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Talent management, knowledge management, and transformational leadership: Associations with perceived retention conditions in an Indonesian regional government agency

Ericca Rinai Yusia
Corresponding author:
ericcarinai22@gmail.com
Sam Ratulangi University
Indonesia

Lucky O. H. Dotulong
Sam Ratulangi University
Indonesia

Reitty L. Samadi
Sam Ratulangi University
Indonesia

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ABSTRACT

Employee retention is a concern for public agencies whose work requires specialized technical competence, and the Regional Financial and Asset Agency (BKAD) of North Sulawesi Province, Indonesia, has experienced a decline in headcount retention that is concentrated among employees on government work agreements (PPPK). This study examines how perceived talent management, knowledge management, and transformational leadership are associated with perceived retention conditions among current employees. A cross-sectional survey was administered to all 116 eligible staff, comprising civil servants and PPPK employees, and the data were analyzed using multiple linear regression complemented by confidence intervals, robust standard errors, and dominance analysis. The results show that employees who rate each of the three practices more favorably also report more favorable retention conditions, and that the three practices jointly account for a substantial share of the variation in these conditions. However, the practices cannot be ranked with confidence, and the association for talent management is the least robust. Because only employees who stayed were surveyed, the outcome overlaps conceptually with two predictors, and all data come from a single source, the findings describe associations and do not explain why employees left. The study suggests that career development, knowledge sharing, and supervisory leadership should be monitored together, and that future research should complement perception data with exit records and intention-to-stay measures.

Keywords: talent management; knowledge management; transformational leadership; employee retention; public sector
JEL Classification: M12; M54

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1. Introduction

In an increasingly dynamic organizational environment, human resources are regarded as a strategic asset that determines the sustainability and competitiveness of organizations in both the private and public sectors. Organizational advantage is no longer determined solely by financial or technological resources but also by the organization's ability to acquire, develop, manage, and retain employees whose competencies match its needs. Employee retention, which reflects an organization's ability to keep employees working within the organization over a certain period, is therefore one indicator of successful human resource management. High retention indicates that the organization has created a work environment that fosters loyalty, commitment, and sustained performance, whereas low retention can result in the loss of competencies, higher replacement costs, disrupted knowledge transfer, and reduced organizational effectiveness.

The literature identifies several organizational factors that may influence retention. Talent management attracts, develops, and retains talented employees through career planning and continuous competency development (Armstrong, 2021; Zunaidah & Nabawi, 2020). Knowledge management preserves organizational knowledge so that it is not lost when employees leave, while promoting organizational learning (Nonaka & Takeuchi, 1995). Transformational leadership inspires and motivates employees, encourages individual development, and builds positive working relationships that may increase loyalty (Kosasih, 2020; Northouse, 2022). International turnover research, in turn, treats staying as the outcome of attachment mechanisms such as fit, links, and the sacrifice of leaving (Mitchell et al., 2001; Hom et al., 2017), which gives a basis for asking how these three management domains relate to employees' experience of staying.

Retention has also become a concern in the management of Indonesia's state civil apparatus. Under Law No. 20 of 2023, state civil apparatus employees consist of civil servants (PNS) and government employees with work agreements (PPPK) (Republic of Indonesia, 2023), and the share of PPPK has grown as agencies have expanded this status. The two statuses have different separation routes: PNS leave mainly through retirement, transfer to another agency, or resignation, whereas the position of a PPPK employee also depends on the work agreement under which he or she is appointed. Retention figures for agencies that employ both groups therefore combine different mechanisms. At the Regional Financial and Asset Agency (Badan Keuangan dan Aset Daerah, BKAD) of North Sulawesi Province, retention, calculated as the December headcount divided by the January headcount of the same year (Table 1), fell from 96.95% in 2023 to 96.12% in 2024 and to 90.40% in 2025, when total staff declined from 125 to 113. The decline is entirely attributable to PPPK employees, whose retention dropped from 100% in 2023–2024 to 61.54% in 2025 (10 of 26 employees), whereas PNS retention in 2025 (97.98%) was the highest in the series. These figures do not distinguish voluntary resignations from retirements, transfers, and the end of agreements, and a January headcount can exceed the preceding December headcount (for example, 99 PNS in January 2025 versus 98 in December 2024), which indicates staff inflows. Table 1 therefore describes the context and is not an exit rate. Because BKAD's tasks are technical, require in-depth understanding of regional financial regulations, and demand high accuracy in managing provincial assets and budgets, the loss of experienced staff can increase workloads and disrupt budget and

reporting cycles that are bound by fixed deadlines.

Table 1. Employee retention at BKAD of North Sulawesi Province, 2023–2025

Year	PNS (Jan)	PNS (Dec)	PNS Retention (%)	PPPK (Jan)	PPPK (Dec)	PPPK Retention (%)	Total (Jan)	Total (Dec)	Total Retention (%)
2023	107	103	96.26	24	24	100.00	131	127	96.95
2024	103	98	95.15	26	26	100.00	129	124	96.12
2025	99	97	97.98	26	16	61.54	125	113	90.40

Source: BKAD of North Sulawesi Province, processed by the researchers, 2026. Retention = December headcount ÷ January headcount × 100; it covers all separations, not only voluntary exits.

Previous studies have examined these relationships mainly in Indonesian private firms. Amin et al. (2024) found that transformational leadership and talent management were significantly associated with employee retention at PT Telkom Akses Manado, Lintang et al. (2024) examined talent management and organizational commitment in relation to retention at PT Bumi Karsa Tondano, and Saputra et al. (2025) examined leadership, commitment, and talent management at PT Pegadaian Area 2 Manado. International research on turnover is considerably broader, but evidence that considers talent management, knowledge management, and leadership together, in a regional government agency whose staff include both PNS and PPPK, remains scarce. This study makes a small and specific contribution: it estimates the joint and relative associations of the three practices with employees' perceptions of retention conditions in one such agency, reports the measurement and inferential limits openly, and does so in a unit where the retention decline is concentrated among PPPK employees. Two research questions guide the analysis. RQ1: How are employees' perceptions of talent management, knowledge management, and transformational leadership associated with perceived retention conditions at BKAD? RQ2: Can the three practices be ranked by importance once estimation uncertainty is taken into account? Because only current employees were surveyed, the study cannot identify why employees left; it describes how employees who stayed perceive the conditions associated with retention.

2. Literature review

Talent management

Human resource management manages the roles and relationships of the workforce through planning, recruitment, selection, training, development, compensation, career management, and industrial relations to support organizational goals and stakeholder welfare (Paridy et al., 2025). Within this framework, talent management is an integrated set of processes to attract, develop, retain, and place individuals whose competencies match organizational needs in order to achieve organizational goals effectively (Zunaidah & Nabawi, 2020). Armstrong (2021) likewise describes talent management as an integrated process of attracting, developing, motivating, and retaining talented employees to achieve organizational excellence. Yildiz and Esmer (2023) identify talent planning, identification, attraction, acquisition, development, deployment, and retention as the seven core functions of talent management. Talent management is expected to matter for retention because it shapes the development and recognition that employees experience; evidence-based

reviews of turnover management emphasize HR strategies of this kind (Allen et al., 2010).

Knowledge management

Knowledge management concerns the creation and dissemination of knowledge within organizations to improve work effectiveness and encourage innovation (Nonaka & Takeuchi, 1995). Firdaus and Rahmi (2021) define knowledge management as the process of creating, acquiring, capturing, sharing, and using knowledge to enhance organizational learning and performance. In this study, knowledge management is measured through knowledge creation, knowledge storage, knowledge sharing, and knowledge application. Good knowledge management helps employees work more effectively and improves their capabilities, which may support attachment to the organization, although direct evidence on retention is limited.

Transformational leadership

Transformational leadership is the process of building commitment to organizational goals and empowering followers to achieve them (Kosasih, 2020). Northouse (2022), following the model of Bass and Avolio, describes four dimensions: idealized influence, in which the leader serves as a respected and trusted role model; inspirational motivation, in which the leader communicates the organization's vision and goals clearly and enthusiastically; intellectual stimulation, in which the leader encourages followers to think critically, creatively, and innovatively; and individualized consideration, in which the leader attends to each follower's needs and potential. Leaders who inspire, motivate, and attend to employees' needs create a positive and supportive work environment that may increase loyalty and reduce employees' desire to leave.

Employee retention

Sentika (2024) defines employee retention as an organization's effort to keep potential employees loyal and working for the long term. Mathis et al. (2021) identify five main factors that influence retention: compensation and rewards; career development; working conditions and environment; the relationship with supervisors; and work–life balance. In this study these five factors are used to operationalize perceived retention conditions, that is, employees' ratings of the conditions that this literature associates with staying. The outcome therefore captures conditions linked to retention and not actual retention or intention to stay. The consequences of this choice, including its content overlap with the career-development and supervisor-related predictors, are addressed in the Research Method and Discussion sections.

Theoretical background and conceptual model

Two complementary mechanisms link the three practices to staying. First, job embeddedness theory proposes that people stay when they fit their job and community, have many links to colleagues and activities, and would sacrifice valued things by leaving (Mitchell et al., 2001); reviews of the turnover literature place this psychology of staying alongside commitment and attitudinal explanations (Hom et al., 2017). Talent management that develops competencies and clarifies career paths can strengthen fit and the perceived cost of leaving, knowledge sharing creates work links among colleagues and makes the job more manageable, and leaders who attend to followers' development reinforce both. Second, social exchange theory suggests that employees who receive developmental and supportive treatment feel obliged to reciprocate with continued membership (Cropanzano & Mitchell, 2005). These mechanisms imply a positive association

between each practice and favorable retention conditions, with commitment, engagement, or embeddedness as plausible mediators that this study does not measure.

The conceptual model therefore specifies perceived talent management (X1), knowledge management (X2), and transformational leadership (X3) as correlated predictors of perceived retention conditions (Y), with positive expected signs. Employment status (PNS or PPPK), tenure, and organizational unit are treated as possible moderators or confounders that the analysis does not test (see Research Method and Discussion).

Hypothesis development

Talent management that provides career development, training, and performance feedback is expected to raise employees' fit with their work and the perceived cost of leaving. A systematic review of 120 empirical studies shows that talent management practices are linked to organizational, group, and employee outcomes, while evidence on specific elements remains mixed (Aljbour et al., 2022). Indonesian studies report significant associations between talent management and retention (Azan et al., 2022; Hassan et al., 2022; Amin et al., 2024; Lintang et al., 2024; Saputra et al., 2025; Senolinggi et al., 2026), and Luna-Arocas et al. (2020) link talent management to organizational commitment.

H_1: Perceived talent management is positively associated with perceived retention conditions.

Knowledge management supports learning, reduces dependence on particular individuals, and may increase attachment to the organization through the links created by knowledge sharing. Direct evidence is limited: Ramadhani et al. (2020) examined knowledge management together with retention in a model of employee performance, and other studies relate knowledge management to employee performance, including in public organizations (Mahyuni et al., 2021; Dermawan et al., 2022; Ivana & Marzuki, 2023; Pangaribuan & Satrya, 2024). H2 is therefore a comparatively exploratory hypothesis.

H_2: Perceived knowledge management is positively associated with perceived retention conditions.

Transformational leaders attend to followers' development and build emotional ties, which, following social exchange logic, should be reciprocated with attachment. Amin et al. (2024) and Saputra et al. (2025) found significant associations between transformational leadership and retention, and Mañas-Rodríguez et al. (2020) and Edonomokumor et al. (2025) found that transformational leadership is related to lower turnover intention. Sinaga and Lubis (2022) relate transformational leadership to organizational performance through talent management, which suggests that leadership and talent management overlap rather than operate independently.

H_3: Perceived transformational leadership is positively associated with perceived retention conditions.

Because the three practices are likely to co-occur in the same organizational climate, they may share variance with each other and with the outcome. Rather than formulating a separate hypothesis for the overall model, whose F-test is not an independent hypothesis, the study examines the relative importance of the three predictors as an exploratory question (RQ2), using dominance analysis and bootstrap comparisons of coefficients. Sutrisno et al. (2024) found that leadership, employee development, and organizational commitment jointly relate to retention across generations, which is consistent with the expectation that the practices operate together.

RQ_2 (exploratory): Do the three predictors differ in their relative importance for perceived retention conditions? No directional hypothesis is advanced.

3. Research method

This study uses a quantitative cross-sectional survey based on a positivist approach to test predetermined hypotheses with statistical analysis (Sugiyono, 2023). It was conducted at BKAD of North Sulawesi Province, a regional government agency responsible for budget preparation, treasury, accounting, and the management of regional assets, with staff in five units: the Secretariat and the Budget, Treasury, Accounting, and Asset divisions. The population comprised 118 employees (102 PNS and 16 PPPK). Because the population is small, all employees eligible to rate their superiors were surveyed, so the study is a census of eligible staff and not a sample. The head and the secretary of BKAD were excluded because the transformational leadership scale asks employees to rate their superiors, which left 116 respondents (100 PNS and 16 PPPK). All 116 questionnaires were returned and usable (response rate 100%). Employees who had left the agency before the survey, including the PPPK employees who left in 2025, were not part of the population, so the results describe the perceptions of employees who stayed.

Data were collected with a closed-ended questionnaire on a five-point Likert scale from 1 (strongly disagree) to 5 (strongly agree) (Julhadi et al., 2022); the items were developed from the cited sources. Talent management (X1) was measured with six items, one per dimension: competence-based placement, transparent selection, training or job rotation, objective performance appraisal with feedback, recognition of high achievers, and preparation of high-potential employees for leadership positions (Zunaidah & Nabawi, 2020; Yildiz & Esmer, 2023). Knowledge management (X2) was measured with four items on creating new ideas and methods, documenting knowledge, sharing knowledge with colleagues, and applying knowledge at work (Firdaus & Rahmi, 2021). Transformational leadership (X3) was measured with four items on the superior as a respected role model, clear communication of vision, stimulation of critical and innovative thinking, and attention to followers' development needs (Kosasih, 2020; Northouse, 2022). Perceived retention conditions (Y) were measured with five items on fair compensation, a clear career path and promotion opportunities, a comfortable and well-equipped work environment, a supportive and fair superior, and a proportional workload that allows work–life balance (Sentika, 2024; Mathis et al., 2021). Each dimension is thus represented by a single item, and each variable score is the sum of its items (possible range 6–30 for X1, 4–20 for X2 and X3, and 5–25 for Y). Two retention items, the career path item and the supportive-superior item, overlap in content with talent management and transformational leadership; this construct overlap is examined in a supplementary analysis.

Instrument validity was tested using Pearson product-moment correlation on a pilot of 30 respondents, who were part of the 116 respondents and not a separate group, with items considered valid if the calculated r exceeded the r table value of 0.361. Reliability was tested using Cronbach's alpha with a threshold of 0.60 (Ghozali, 2022; Sugiyono, 2023) and was computed both for the pilot subsample, as originally reported, and for all 116 respondents. Classical assumption tests included the one-sample Kolmogorov–Smirnov test of the residuals, the multicollinearity test using tolerance and variance inflation factor (VIF) values, and the Glejser heteroskedasticity test (Ghozali, 2022). Hypotheses were tested using multiple linear regression, with t-

tests for partial associations, an F-test for overall fit, and the coefficient of determination, at a significance level of 0.05; 95% confidence intervals are reported. Four supplementary analyses used the item-level data: heteroskedasticity-consistent (HC3) standard errors (MacKinnon & White, 1985); general dominance analysis, with 5,000 bootstrap resamples for confidence intervals of importance shares and of differences between standardized coefficients (Tonidandel & LeBreton, 2011); re-estimation with an outcome that omits the two overlapping retention items; and Harman's single-factor check for common-method variance (Podsakoff et al., 2003). The regression model is specified in Equation (1).

$$Y = a + b_1X_1 + b_2X_2 + b_3X_3 + e \quad (1)$$

where Y is perceived retention conditions, a is the constant, X1 is talent management, X2 is knowledge management, X3 is transformational leadership, b1–b3 are the regression coefficients, and e is the error term.

4. Results and discussion

Results

Respondent profile

Of the 116 respondents, 65 (56.0%) were female and 51 (44.0%) were male. Most respondents were aged 36–45 years (31.0%) or 46–55 years (25.9%), held a bachelor's degree (75.0%), were civil servants (86.2%; the remaining 13.8% were PPPK employees), and had worked for more than 15 years (43.1%). Status, tenure, and the other characteristics are not included as controls in the models reported here. The predominance of experienced employees means that the assessments come from staff who have stayed, which is both a strength (informed judgments) and a limitation (survivor bias).

Measurement quality and classical assumption tests

All 19 questionnaire items had calculated r values between 0.607 and 0.810 in the pilot subsample, exceeding the r table value of 0.361 with significance values of 0.000, and were therefore valid. Table 2 shows that Cronbach's alpha in the pilot subsample (n = 30) was 0.758, 0.680, 0.637, and 0.782 for talent management, knowledge management, transformational leadership, and retention conditions, respectively. In the full sample (n = 116), however, the alphas were lower: 0.629, 0.547, 0.595, and 0.690. Only talent management and retention conditions therefore reach the 0.60 threshold used in this study, knowledge management and transformational leadership fall slightly below it, and all four are below the conventional 0.70, so reliability is low to moderate, which attenuates correlations and limits the precision of the coefficients. The one-sample Kolmogorov–Smirnov test produced a test statistic of 0.081 with an Asymp. Sig. (2-tailed) of 0.061, which is greater than 0.05, indicating that the residuals were approximately normally distributed. All independent variables had tolerance values above 0.10 and VIF values below 10, indicating no problematic multicollinearity, and the Glejser test produced significance values above 0.05 for all independent variables, indicating no evidence of heteroskedasticity.

Table 2. Reliability, multicollinearity, and heteroskedasticity diagnostics

Variable	α (pilot, n = 30)	α (all, n = 116)	N of Items	Tolerance	VIF	Glejser Sig.
Talent Management (X1)	0.758	0.629	6	0.516	1.936	0.698
Knowledge Management (X2)	0.680	0.547	4	0.501	1.996	0.147
Transformational Leadership (X3)	0.637	0.595	4	0.582	1.718	0.985
Perceived Retention Conditions (Y)	0.782	0.690	5	–	–	–

Descriptive statistics and correlations

Table 3 presents descriptive statistics and correlations computed from the item-level data. Mean item scores were high on all four constructs (4.31 for talent management, 4.42 for knowledge management, 4.37 for transformational leadership, and 4.33 for retention conditions on the five-point scale), and 94.6% of all item responses were 4 or 5, which indicates a pronounced ceiling effect and restricted variance. The predictors were strongly intercorrelated (r = 0.59–0.67) and each correlated 0.64–0.67 with the outcome, so the regression coefficients partition largely shared variance. The first unrotated factor of all 19 items accounted for 30.4% of the variance and five factors had eigenvalues above 1, so no single factor dominates the item set, although Harman's test is a weak safeguard against common-method variance.

Table 3. Descriptive statistics and correlations

Variable	Items	Observed range	M	SD	1	2	3	4
1. Talent Management (X1)	6	19–30	25.86	2.10	–			
2. Knowledge Management (X2)	4	14–20	17.70	1.50	0.67	–		
3. Transformational Leadership (X3)	4	13–20	17.47	1.56	0.59	0.60	–	
4. Perceived Retention Conditions (Y)	5	17–25	21.65	2.01	0.64	0.65	0.67	–

Note: n = 116. Scores are item sums; all correlations are significant at p < 0.001. Source: survey data processed by the researchers, 2026.

Hypothesis testing: partial and joint associations

Table 4 presents the multiple linear regression results with 95% confidence intervals, from which the estimated regression equation is obtained as shown in Equation (2).

$$Y = 1.031 + 0.222X_1 + 0.372X_2 + 0.476X_3 \quad (2)$$

Table 4. Results of multiple linear regression with 95% confidence intervals

Variable	B	Std. Error	95% CI of B	Beta	95% CI of Beta	t	Sig.
(Constant)	1.031	1.689	[−2.315, 4.377]	–	–	0.611	0.543
Talent Management (X1)	0.222	0.081	[0.062, 0.382]	0.235	[0.065, 0.405]	2.743	0.007
Knowledge Management (X2)	0.372	0.116	[0.142, 0.602]	0.277	[0.105, 0.449]	3.191	0.002
Transformational Leadership (X3)	0.476	0.104	[0.270, 0.682]	0.370	[0.210, 0.530]	4.593	< 0.001

Note: Dependent variable: perceived retention conditions (Y); t table = 1.981 (df = 112). Confidence intervals: B ± 1.981 × SE and β ± 1.981 × β/t. Source: SPSS output based on the survey data, 2026.

All coefficients are positive. The t-tests show that talent management (B = 0.222; t = 2.743; Sig. = 0.007), knowledge management (B = 0.372; t = 3.191; Sig. = 0.002), and transformational leadership (B = 0.476; t = 4.593; Sig. < 0.001) are each positively and significantly associated with perceived retention conditions, so H1, H2, and H3 are supported in the OLS model. Because scores are item sums, a one-point higher transformational leadership score is associated with a 0.476-point higher retention-conditions score, holding the other predictors constant.

The standardized coefficients are largest for transformational leadership (β = 0.370), followed by knowledge management (β = 0.277) and talent management (β = 0.235), but their 95% confidence intervals overlap almost completely (Table 4). Dominance analysis of the item-level data allocates 37.7% of the explained variance to transformational leadership, 31.9% to knowledge management, and 30.4% to talent management; bootstrap 95% intervals for these shares (24.3–53.1, 21.5–42.8, and 16.3–46.3, respectively) overlap, and bootstrap intervals for pairwise differences between standardized coefficients include zero (for example, leadership minus knowledge management: −0.17 to 0.39). The ranking is therefore descriptive, and the data do not support describing any predictor as dominant (RQ2).

Table 5 shows an overall F of 50.868 (Sig. < 0.001), indicating that the model fits better than a model without predictors. The three predictors together account for 57.7% of the variance in the retention-conditions score (R = 0.759; adjusted R^2 = 0.565). This is a large share, but it should be read with the construct overlap in mind: two retention items resemble talent management and leadership items, predictors and outcome come from a single source, and the unexplained variance includes measurement error as well as omitted factors.

Table 5. Results of the F-test and coefficient of determination

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	267.894	3	89.298	50.868	0.000
Residual	196.615	112	1.755		
Total	464.509	115			

Note: Dependent variable: perceived retention conditions (Y); R = 0.759; R^2 = 0.577; Adjusted R^2 = 0.565; Std. Error of the Estimate = 1.325. Source: SPSS output based on the survey data, 2026.

Robustness checks

Using HC3 standard errors on the item-level data, the associations for knowledge management (p = 0.008) and transformational leadership (p < 0.001) remained significant, whereas talent management was no longer significant at the 5% level (p = 0.091), so H1 is the least robust conclusion. When the outcome was redefined as the sum of the three retention items that do not overlap with the predictors (compensation, work environment, and workload balance), all three predictors remained positive and significant under conventional standard errors (p = 0.011, 0.020, and < 0.001; R^2 = 0.516), but under HC3 only transformational leadership remained significant (p < 0.001; knowledge management p = 0.052; talent management p = 0.135). The item-level file reproduces the SPSS output closely but not exactly (B = 0.236, 0.362, and 0.468; R^2 = 0.578), so these checks should be read as approximate.

Discussion

Talent management and career-related conditions

Employees who rate talent management more favorably also rate retention conditions more favorably. Job embeddedness theory offers one reading: opportunities for competence development, fair appraisal with feedback, and recognition may increase employees' fit with their work and the cost they attach to leaving (Mitchell et al., 2001), and social exchange theory suggests reciprocation through continued membership (Cropanzano & Mitchell, 2005). The result is consistent with Indonesian studies of talent management and retention (Amin et al., 2024; Lintang et al., 2024; Saputra et al., 2025; Senolinggi et al., 2026), but the review by Aljbour et al. (2022) cautions that evidence on specific talent management elements is mixed. Two features limit the inference. The talent management coefficient is the smallest and the least robust to heteroskedasticity-consistent standard errors, and one retention item, a clear career path and promotion opportunities, is close in content to the talent management items, so part of the association may be definitional.

Knowledge management and attachment to work

The positive association for knowledge management is consistent with the idea that documented and shared knowledge makes work less dependent on individuals and creates links among colleagues. BKAD staff deal with numerous regulations, administrative procedures, and technical problems in managing regional finances and assets, so a workplace where knowledge is shared could plausibly make work easier and strengthen attachment. Direct evidence on this mechanism is thin, however: the available studies relate knowledge management mainly to performance (Mahyuni et al., 2021; Dermawan et al., 2022; Ivana & Marzuki, 2023; Pangaribuan & Satrya, 2024), and the present result, from a four-item scale with low internal consistency ($\alpha = 0.547$ in the full sample), should be treated as preliminary.

Transformational leadership and supervisory support

Transformational leadership has the largest point estimate, in line with studies linking transformational leadership to retention and to lower turnover intention (Amin et al., 2024; Saputra et al., 2025; Mañas-Rodríguez et al., 2020; Edonomokumor et al., 2025). In a public agency where pay and formal career steps are largely set by regulation, the immediate superior is one of the few actors who can shape daily work experience, recognition, and development, which offers a plausible mechanism. Yet the estimate cannot be called dominant: the confidence intervals of the three coefficients overlap, and the dominance and bootstrap analyses do not separate the predictors. The leadership association is also partly circular, because one retention item asks whether the superior is supportive, communicative, fair, and appreciative, which describes transformational leadership closely. Leadership remained significant when this item was dropped from the outcome, including under robust standard errors, but the shortened outcome has only three items and its reliability was not assessed.

Alternative explanations and implications

Three alternative explanations should be weighed before the results are read as guidance for management. First, reverse causality and halo effects: employees who are content and plan to stay may rate their superiors, development opportunities, and workplace more generously. Second, survivor bias: only employees who stayed were surveyed, including all 16 PPPK employees who remained after 10 left in

2025, so the results cannot show why leavers left and should not be used to explain the PPPK decline. Third, common-method variance and nesting: all variables are self-reported on one questionnaire, and employees are nested in five units with different superiors, which can inflate associations and understate standard errors; Harman's test, which found no single dominant factor, is a weak safeguard (Podsakoff et al., 2003). In addition, for civil servants, separation depends heavily on regulated routes such as retirement and transfer, so management practices explain only part of retention. The implications for BKAD are therefore modest: career development and feedback, knowledge sharing, and supportive supervision are associated with more favorable retention conditions and are worth monitoring together, but the data do not show that changing them would reduce exits. Decisions about the PPPK group would require exit records and exit interviews.

5. Conclusion

This study examined how perceived talent management, knowledge management, and transformational leadership are associated with perceived retention conditions among 116 employees of the Regional Financial and Asset Agency (BKAD) of North Sulawesi Province. Each practice was positively associated with the outcome, and together they accounted for 57.7% of its variance, but the associations are cross-sectional and partly overlap conceptually with the outcome, the three predictors cannot be ranked with confidence, and the talent management association was the least robust to alternative standard errors. The study extends survey evidence on these practices from private firms to a regional government agency in which the retention decline is concentrated among PPPK employees, and it shows how predictor–outcome overlap, ceiling effects, and low scale reliability can inflate apparent explanatory power in small single-agency surveys. For BKAD, the findings support monitoring career development, knowledge sharing, and supervisory support together, and measuring retention through exit records and intention to stay, rather than adopting a single priority.

The conclusions are limited by the use of a single agency at one point in time, the exclusion of employees who had left, one-item-per-dimension scales with low to moderate reliability, an outcome that overlaps with two predictors, common-source data, nesting in five units that was not modeled, and the absence of controls for status and tenure and of a PNS–PPPK comparison. Future research should link survey responses to administrative records and follow employees for 12–24 months (for example, with survival analysis of exits), add exit interviews with leavers, use validated multi-item scales with confirmatory factor analysis for talent management, leadership, and intention to stay, recruit enough PNS and PPPK respondents for subgroup comparisons, and test commitment, engagement, or job embeddedness as mediators.

References

Aljbour, A., French, E., & Ali, M. (2022). An evidence-based multilevel framework of talent management: A systematic review. *International Journal of Productivity and Performance Management, 71*(8), 3348–3376. https://doi.org/10.1108/IJPPM-02-2020-0065

Allen, D. G., Bryant, P. C., & Vardaman, J. M. (2010). Retaining talent: Replacing misconceptions with evidence-based strategies. *Academy of Management Perspectives, 24*(2), 48–64. https://doi.org/10.5465/AMP.2010.51827775

Amin, M., Dotulong, L. O. H., & Ogi, I. W. J. (2024). Pengaruh kepemimpinan transformasional dan manajemen bakat terhadap retensi karyawan pada PT. Telkom Akses Manado [The influence of transformational leadership and talent management on employee retention at PT Telkom Akses Manado]. *Jurnal EMBA: Jurnal Riset Ekonomi, Manajemen, Bisnis dan Akuntansi, 12*(4), 636–647. https://doi.org/10.35794/emba.v12i4.59095

Armstrong, M. (2021). *Armstrong's handbook of human resource management practice* (15th ed.). Kogan Page.

Azan, P. G., Hendriani, S., & Aulia, A. F. (2022). Pengaruh manajemen talenta terhadap retensi karyawan melalui keterikatan karyawan sebagai variabel mediasi di BPJS Kesehatan Kedeputian Wilayah Sumbagteng Jambi. *Jurnal Daya Saing, 8*(1), 90–97. https://doi.org/10.35446/dayasaing.v8i1.867

Cropanzano, R., & Mitchell, M. S. (2005). Social exchange theory: An interdisciplinary review. *Journal of Management, 31*(6), 874–900. https://doi.org/10.1177/0149206305279602

Dermawan, M. R., Multazam, A., Atmaja, I. G. D., & Palimbong, Y. (2022). Pengaruh manajemen talenta dan manajemen pengetahuan terhadap peningkatan kinerja karyawan di PT. Pas Indonesia Timur. *Empiricism Journal, 3*(1), 108–113. https://doi.org/10.36312/ej.v3i1.899

Edonomokumor, T., Arhinful, R., Mensah, L., & Obeng, H. A. (2025). The mediating role of creative behavior in the relationship between transformational leadership and turnover intention. *Future Business Journal, 11*(1), 1–20. https://doi.org/10.1186/s43093-025-00563-1

Firdaus, & Rahmi. (2021). *Manajemen pengetahuan dalam organisasi* [Knowledge management in organizations]. Prenadamedia Group.

Ghozali, I. (2022). *Aplikasi analisis multivariate dengan program IBM SPSS 26* (10th ed.). Badan Penerbit Universitas Diponegoro.

Hassan, A., Donianto, C., Kiolol, T., & Abdullah, T. (2022). Pengaruh talent management dan work life balance terhadap retensi karyawan dengan mediasi dukungan organisasi. *Modus, 34*(2), 158–183. https://doi.org/10.24002/modus.v34i2.5966

Hom, P. W., Lee, T. W., Shaw, J. D., & Hausknecht, J. P. (2017). One hundred years of employee turnover theory and research. *Journal of Applied Psychology, 102*(3), 530–545. https://doi.org/10.1037/apl0000103

Ivana, T., & Marzuki, F. (2023). Pengaruh perencanaan SDM, manajemen talenta dan manajemen pengetahuan terhadap kinerja pegawai. *Journal of Young Entrepreneurs, 2*(3), 122–138. https://ejournal.upnvj.ac.id/jye/article/view/6344

Julhadi, Susilawati, D., Rosa, S., Adriani, P., Ganiem, L. M., Fazilla, S., Aminy, M. H., Nurainiah, N., Syafruddin, S., Setyowidodo, A., Ririen, D., Diwati, F., Julyanti, E., & Ratnaningtyas, E. M. (2022). *Metodologi penelitian pendidikan*. Yayasan Penerbit Muhammad Zaini.

Kosasih, A. (2020). *Kepemimpinan transformasional: Membangun kepuasan kerja dan kinerja individu*. Indigo Media.

Lintang, M. I. G., Lengkong, V. P. K., & Walangitan, M. D. B. (2024). Pengaruh talent management dan organizational commitment terhadap retensi karyawan pada PT. Bumi Karsa wilayah Tondano. *Jurnal EMBA: Jurnal Riset Ekonomi, Manajemen, Bisnis dan Akuntansi, 12*(1), 397–405. https://doi.org/10.35794/emba.v12i01.53474

Luna-Arocas, R., Danvila-del-Valle, I., & Lara, F. J. (2020). Talent management and organizational commitment: The partial mediating role of pay satisfaction. *Employee Relations: The International Journal, 42*(4), 863–881. https://doi.org/10.1108/ER-11-2019-0429

MacKinnon, J. G., & White, H. (1985). Some heteroskedasticity-consistent covariance matrix estimators with improved finite sample properties. *Journal of Econometrics, 29*(3), 305–325. https://doi.org/10.1016/0304-4076(85)90158-7

Mahyuni, A., Pratiwi, R. A. I., & Suprihartini, L. (2021). Manajemen talenta, manajemen pengetahuan dan retensi karyawan terhadap kinerja karyawan pada PT PLN (Persero) UP3 Kota Tanjungpinang. *Student Online Journal (SOJ) UMRAH–Ekonomi, 2*(2), 1010–1018. https://soj.umrah.ac.id/index.php/SOJFE/article/view/1236

Mañas-Rodríguez, M.-Á., Díaz-Fúnez, P.-A., Llopis-Marín, J., Nieto-Escámez, F., & Salvador-Ferrer, C. (2020). Relationship between transformational leadership, affective commitment and turnover intention of workers in a multinational company. *International Journal of Social Psychology, 35*(1), 100–115. https://doi.org/10.1080/02134748.2019.1682292

Mathis, R. L., Jackson, J. H., Meglich, P. A., & Valentine, S. R. (2021). *Human resource management*. Cengage Learning.

Mitchell, T. R., Holtom, B. C., Lee, T. W., Sablynski, C. J., & Erez, M. (2001). Why people stay: Using job embeddedness to predict voluntary turnover. *Academy of Management Journal, 44*(6), 1102–1121. https://doi.org/10.5465/3069391

Nonaka, I., & Takeuchi, H. (1995). *The knowledge-creating company: How Japanese companies create the dynamics of innovation*. Oxford University Press.

Northouse, P. G. (2022). *Leadership: Theory and practice* (9th ed.). SAGE Publications.

Pangaribuan, L., & Satrya, A. (2024). The role of knowledge management, transformational leadership, and organizational commitment on employee performance: Empirical study in public sector. *Jurnal Manajemen Teori dan Terapan, 17*(3), 355–371. https://doi.org/10.20473/jmtt.v17i3.56264

Paridy, A., Muyasaroh, M., Dewi, R. S., & Darman, D. (2025). *Buku referensi MSDM* [HRM reference book]. PT Sonpedia Publishing Indonesia.

Podsakoff, P. M., MacKenzie, S. B., Lee, J.-Y., & Podsakoff, N. P. (2003). Common method biases in behavioral research: A critical review of the literature and recommended remedies. *Journal of Applied Psychology, 88*(5), 879–903. https://doi.org/10.1037/0021-9010.88.5.879

Ramadhani, F. E., Harsono, & Sunardi. (2020). Talent management dan knowledge management terhadap kinerja karyawan dengan employee

retention sebagai variabel moderator. *Jurnal Bisnis dan Manajemen, 7*(2), 126–132. https://jurnal.unmer.ac.id/index.php/jbm/article/view/4648

Republic of Indonesia. (2023). *Undang-Undang Nomor 20 Tahun 2023 tentang Aparatur Sipil Negara*. https://peraturan.bpk.go.id/Details/269470

Saputra, D. A. R., Tumbel, A. L., & Mintardjo, C. M. O. (2025). Pengaruh leadership transformational, organizational commitment, dan talent management terhadap retensi karyawan pada PT. Pegadaian Area 2 Manado. *Jurnal EMBA: Jurnal Riset Ekonomi, Manajemen, Bisnis dan Akuntansi, 13*(1), 501–510. https://doi.org/10.35794/emba.v13i01.60219

Senolinggi, J. S., Dotulong, L. O. H., & Lumantow, R. Y. (2026). Pengaruh talent management, komitmen organisasi dan work-life balance terhadap retensi karyawan pada Aryaduta Hotel Manado. *Jurnal EMBA: Jurnal Riset Ekonomi, Manajemen, Bisnis dan Akuntansi, 14*(1), 441–453. https://doi.org/10.35794/emba.v14i1.66737

Sentika. (2024). *Perencanaan strategis sumber daya manusia* [Strategic human resource planning]. Universitas Mataram.

Sinaga, J. R., & Lubis, T. A. (2022). Kepemimpinan transformasional dalam peningkatan kinerja organisasi melalui penerapan manajemen bakat (talent management) di Polsek Maro Sebo Ilir Batanghari. *Jurnal Manajemen Terapan dan Keuangan, 10*(2), 233–246. https://doi.org/10.22437/jmk.v10i02.13061

Sugiyono. (2023). *Metode penelitian kuantitatif, kualitatif, dan R&D* [Quantitative, qualitative, and R&D research methods]. Alfabeta.

Sutrisno, S., Sriyono, S., Ambarwati, R., & Prapanca, D. (2024). Membangun talenta masa depan: Menganalisis kepemimpinan inovatif, pengembangan, strategi pemasaran, dan komitmen organisasi pada retensi karyawan generasi berbeda di era disrupsi [Building future talent: Analyzing innovative leadership, development, marketing strategy, and organizational commitment on employee retention across generations in the era of disruption]. *Al Qalam: Jurnal Ilmiah Keagamaan dan Kemasyarakatan, 18*(6), 4342. https://doi.org/10.35931/aq.v18i6.4138

Tonidandel, S., & LeBreton, J. M. (2011). Relative importance analysis: A useful supplement to regression analysis. *Journal of Business and Psychology, 26*(1), 1–9. https://doi.org/10.1007/s10869-010-9204-3

Yildiz, R. O., & Esmer, S. (2023). Talent management strategies and functions: A systematic review. *Industrial and Commercial Training, 55*(1), 93–111. https://doi.org/10.1108/ICT-01-2022-0007

Zunaidah, Z., & Nabawi, D. (2020). *Manajemen talenta*. Unsri Press.