

Turnover intention Turnover intention is the most powerful antecedent variable and a direct predictor of actual turnover. In the organizational behavior literature, this concept is defined as an individual's conscious and deliberate desire to leave an organization or profession within a specified period of time. This cognitive process does not emerge suddenly, but rather results from the culmination of prolonged negative evaluations of the job and work environment. Mobley (1977) in his seminal model explained that the withdrawal process begins with job dissatisfaction, which triggers thoughts of quitting, continues with an

evaluation of the utility of searching for other jobs, and ends with a concrete intention to quit. In the context of the mining industry in 2025, the triggers for this intention are becoming increasingly multidimensional. Classic factors such as financial compensation are no longer the sole determinants, especially when lifestyle inflation and the pressures of social isolation erode the subjective value of monetary income.

The factors driving turnover intention in remote locations have unique characteristics that distinguish them from manufacturing or service industries in urban areas. A harsh work environment, a roster work system, and social isolation are the main triggers. Employees working in a roster system face persistent disruptions to circadian and social rhythms. When the balance between effort (isolation, physical risks, long hours) and reward (break time, facilities, connectivity) is disrupted, a perception of psychological contract breach is formed. Empirical studies in Indonesia from 2020 to 2025 indicate that dissatisfaction with roster policies, such as reduced leave or extended work periods, is a dominant trigger for turnover intention. In isolated environments where employees lack access to conventional stress relief outlets (such as city entertainment or daily family gatherings), accumulated job stress quickly transforms into a desire to escape the situation.

Table 1.1 Comparison of Turnover Intention Triggers: Urban Areas vs. Hardship Locations

Trigger Dimension	Urban Area	Isolated Area (Hardship Location Mining)
Major Sources of Stress	Traffic jams, office politics, administrative workload.	Social isolation, extreme physical conditions, lack of signal/communication, operational physical hazards.
External Triggers	Salary offer is higher than nearest competitors.	Difficulty contacting family (emergency), homesickness, roster fatigue.
Coping Mechanisms	Coming home every day, weekend entertainment.	Limited to camp facilities, interaction with the same coworkers for 24 hours.
Policy Triggers	Flexibility of working hours (WFO/WFH).	Duration of periodic leave (field break) and certainty of transportation schedule (travel logistics).

The above data confirms that retention approaches at mine sites are not comparable to those at head offices. In harsh environments, intangible factors like guaranteed return schedules and emotional support become more valuable than annual bonuses. When these aspirations are not met, employees tend to develop cynicism toward the organization, ultimately leading to resignation.

The Concept of Psychological Well-being as the Foundation of Employee Mental Resilience

The concept of Psychological Well-being (PWB) transcends the traditional health paradigm that focuses solely on the absence of mental illness. Referring to Ryff's (1989) theoretical framework, PWB encompasses the realization of an individual's full potential, encompassing six dimensions: self-acceptance, positive relations with others, autonomy, environmental mastery, purpose in life, and personal growth. In the high-risk and isolated mining ecosystem, PWB is not merely an indicator of happiness but also an operational prerequisite

for safety and productivity. The mining environment is inherently hazardous, consistently triggering symptoms of anxiety, mental fatigue, and sleep disturbances in workers.

The urgency of PWB becomes even more critical in 2025, as the complexity of mining operations increases along with digitalization and the pressure of production targets. In work sites categorized as "blank spot zones" (without telecommunications signals), the dimensions of "Positive Relationships with Others" and "Mastery with the Environment" experience the greatest challenges. Employees lose real-time access to their primary support system (family), leaving their only available social safety nets to their colleagues and superiors on-site. If PWB levels are low, employees' resilience will collapse. They will view isolation not as a work challenge but as a psychological prison. Previous research confirms that psychological well-being has a strong negative correlation with turnover intention; employees who feel mentally well have a stronger emotional bond with their work and are better able to tolerate environmental difficulties. Conversely, a decrease in PWB due to unmanaged isolation will trigger a defense mechanism in the form of psychological and physical withdrawal from the company.

The Concept of Transformational Leadership: Relevance in the Crisis of Isolation

In situations where organizational structure and physical facilities are limited (such as in remote locations), the role of the leader becomes a major determinant in shaping the subjective experience of employees. The Full Range of Leadership Model (FRLM) theory developed by Bass and Avolio offers a comprehensive framework that distinguishes between Laissez-Faire (absence of leadership), Transactional (exchange/reward-based), and Transformational leadership. Transformational leadership is defined as a leadership style in which a leader inspires followers to transcend their own self-interest for the collective good and achieve exceptional performance. This style operates through four main dimensions (The 4 I's): Idealized Influence (Charisma), Inspirational Motivation (Inspirational Motivation), Intellectual Stimulation (Intellectual Stimulation), and Individualized Consideration (Individual Consideration).

In the hardship environment of 2025, where transactional incentives often stagnate or are reduced due to cost-cutting (such as reduced leave), the effectiveness of transactional leadership declines dramatically. Employees are no longer motivated by the promise of rewards if their primary reward is reduced family time. This is where transformational leadership becomes crucial. Through the Individualized Consideration dimension, a leader at a mining site acts as a coach and mentor, listening to employees' personal concerns about isolation and family issues, replacing the social support lost due to the lack of communication. Through Inspirational Motivation, leaders frame the hardships of forest work as "noble sacrifices" for the family's future or contributions to the nation, giving meaning to the suffering. Research shows that transformational leaders can improve the psychological well-being of their subordinates by creating a climate of trust and psychological safety. This type of leader not only manages mining operations but also

manages the "sanity" of their team, making this leadership style a powerful retention tool amidst limited resources.

Research Gap: Significance of Transformational Leadership Findings and Psychological Well-being

Although the literature on the influence of transformational leadership on job satisfaction is extensive, there is a significant research gap regarding the direct influence of transformational leadership on turnover intention. Some empirical studies have shown that transformational leadership has a significant negative effect on reducing employee turnover intentions. However, other findings across various sectors, including those of the new generation of workers in the mining industry, show insignificant results. These findings suggest that the presence of a transformational leader does not necessarily guarantee a direct reduction in turnover intention.

The inconsistency of findings (the difference between significant and insignificant results) indicates that the influence of leadership on retention is not automatic or linear, but rather requires a mediator. Several previous studies have suggested the need for psychological variables to bridge this relationship. In the context of extreme isolation (a blank spot area), mental well-being becomes highly vulnerable. Therefore, this study positions Psychological Well-being as a mediating variable to fill this empirical gap, with the theoretical argument that leaders must first successfully improve and maintain employees' mental well-being amidst environmental pressures (hardship) before they can effectively prevent their intention to leave the company.

The Gap Phenomenon: The Reality on the Ground at the Murung Raya Mining Site

The urgency of this research is validated by the gap phenomenon that occurred at a mining site owned by a national mining contractor located in the remote area of Murung Raya, Central Kalimantan. This location represents the extreme definition of a hardship location. Based on internal data, access to the site requires a total travel time of 23 grueling hours, consisting of a 14-hour land journey, followed by a 6-hour river journey by speedboat/longboat, and a 3-hour land journey from the satellite camp to the main camp. Infrastructure limitations are significant: there is no state electricity network (PLN), minimal entertainment facilities, and most crucially, the area's status as a total blank spot with no cellular signal or internet connection. These conditions create absolute social isolation for the 142 staff employees who work there.

The situation on the ground worsened in 2025 due to central management policies perceived as not being in favor of employee well-being. There was a change in the roster scheme (periodic leave), from 14 days at home to just 12 days. In addition to the reduced duration, leave implementation was often delayed due to operational and logistical constraints, which depended on the weather. For employees completely isolated and unable to contact their families, leave time was the only psychological "oxygen." This reduction was

perceived as a serious violation of the psychological contract. The impact was clearly visible in turnover data: in 2025, 11 staff employees resigned. This figure is quite high considering the extremely high costs of recruitment and mobilization to locations as extreme as Murung Raya. Initial observations indicate variations in employee retention decisions; those with supportive and transformational superiors tended to stay longer than those with authoritarian superiors or those who only demanded work targets. This specific phenomenon in Murung Raya provides a unique empirical context to demonstrate that amidst a facility crisis and oppressive policies, leadership style becomes the ultimate determining variable for employee mental well-being and retention.

2. Research Methods

This research uses a quantitative method approach with an associative explanatory research approach. Explanatory research aims to directly explain the relationship between the variables studied and analyze the causal relationship between one variable and another through hypothesis testing.

In the context of this study, this approach is used to test and prove the influence of the independent variable Transformational Leadership on the dependent variable Turnover Intention through Psychological Well-being as a mediating variable. The choice of quantitative method is based on the need to measure employee perceptions objectively using statistical instruments, considering that the research location is in a hardship location area that requires strong empirical data to explain the phenomenon of high potential turnover due to changes in roster policies and area isolation.

3. Results and Discussion

3.1. The Influence of Transformational Leadership on Psychological Well-being (H1)

Inter-Indicator Relationship Analysis:

The first hypothesis is proven by the value of the path coefficient of 0.742 and p-value of 0.000. This means that transformational leadership positively and significantly improves employee psychological well-being. Specifically, the attitude of superiors who apply the Individualized Consideration dimension, as seen from the high average descriptive score on Indicator KT7 (4.25, Superiors take the time to listen to complaints regarding family problems), is proven to significantly boost Indicators PWB1 (Creating warm support at camp, loading factor 0.831) and PWB8 (Feeling at peace, loading factor 0.761). When digital communication access to the family is cut off due to a blank spot, a transformational superior is present directly as a substitute figure for the family (social support substitute). In addition, the superior's exemplary behavior in dealing with operational crises (Indicator KT2 with the highest loading of 0.897) radiates a sense of security that reduces team panic, thereby effectively maintaining employee sanity and inner peace.

Confirmation of Previous Research:

The results of this study conclusively confirm the findings of Arnold (2017) and Tafvelin et al. (2011), who stated that supportive, empathetic, and inspiring leader behavior acts as a crucial psychological resource for subordinates. Under extreme environmental pressure, a leader's nurturing behavior serves as an effective stress reliever that fortifies employees' mental well-being.

3.1.1. The Influence of Transformational Leadership on Turnover Intention (H2)

Inter-Indicator Relationship Analysis:

The second hypothesis was proven negatively and significantly with a coefficient of -0.523 and a p-value of 0.000. This proves that a transformational leadership style is directly able to reduce employee intentions to resign. Judging from the elaboration between indicators, the stimulation and vision dimensions in Indicator KT6 (Evaluating the efficiency of work methods, loading factor 0.869) and KT5 (0.835) have a strong dampening effect on the initial symptoms of employee despair. Although employees have a very high descriptive score on Indicator TI1 (4.35, Thought of quitting when leave is cut) and a high urge to leave on TI3 (Proactively looking for job openings, loading factor 0.872), the leadership figure can neutralize these urges directly. Although employees feel frustrated with central management for roster cuts, a sense of respect, a sense of appreciation, and a personal bond of loyalty to the leader figure in the field are apparently able to "hold back" their intention to actually leave.

Confirmation of Previous Research:

These empirical findings reinforce the theory and align with research by Rinaldi & Ramli (2022) and Bass & Avolio (1994). This demonstrates that a leader's charisma and personal attention can foster a much stronger moral bond for employee retention than relying solely on the allure of transactional incentives.

3.2. The Influence of Psychological Well-being on Turnover Intention (H3)

Inter-Indicator Relationship Analysis:

The final result of the third hypothesis was rejected (coefficient 0.021, p-value 0.439 > 0.05). Employee psychological well-being was not proven to reduce turnover intention. Unpacking this phenomenon from the indicator perspective, it is seen that although employees feel able to adapt to limited roster or facilities (Indicator PWB4, loading factor 0.742) and are starting to make peace with their fate (Indicator PWB8, 0.761) [1], this mental adaptation does not at all stop the high desire in Indicator TI3 (0.872, Scanning job vacancy information when there is a signal) and TI4 (0.852, Evaluating opportunities elsewhere). Absolute isolation (blank spot) and violation of the psychological contract (reduction of leave rights

from 14 to 12 days) are stressful realities that are considered irrational, thus exceeding the tolerance limit of one's own "mental well-being."

Confirmation of Previous Research:

This unique finding is highly relevant to the respondent profile, which is dominated by Gen Z and Millennials (aged 20-40), confirming Wulandari et al.'s (2023) research in the context of the new generation in the mining industry. For today's workforce, mental toughness does not make them resigned to persisting in a work environment that is perceived as systematically unfair. Even though they feel mentally resilient, if work-life balance policies are violated, they will logically and proactively plan for job changes. This directly refutes the classic assumption of Wright & Bonett (2007).

3.2.1. The Mediation Role of Psychological Well-being (H4)

Inter-Indicator Correlation Analysis and Previous Confirmation:

In line with the rejection of H3, the fourth hypothesis regarding the mediating role of Psychological Well-being was also rejected with a P-value of 0.440 (> 0.05). This indicates that Psychological Well-being has failed to mediate the effect of Transformational Leadership on Turnover Intention.

This rejection of the mediation pathway confirms that employee retention at the Murung Raya site was not the result of an indirect route (whereby superiors first improve their mental health, and then that mental state inhibits their intention to resign). Instead, retention occurred purely through a direct effect. Employees who refrained from leaving did so exclusively due to respect, emotional attachment (loyalty), and personal aversion to their leader, regardless of whether they felt well-being (high PWB) or distress (low PWB) while living in the isolation barracks. This finding provides a correction to common models (such as Walsh et al., 2018), demonstrating that in extreme hardship locations, the strength of personal bonds with leaders outweighs the urgency of the individual's own psychological state.

4. Conclusion

Based on the results of data analysis and discussion, it can be concluded that: 1. Transformational Leadership has a positive influence and greatly affects Psychological Well-being. The presence of an inspiring and caring boss has proven to be dominant in maintaining employee mental stability in the blank spot area. 2. Transformational Leadership has a negative influence and a significant influence directly on Turnover Intention. The character of a leader in the field is the main key to suppressing employee intentions to resign. 3. Psychological Well-being has no effect on Turnover Intention. In isolated work conditions, having a strong mentality or feeling at home doesn't necessarily stop someone from seeking work in a more suitable location. 4. Psychological Well-being cannot mediate the influence of Transformational Leadership on Turnover Intention.

The role of leaders in reducing turnover rates occurs directly (as a factor that binds individual loyalty), not through the general psychological mechanisms of employees.

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