

# State-owned enterprises: Developing and validating a model of employee retention



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**Orientation:** The high turnover rate of essential core skills in South African state-owned enterprises (SOEs) is a significant issue, raising serious concerns about employee retention. Failure to retain talented employees threatens the performance and survival of SOEs.

**Research purpose:** The main purpose of the study was to develop and validate an employee retention model that could be applied by South African SOEs.

**Motivation for the study:** Employee retention in South African SOEs is under-researched, and there is no empirical evidence supporting the effectiveness of their current retention models. This necessitates a new, validated employee retention model for these SOEs.

**Research approach/design and method:** The study used a quantitative, cross-sectional survey design, and data were collected from a sample of 685 SOE employees using a self-report questionnaire. After a new theoretical model of employee retention for South African SOEs was developed, it was validated by subjecting the data to structural equation modelling (SEM).

**Main findings:** The SEM process revealed three key factors that significantly impact employee retention in South African SOEs. These factors, which are essential for retaining employees in SOEs, include organisational culture (OC), compensation and benefits (CB) and training and development (TD).

**Practical/managerial implications:** The findings of the study provides the management of South African SOEs with valuable insights into the critical factors that should be considered in retaining talented and valuable employees.

**Contribution/value-add:** The study provides a validated model of employee retention for SOEs in South Africa. No such validated model existed previously.

**Keywords:** employee retention; intention to leave; model of employee retention; principal components analysis; model validation; retention factors; state-owned enterprises; structural equation modelling.

## Introduction

### Orientation

State-owned enterprises (SOEs) are created to perform economic activities as mandated by a government for the country's benefit. In South Africa, they operate under various laws, such as the *Companies Act* (2008) and the *Public Finance Management Amendment Act* (1999). Over the past decade, employee retention in South African SOEs has become a major concern because of the high turnover of critical core skills (Khuluvhe et al., 2022). These enterprises have a diverse workforce with extensive expertise, particularly in technical areas, where retention remains problematic. In addition, South African SOEs face competition from private sector companies, which are seen as preferred employers and offer attractive incentives and benefits to retain their employees (Khuluvhe et al., 2022).

Researchers have identified several reasons why South African SOEs struggle to retain talented employees, including inadequate performance incentives, employee poaching by private sector companies, insufficient training and development and corruption (Khuluvhe et al., 2022; Othman & Lembang, 2017; Zondo Commission Report Part 1, 2022). According to Alnaqbi (2011), to improve employee retention, SOEs in South Africa need to focus on enhancing employees' skills and involving them in decision-making processes while relying less on financial incentives compared to the private sector. This is supported by Halim et al. (2020), who stated that it is likely that retention strategies in SOEs will differ significantly from those in private institutions, and studies on private company retention strategies may yield different results.

While various studies have explored employee retention strategies in private sector organisations (Döckel, 2003; Hashish, 2017; Mitonga-Monga et al., 2020; Singh, 2019), there is a lack of research on the validity of these strategies for SOEs (Alnaqbi, 2011). A challenge is that private sector retention strategies may not be applicable to SOEs because of the differing contexts of the two sectors. In addition, employee retention factors vary across countries, economies and industry sectors (Halim et al., 2020). Various authors have also argued that employee retention is a complex, multifaceted issue that cannot be addressed with a one-size-fits-all approach (Bharath, 2021; Mzini, 2019).

Finding skilled employees is challenging, and attracting and retaining these talents in SOEs has proven to be difficult (Thusi & Chauke, 2023). Although retaining these employees is crucial, as failing to do so jeopardises the business's performance and survival (Syarafina & Sushandoyo, 2022), the existing retention strategies and models used by South African SOEs have not been effective in preventing the mass resignation of skilled employees (Thusi & Chauke, 2023). Despite their significant contribution to South Africa's economy, employee retention in South African SOEs is not well researched, and no empirical studies have validated the retention models they use (Thusi & Chauke, 2023). This study is thus unique in its focus on identifying the specific factors that should be included in an employee retention model tailored for South African SOEs to prevent the loss of skilled employees.

## Research purpose and objective

The main aim of the study was to develop and validate an employee retention model that could be applied by South African SOEs.

## Literature review

In this section, the concept of employee retention, the underlying constructs of employee retention, the existing models and frameworks of staff retention, and a proposed new theoretical model of employee retention for South African SOEs will receive attention.

## The concept of employee retention

Employee retention has been described as an organisation's ability to retain its employees for an extended period of time and is a challenge arising from the competition for talent, aimed at implementing measures to encourage employees to stay with the organisation for as long as possible (Zareen et al., 2013). Elaborating on this, Singh (2019) explained that retention involves various strategies employed by organisations to motivate their employees to remain with them longer. Hanafi and Baharin (2018) argued that organisations must operate efficiently through their workforce to stay economically viable and relevant, as strategic objectives cannot be achieved without people. Kaleem (2019) emphasised that the efficiency of organisations can only be accomplished if retention strategies are aligned with the organisation's demand and

supply needs. Importantly, Dhillon (2025) argued that employee retention is not merely the absence of turnover but a proactive, strategic process aimed at fostering long-term employee commitment and satisfaction.

A substantial body of literature underscores the complexity and multifaceted nature of employee retention. Coetzee et al. (2018), Mzini (2019) and Bharath (2021) contended that retention should not be conceptualised as a singular phenomenon; rather, the components of an effective retention model must be contextually adapted. Similarly, Al-sharafi et al. (2018) and Bharath (2021) argued that the factors influencing an employee's decision to stay will differ from organisation to organisation. These views are supported by Dhillon (2025), who emphasised that employee retention encompasses various diverse and interrelated factors. These include organisational factors such as leadership style, organisational culture (OC) and human resource practices; job-related factors such as job satisfaction, role clarity, workload and autonomy and individual factors such as career aspirations, personal values and work-life balance (WLB) and relational factors such as supervisor support, coworker relationships and team cohesion. Moreover, Halim et al. (2020) highlighted that the determinants of employee retention are not only context specific but also vary across national, economic and sectoral boundaries.

Dhillon (2025) posited that employee retention is a strategic organisational priority, underpinned by multiple compelling factors. Retention practices have transitioned from reactive interventions to proactive, systematically becoming integrated components of organisational culture and policy. The rationale for this strategic emphasis can be delineated into four key dimensions: (1) Cost efficiency, where increased turnover can result in substantial expenses related to recruitment, onboarding and training; (2) knowledge continuity, as the retention of personnel safeguards institutional memory and specialised expertise; (3) team performance and employee morale, given that workforce stability is positively correlated with enhanced productivity and psychological well-being and (4) employer brand strength, where high retention rates contribute to a favourable organisational image that attracts and retains high-calibre talent.

Employee retention is conceptually distinct from related constructs such as employee turnover, turnover intention and employee engagement (EE), each of which contributes uniquely to understanding workforce dynamics:

- Employee turnover refers to the actual departure of employees from an organisation, followed by their replacement. Voluntary turnover, in particular, can have adverse implications for organisations, including increased costs, disruption of team cohesion and diminished capacity to meet service delivery or performance benchmarks (Iqbal, 2010; Omar, 2019; Yankeelov et al., 2009). In contrast, employee retention is the effort aimed at preventing such exits. Whereas turnover represents an outcome, retention is characterised as a proactive process and organisational strategy (Dhillon, 2025).

- Turnover intention is an employee's conscious and deliberate inclination to leave the organisation. It is widely recognised as a precursor to actual turnover and is frequently employed in empirical research because of its predictive reliability (Roy et al., 2020). The term is often used interchangeably with intention to leave (IL), which serves as a proxy indicator for retention. Specifically, IL reflects an individual's subjective assessment of the likelihood of exiting the organisation in the foreseeable future (Cho et al., 2008; Dhanpat et al., 2018).
- Employee engagement involves ongoing communication and the facilitation of employee voice within the organisation. Empirical evidence consistently demonstrates that EE is a critical determinant of organisational performance and positively influences retention outcomes (Das et al., 2017; Mone & London, 2018; Shuck et al., 2011). Given the centrality of employees to organisational success, a positive and fulfilling work environment fosters engagement, while its absence contributes to disengagement (Bedarkar & Pandita, 2014). Furthermore, Jung et al. (2021) asserted that EE is inversely related to turnover intention, thereby exerting a significant impact on employee retention.

An important consideration is that the Fourth Industrial Revolution (4IR) signifies a shift from a reliance on energy and physical resources to a future where human abilities are seamlessly integrated with emerging technologies such as artificial intelligence, robotics, nanotechnology and the Internet of Things (Revunit, 2022). Consequently, the global business landscape is rapidly evolving, with business models moving from selling products to embracing the sharing economy (Revunit, 2022). The Worldwide Economic Forum projected that by the end of 2022, the global economy would have seen a net loss of over 5 million jobs (Quaglietti & Wheeler, 2022). Although technology can eliminate many jobs, it also creates new ones that demand workers with new skills, as many current jobs did not exist a decade ago. Without opportunities for retraining and reskilling, organisations will struggle to meet their labour needs (Tamayo et al., 2023).

The World Economic Forum predicts that future employment will increasingly require both technical and interpersonal skills that support value creation within organisations (Quaglietti & Wheeler, 2022). According to Balalle and Balalle (2019), there is often a mismatch between where talent is needed and where it is available, posing a significant challenge for organisations in acquiring and retaining skilled employees. Although some jobs will need to be replaced because of the evolving work environment and the 4IR, it is crucial for organisations to implement effective retention strategies to maintain their current skilled workforce and provide the required reskilling (Balalle & Balalle, 2019; Bhatia, 2020; Tamayo et al., 2023). For South African SOEs, it is essential to retain and reskill current employees. Without this, the necessary skills for the new work environment and the 4IR will have to be sourced from the private sector or other countries. It is thus more practical to keep and

reskill talented employees while promoting a culture of lifelong learning, rather than bearing the costs of recruiting external skills (Hewapathirana & Almasri, 2021).

## Underlying constructs of employee retention

A review of the literature on employee retention was conducted by the primary researcher and reported in Maphanga (2023). The review was conducted over a period of 14 months, which entailed a search in English journals, books, master's dissertations and doctoral theses using Sabinet African Journals, Emerald Insight, Research Gate, JSTOR, ProQuest and Google Scholar. The phrase 'constructs of employee retention' was used, and the following inclusion criteria were applied: The source (1) must have been published between 1980 and the present; (2) must be a journal article, book, master's dissertation or doctoral thesis and (3) must have provided empirical evidence of or theoretical justification for why the specified construct influenced employee retention. A total of 110 sources met all the criteria and were studied to identify constructs that influenced employee retention. Constructs that were identified by two or more sources as influencing employee retention were documented. This produced 12 constructs that are detailed in Table 1.

## Existing models and frameworks of staff retention

Six existing general organisational models of staff retention and three existing staff retention frameworks used by three major South African SOEs are shown in Table 2. None of these models and frameworks has been specifically developed to assess the 12 underlying staff retention constructs that have been the most globally researched and empirically shown to significantly influence staff retention as discussed earlier. A new conceptual model has therefore been proposed for this purpose.

**TABLE 1:** Retention constructs influencing employee retention.

No.	Employee retention construct	Authors supporting link to employee retention
1	Compensation and benefits	Choudhary (2016); Meirinhos et al. (2017); Welch and Brantmeier (2021)
2	Job characteristics	Döckel (2003); Aguenza and Som (2018)
3	Training and development	Chabane et al. (2018); Oluwaseun (2018); Blume et al. (2019)
4	Supervisory support	Alzayed and Murshid (2017); Dhanpat et al. (2018); Welch and Brantmeier (2021)
5	Career growth and development	Othman and Lembang (2017); Welch and Brantmeier (2021)
6	Work-life balance	Shockley et al. (2017); Meirinhos et al. (2018); Welch and Brantmeier (2021)
7	Employee engagement	Osborne and Hammoud (2017); Smythe (2017); Jindal et al. (2017)
8	Organisational support	Holston-Okae and Mushi (2018); Welch and Brantmeier (2021)
9	Ethical leadership	Kangas et al. (2016); Hashish (2017); Ibrahim and Mayende (2018)
10	Job satisfaction	Mathimaran and Kumar (2017); Meirinhos et al. (2017); Baxi and Atre (2024)
11	Meaningful work	Fouché et al. (2017); Ghadi (2017); Meirinhos et al. (2017)
12	Organisational culture	Purohit (2016); Al Mamun and Hasan (2017); Zimmerman et al. (2019)

Note: Please see the full reference list of this article Maphanga, C.H., & Olivier, B.H. (2025). State-owned enterprises: Developing and validating a model of employee retention. *SA Journal of Industrial Psychology/SA Tydskrif vir Bedryfsielkunde*, 51(0), a2312. <https://doi.org/10.4102/sajip.v51i0.2312> for more information.

## Proposed new theoretical model of employee retention for South African state-owned enterprises

Drawing from the employee retention constructs outlined in Table 1, a new theoretical model for employee retention in South African SOEs is proposed. This model includes 12 organisational employee retention factors (independent variables) and one dependent variable (IL). The proposed theoretical model is illustrated in Figure 1.

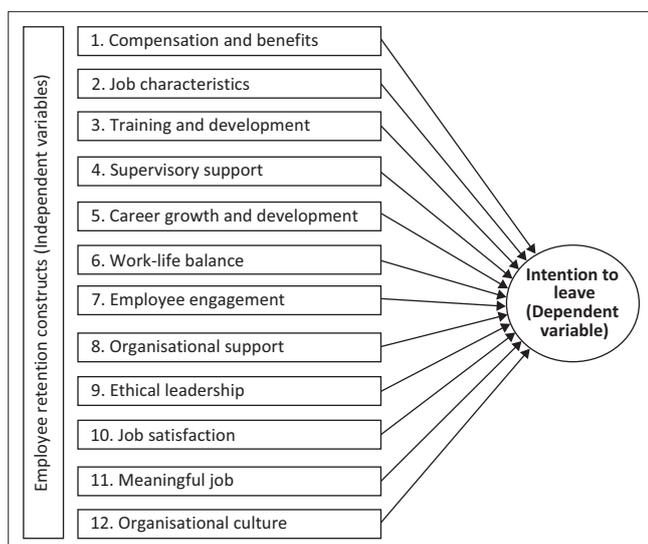
In the current study, *IL* is used as the measurement for *employee retention* (the dependent variable). This is supported by Cho et al. (2008), who stated that the construct of *IL* is frequently utilised as a practical measure of employee retention, serving as an alternative metric in empirical retention research.

The term *turnover intention* is considered interchangeable with the term *IL* (Cho et al., 2008). Specifically, *IL* refers to the subjective estimation of an individual regarding the probability of leaving an organisation in the near future

**TABLE 2:** Six existing general organisational models of staff retention and three existing staff retention frameworks used by three major South African state-owned enterprises.

Name of model	Reference
The Zinger staff retention model	Zinger (2009)
Staff retention model for professional workers	George (2015)
The Fauzi, Ahmad and Gelaidan staff retention model	Fauzi et al. (2013)
The tri-dimensional staff retention model	Wee (2013)
The employee retention connection (ERC) staff retention model	Nazia and Begum (2013)
The integrated system for retaining employees	Nazia and Begum (2013)
The Transnet staff retention framework	Transnet South Africa (2018)
The Eskom staff retention framework	Eskom Integrated Report (2023)
The South African Airways staff retention framework	South African Airways Integrated Report (2017)

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**FIGURE 1:** Proposed new theoretical model of employee retention for South African state-owned enterprises.

(Cho et al., 2008; Dhanpat et al., 2018). This is in line with the suggestion by Nasir et al. (2019, p. 157) that ‘retention processes (staff retention) should be studied along with the quitting processes (*IL*)’. Staff retention can be better understood by studying factors leading to increased dissatisfaction among employees and, thus, their *IL* the organisation. Thus, measuring the factors contributing to an employee’s *IL* an organisation is the most valid measurement of the concept of *employee retention* (Yousuf & Siddqui, 2019).

According to Jaharuddin and Zainol (2019), turnover intention measures the likelihood of an employee leaving an organisation. Some employees’ general attitudes resulted from their idea of leaving and looking for other jobs (Joseph et al., 2007). It is considered a key determinant of the individual’s *IL* the current employer (Li et al., 2019). Turnover intention is also linked to voluntary and involuntary turnover. Employers are responsible for assessing these types of turnover to ensure that they retain employees who will assist them in reaching their organisational goals and objectives.

Although research indicates that an employee’s *IL* an organisation is a valid measurement of the concept of employee retention (Cho et al., 2008; Dhanpat et al., 2018; Nasir et al., 2019; Yousuf & Siddqui, 2019), the following limitations in using *IL* as a measurement of employee retention have been identified by Mohamed and Aboul-Ela (2023) and Contreras (2024): (1) Not all employees who express an *IL* actually resign, as intention does not always equal behaviour; (2) employee intentions can change over time, especially in response to organisational changes, personal circumstances or labour market conditions; (3) employees may underreport their *IL* because of fear of negative consequences or a desire to appear loyal, especially in non-anonymous surveys and (4) using *IL* as a standalone measure ignores other critical factors influencing employee retention.

## Research methods and design

### Research approach

A quantitative, cross-sectional survey design was employed, and primary data were gathered through a self-report questionnaire to collect statistical data for validating the proposed theoretical model of employee retention (Creswell & Creswell, 2022).

### Research participants and sampling

The study’s population was 5395 employees from a South African SOE and consisted of both male and female employees across different generational cohorts and job grades. Stratified sampling categorised the population into six homogeneous job grades, followed by the selection of simple random samples from each grade (Creswell & Creswell, 2022). This produced a sample of 1000 employees who were requested to complete the survey questionnaire, and 685 employees responded positively to the request. This sample was considered adequate for the current study, as Hair et al. (2019) had indicated that at least 500 responses were necessary to perform structural equation modelling

(SEM), the primary data analysis technique used to validate the proposed theoretical employee retention model.

Most of the sample were male (66.7%), aged between 40 and 49 years (40.4%). In terms of education, most of the sample held a degree (78.5%), indicating that respondents were mostly highly qualified professionals. Over half of the respondents had been with the company for more than 10 years (50.9%), suggesting that the sample comprised relatively long-term employees who could provide valid insights regarding retention practices in the SOE. In addition, a significant portion of the respondents (32.0%) identified themselves as grade level E, representing middle management.

## Measuring instrument

Following an extensive literature review, it was evident that no single questionnaire existed to measure all 12 identified retention factors in the newly proposed theoretical model of employee retention. Eight existing questionnaires, previously used in various studies to measure the 12 underlying constructs of employee retention and the construct of IL, were available, making it unnecessary to develop a new questionnaire. These eight questionnaires,

**TABLE 3:** Employee retention constructs, existing measuring instruments used, number of items and original Cronbach alphas obtained per instrument.

Employee retention constructs	Measurement instrument used to measure the construct	Number of items used to measure the construct	Reliability of measurement instrument
Biographical information	Self-developed by the researcher	5	NA
Compensation and benefits	Retention Factor Scale (Döckel, 2003)	15	0.90 (Döckel, 2003)
Job characteristics	Retention Factor Scale (Döckel, 2003)	4	0.41 (Döckel, 2003)
Training and development	Retention Factor Scale (Döckel 2003)	6	0.83 (Döckel, 2003)
Supervisory support	Retention Factor Scale (Döckel, 2003)	6	0.90 (Döckel, 2003)
Career growth and development	Retention Factor Scale (Döckel, 2003)	6	0.76 (Döckel, 2003)
Work-life balance	Retention Factor Scale (Döckel, 2003)	4	0.86 (Döckel, 2003)
Employee engagement	Employee Engagement Questionnaire (Kahn, 1990)	7	0.85 (Xu and Thomas, 2011)
Organisational support	Perceived Organisational Support Questionnaire (Eisenberger et al., 1986)	12	0.83 (Addo and Dartey-Baah, 2020)
Ethical leadership	Ethical Leadership Questionnaire (Yukl et al., 2013)	15	0.74 – 0.96 (Yukl et al., 2013)
Job satisfaction	Job Satisfaction Survey (Spector, 1985)	5	0.92 (Lumley et al., 2011)
Meaningful job	Work and Meaning Inventory (Steger et al., 2012)	10	0.93 (Fouché et al., 2017)
Organisational culture	South African Culture Instrument (Martins, 1989)	67	0.93 (Martins 1989)
Staff retention (Intention to leave – dependent variable)	Intention to Quit Scale (Cohen, 1993)	6	0.91 (Theron et al., 2014)
<b>Total</b>	-	<b>162</b>	-

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with the studies in which they were used, are cited in Table 3, and they were combined into a consolidated Staff Retention Questionnaire (SRQ) for the empirical phase of this study. This combination approach was advocated by scholars such as Choudhary (2016) and Dhanpat et al. (2018), who argued that the advantages of using existing measurement instruments are established reliability and validity, and cost savings by avoiding the need to develop a new questionnaire. The final consolidated SRQ consisted of 162 items and comprised three sections: biographical information, items measuring the 12 underlying constructs of employee retention identified in Table 1 and items measuring IL, which was used as a proxy for the dependent variable employee retention. All items were adopted from the eight existing questionnaires and the names of the questionnaires, the number of items per construct as well as the reliability of the questionnaires are indicated in Table 4. The reliability of the eight questionnaires was evaluated based on Jain and Angural's (2017) guidelines, where a Cronbach's alpha ( $\alpha$ )  $\geq 0.9$  is considered excellent,  $0.9 > \alpha \geq 0.8$  good,  $0.8 > \alpha \geq 0.7$  acceptable,  $0.7 > \alpha \geq 0.6$  questionable,  $0.6 > \alpha \geq 0.5$  poor and  $\alpha < 0.5$  unacceptable.

Based on Jain and Angural's (2017) guidelines, Table 3 indicates that all the measurement instruments incorporated into the final SRQ recorded either an acceptable or good reliability score. The exception was the scale used to measure job characteristics, which recorded a reliability score of 0.41.

All six scales of Döckel's (2003) Retention Factor Scale (RFS) were incorporated into the final SRQ. This decision was based on the fact that five of the six RFS scales recorded a good or acceptable internal consistency score based on the Jain and Angural (2017) guidelines. Only one scale, used to measure job characteristics, with a reliability score of 0.41, did not meet the acceptable reliability threshold of between 0.60 and 0.70. According to Jain and Angural (2017), this could be because of a construct being measured by a few items (the job characteristics scale only has four items). The low reliability score recorded for the job characteristics scale was noted as a limitation of the current study.

All dimensions, except for compensation and benefits, were measured on a 5-point Likert scale that ranged from 1 (strongly disagree) to 5 (strongly agree). The dimension of compensation and benefits was measured on a 5-point

**TABLE 4:** Total variance explained by 11 components obtained from principal component analysis with the 162 items of the staff retention questionnaire.

Component	Initial eigenvalues		
	Eigenvalues	% of variance	Cumulative %
1	28.85	24.66	24.66
2	7.82	6.68	31.34
3	6.14	5.25	36.59
4	4.99	4.23	40.86
5	3.74	3.19	44.06
6	3.18	2.72	46.78
7	2.77	2.37	49.15
8	2.43	2.07	51.22
9	2.34	1.99	53.22
10	2.18	1.66	55.08
11	2.04	1.74	56.82

Likert scale using level of satisfaction, which ranged from 1 (strongly dissatisfied) to 5 (strongly satisfied).

## Research procedure

The researcher, as an employee at the South African SOE under study, had assisted in accessing the organisation. To mitigate a possible conflict of interest, participants had to give their informed consent to participate in the study, responses were anonymous and not traceable to individual participants and a neutral third party was used to approach identified employees to invite them to participate in the study.

The researcher submitted a written request to top management to conduct the research within the SOE, which subsequently granted the necessary permission. Following this, ethical clearance to conduct the study was obtained from the Ethics Committee of the Industrial and Organisational Psychology (IOP) Department at the University of South Africa (UNISA) before data collection began. Once ethical clearance was obtained, a list of all SOE employees ( $N = 5395$ ), along with their contact details, was provided to the researcher by the Human Resource Department. Stratified sampling categorised the population into six homogeneous job grades, followed by the selection of simple random samples from each grade (Creswell & Creswell, 2022). This produced a sample of 1000 employees whose email contact details were provided to a neutral third party. The third party invited all 1000 employees to participate in the study via email, which included the purpose of the study, that participation was voluntary and that anonymity would be maintained, as no information provided could be linked to any specific individual. Employees were also informed of their right to withdraw from the survey at any time before submission, after which it was not possible, as completed questionnaire could no longer be traced. The email contained a link to the online SRQ, and participants were asked to access the link if they agreed to participate. A total of 685 employees responded positively to the request and accessed the online questionnaire, which included a request for informed consent, without which the questionnaire could not be answered further. Completed surveys were submitted electronically through the online link to the organisation's electronic communication system and then imported into an electronic spreadsheet for further statistical analysis.

## Statistical analysis of data

The Statistical Package for Social Sciences software (SPSS) version 29 and its add-on package AMOS (Analysis of Moment Structures) were used to analyse the data and perform SEM (Arbuckle, 2022). The data from the SRQ were utilised to firstly generate descriptive statistics, including frequency distributions, means and standard deviations. Secondly, an internal consistency analysis was performed using Cronbach's alpha to assess the reliability of the SRQ. Thirdly, a principal component analysis (PCA) was conducted to select the appropriate number of factors to include in the measurement model, and fourthly, SEM was used to specify and validate the measurement and structural

models. The following six goodness-of-fit (GOF) indices, suggested by Hair et al. (2019), were utilised to validate the measurement and structural models:

- Chi-square (CMIN): Values closer to zero, indicating non-significance, suggest a good fit.
- Goodness-of-fit index (GFI): Ranging from 0 to 1, a cut-off value of 0.9 generally indicates an acceptable model fit.
- Root mean square error of approximation (RMSEA): Values range from 0 to 1, with lower values indicating better fit. A value of 0.06 or less is considered acceptable.
- Normed fit index (NFI): Values should range between 0 and 1, with 0.90 or above indicating a good fit.
- Tucker-Lewis index (TLI): A value of 0.90 or above is recommended for a good fit.
- Comparative fit index (CFI): Ranging from 0 to 1, larger values indicate better fit, with 0.90 or above generally considered acceptable.
- Adjusted goodness-of-fit index (AGFI): The AGFI values are typically lower than GFI values in proportion to model complexity, with no associated statistical test, only fit guidelines.

## Ethical considerations

Ethical clearance to conduct this study was obtained from the University of South Africa CEMS/OP Research Ethics Review Committee (No. 2019\_CEMS/IOP\_031). Informed consent was obtained via digital consent, without which the online questionnaire could not be answered further. If a participant withdrew midway through the survey, they were unable to submit the final questionnaire and their answers were not recorded, requiring no further action. Withdrawal after submission was not possible, as the researcher was unable to identify a participant's completed questionnaire to cancel it as participation was anonymous.

## Results

### Descriptive statistical analysis of the staff retention questionnaire constructs

The mean and standard deviation for each of the 12 employee retention dimensions and the IL dimension (dependent variable) measured by the SRQ were determined. Because of limited space, only the means are reported and interpreted. According to research by the Human Science Research Council (HSRC), a score of 3.2 on a 1–5 Likert scale serves as a useful benchmark for distinguishing between positive and potentially negative perceptions (Castro & Martins, 2010). This threshold is slightly above the neutral midpoint of 3.0, which typically reflects an undecided or neutral stance. By setting the cut-off at 3.2, the classification leans more confidently towards genuinely positive responses – those closer to 'agree' or 'strongly agree'. This approach also helps minimise the risk of misinterpreting slightly above-neutral responses as positive. In essence, it creates a buffer between neutral and positive ratings. In addition, applying a consistent standard like 3.2 enhances the ability to compare results across different surveys and time periods.

The survey results showed that respondents generally had a negative perception of 7 of the 12 employee retention dimensions (ranging from 2.74 to 3.19) and a positive perception of 5 of the 12 dimensions (ranging from 3.32 to 4.04). However, some of these scores are close to the cut-off point of 3.2 and lack practical significance. The dependent variable, IL, had a mean score of 3.52, indicating that respondents tended towards the 'Chances are good' (Option 4) response rather than the 'Undecided' (Option 3) response when asked whether they intended to leave the SOE.

### Reliability of the measurement instrument

An internal reliability analysis of the SRQ revealed that 12 out of the 13 constructs related to employee retention exceeded the accepted reliability threshold of 0.70, as recommended by Hair et al. (2019) and Jain and Angural (2017). The instrument as a whole demonstrated excellent reliability, with an overall score of 0.98, aligning with the standards set by these authors. However, the job characteristics construct showed a low reliability score of 0.58. This may be attributed to the fact that it was measured using only four items, as shorter scales consisting of fewer than five items often yield lower Cronbach's alpha values – as explained by Jain and Angural (2017) and Pallant (2020). Taber (2018) argued that using a measuring instrument with low reliability in quantitative empirical research can be a limitation, as it may compromise the consistency and trustworthiness of the data. On the other hand, Schmitt (1996) argued that even measures with relatively low alpha values can still be valuable if they offer meaningful content coverage. Hair et al. (2019) also supported this view, suggesting that in social science research, reliability scores lower than 0.70 may still be acceptable. In this study, the four items used to assess job characteristics were based on Hackman and Oldham's (1975) Job Diagnostic Survey, which is grounded in their job characteristics model. These items were considered sufficient to represent the construct. Therefore, despite the acknowledged limitation of the lower reliability score, the data from this scale were deemed usable for further analysis. In conclusion, for the current study, the SRQ was found to be a suitable instrument for assessing the 12 employee retention constructs and the dependent variable, IL.

### Principal component analysis

While PCA and exploratory factor analysis (EFA) often yield similar outcomes in many research contexts (Hair et al., 2019), PCA was selected for the current study. Exploratory factor analysis is primarily concerned with common variance and is typically used to explore underlying theoretical constructs. In contrast, PCA considers total variance and is particularly effective for reducing data by converting observed variables into a smaller number of uncorrelated components that account for most of the variance (Suhr, 2005). As the main objective

of the current study was data reduction to identify the minimum number of components that captured the majority of the variance, PCA was deemed the most suitable method. Had the goal been to uncover latent factors explaining the correlation patterns among variables, EFA would have been more appropriate (Chumney, 2012).

With a large sample size of 685, the study was able to utilise a split-sample method as recommended by Fokkema and Greiff (2017). This entailed that PCA was performed on a random subset of 300 participants, while the remaining 385 participants were used for confirmatory factor analysis (CFA). The adequacy and suitability of the 300-participant sample for PCA were evaluated using the Kaiser-Meyer-Olkin (KMO) measure and Bartlett's test of sphericity. The KMO value was 0.90, and Bartlett's test of sphericity was statistically significant at the  $p < 0.001$  level, indicating that the data were suitable for conducting a PCA (Fokkema & Greiff, 2017). Hair et al. (2019) recommended that more than one method should be used for identifying the optimal number of factors to retain in PCA. The current study used two methods: Kaiser's (1974) eigenvalue-greater-than-one rule and parallel analysis (Hayton et al., 2004). Principal component analysis of the 162 original SRQ items identified 11 components with eigenvalues greater than 1, a reduction from the initial 13 constructs measured by the SRQ. These 11 components, detailed in Table 4, collectively accounted for 56.82% of the variance in the data. The decision was made to retain these 11 components, as they explained over 50.0% of the total variance (Hair et al., 2019).

Parallel analysis (PA) was used as the second method to determine how many components to retain in PCA. This method involves comparing the eigenvalues from the data matrix with those from a Monte-Carlo simulated matrix of random data of the same size. Components with eigenvalues that surpass those from the random data set are kept (Hayton et al., 2004). Parallel analysis was conducted following the procedure outlined by Hayton et al. (2004), which stipulated that either the mean or the 95th percentile of each eigenvalue from the random data ( $n = 300$ ) could be used for comparison with the actual eigenvalues. The current study used the mean, and components from the actual data with eigenvalues exceeding the corresponding mean eigenvalues from the random data were retained. Table 5 shows that the first 11 actual eigenvalues are greater than the mean values from PA, leading to the retention of these 11 components. The factor structure derived from the eigenvalues and PA was interpreted, and a final solution was chosen (Hair et al., 2019). This structure was based on the unrotated factor matrix, which included the factor loadings for each variable on each factor.

Hair et al. (2019) stated that while an unrotated factor solution can reduce data, it does not adequately interpret the variables being studied. They recommended using rotation to simplify

the factor structure, making it more straightforward and theoretically meaningful. The current study utilised the Varimax orthogonal rotation method because of its simplicity, which revealed a clear structure, with each of the 11 components showing several significant loadings after loadings below 0.4 were excluded, as recommended by Hair et al. (2019). The 11 components extracted through PCA were named based on the component pattern and loadings from the rotated solution, employee retention constructs identified in the literature review and the original employee retention construct names used in the SRQ. The components were named as follows:

- Component 1: Organisational culture (OC)
- Component 2: Ethical leadership (EL)
- Component 3: Meaningful job (MJ)
- Component 4: Compensation and benefits (CB)
- Component 5: Supervisory support (SS)
- Component 6: Internal and external relationships (RR)
- Component 7: Training and development (TD)
- Component 8: Organisational support (OS)
- Component 9: Work–life balance (WLB)
- Component 10: Employee engagement (EE)
- Component 11: Intention to leave (IL) (dependent variable)

The measurement scales for the 11 extracted components were created by averaging the items that loaded onto each scale, and these scales were then tested for internal reliability. Jain and Angural (2017) and Hair et al. (2019) suggest that a Cronbach's alpha of 0.70 be used as the generally accepted minimum for internal reliability. Following this guideline, all 11 components showed acceptable internal reliability, with Cronbach's alpha coefficients ranging from 0.72 to 0.96, as shown in Table 6.

## Structural equation modelling

### The measurement model

As part of the SEM process, a CFA was performed with the 106 items and 11 components listed in Table 5 to specify the measurement model (Hair et al., 2019). All standardised regression weights for the 106 items (manifested variables) and 11 latent variables (components) in the measurement

**TABLE 5:** Parallel analysis results.

Component	Actual eigenvalues	Percentage of variance explained (%)	Cumulative (%)	Random data eigenvalues
				Mean
1	28.85	24.66	24.66	2.55
2	7.82	6.68	31.34	2.46
3	6.14	5.25	36.59	2.39
4	4.99	4.23	40.86	2.32
5	3.74	3.19	44.06	2.27
6	3.18	2.72	46.78	2.22
7	2.77	2.37	49.15	2.17
8	2.43	2.07	51.22	2.12
9	2.34	1.99	53.22	2.08
10	2.18	1.66	55.08	2.04
11	2.04	1.74	56.82	1.99

model were statistically significant at the  $p = 0.001$  level. The loadings ranged from 0.30 to 0.91. While values below 0.40 are generally seen as weak indicators, such items may still be retained if they reflect a unique dimension of the construct (Hair et al., 2019). Removing items solely based on statistical thresholds can reduce the construct's content validity (Chin, 2010). In large models such as the current one with 106 items and 11 components, a few low-loading items are unlikely to significantly impact the overall model fit. Both Chin (2010) and Collier (2020) emphasised that although loadings under 0.40 are often considered weak, this is not an absolute rule, and researchers frequently obtain weaker loading in social science studies. If all items are statistically significant, retaining them may be justified (Chin, 2010; Collier, 2020). From the CFA conducted, only 4 of the 106 estimates were below 0.40 (0.30; 0.31; 0.32; 0.38). As these items were all still statistically significant, it was decided to retain them and not do model trimming until the validity of the measurement model had been determined.

After specifying the measurement model, its validity needed to be assessed by calculating levels of GOF. The GOF indices obtained for the measurement model and their interpretations are provided as follows:

- Chi-square. Value of 10886.84, 5404 degrees of freedom ( $df$ ),  $p = 0.001$  = Poor model fit.
- Goodness-of-fit index. Value of 0.65 = Poor model fit.
- Root mean square error of approximation. Value of 0.051 = Good model fit.
- Normed fit index. Value of 0.66 = Poor model fit.
- Tucker-Lewis index. Value of 0.79 = Poor model fit.
- Comparative fit index. Value of 0.80 = Poor model fit.
- Adjusted goodness-of-fit index. Value of 0.63 = Poor model fit.

The measurement model did not meet all the minimum criteria for a good fit, necessitating adjustments to enhance the model fit. As recommended by Hair et al. (2019), 53 items with loadings  $< 0.70$  were removed simultaneously from the measurement model, after which a CFA was again conducted. Removing items with factor loadings under 0.70 in a

**TABLE 6:** Internal reliability statistics for the 11 extracted components.

Component no.	Description	No of items	Cronbach's alpha
1	OC	25	0.89
2	EL	15	0.96
3	MJ	13	0.90
4	CB	12	0.89
5	SS	11	0.91
6	RR	7	0.90
7	TD	6	0.82
8	OS	5	0.76
9	WLB	4	0.89
10	EE	4	0.72
11	IL	4	0.80
<b>Total</b>	-	<b>106</b>	-

OC, Organisational Culture; EL, Ethical Leadership; MJ, Meaningful Job; CB, Compensation and Benefits; SS, Supervisory Support; RR, Internal and External Relationships; TD, Training and Development; OS, Organisational Support; WLB, Work-Life Balance; EE, Employee Engagement; IL, Intention to Leave.

measurement model is a widely accepted approach in SEM, (Hair et al., 2019). This practice is supported by both theoretical and methodological reasoning.

*Enhancing construct validity:* Items with low loadings below 0.70 indicate a weak association with the latent construct they are meant to measure. Keeping such items can compromise convergent validity – the extent to which items within a construct share a substantial amount of variance. It may also obscure the construct's meaning, making interpretation more difficult and reducing conceptual clarity. Eliminating these items helps ensure that each construct is represented by items that accurately reflect it.

*Optimising model fit:* Structural equation modelling evaluates how well a model fits the data using various fit indices. Items with low loadings tend to increase residuals (the discrepancies between observed and predicted covariances), which can lead to poor fit statistics and potential model misalignment. Removing these underperforming items allows the model to better capture the data's structure, thereby improving overall fit (Hair et al., 2019).

The new CFA produced an adjusted measurement model with the GOF indices given as follows:

- Chi-square. Value of 2076.384, 1270 *df*,  $p = 0.001$  = Good model fit.
- Goodness-of-fit index. Value of 0.936 = Good model fit.
- Root mean square error of approximation. Value of 0.041 = Good model fit.
- Normed fit index. Value of 0.851 = Poor model fit.
- Tucker-Lewis index. Value of 0.930 = Good model fit.
- Comparative fit index. Value of 0.936 = Good model fit.
- Adjusted goodness-of-fit index. Value of 0.810 = Poor model fit.

Except for the NFI and AGFI, all other GOF indices indicated a good model fit according to the guidelines provided by Hair et al. (2019). The adjusted measurement model thus showed adequate and unequivocal good model fit and was consequently deemed valid and accepted as the final measurement model. In addition, the standardised regression weights for the remaining 53 items (manifested variables) and 11 components (latent variables) in the final adjusted measurement model were all statistically significant, ranging from 0.57 to 0.98 ( $p < 0.001$ ), eliminating the need for further model trimming (Hair et al., 2019).

### The structural model

The next step in the SEM process was to specify the structural model, which outlines the hypothesised causal relationships among the research constructs (Hair et al., 2019). The hypothesised relationships among the 11 variables in the structural model are detailed as follows:

- $H_1$ : Organisational culture (OC) has a negative influence on Intention to leave (IL).
- $H_2$ : Ethical leadership (EL) has a negative influence on Intention to leave (IL).

$H_3$ : Meaningful job (MJ) has a negative influence on Intention to leave (IL).

$H_4$ : Compensation and benefits (CB) has a negative influence on Intention to leave (IL).

$H_5$ : Supervisory support (SS) has a negative influence on Intention to leave (IL).

$H_6$ : Internal and external relationships (RR) have a negative influence on Intention to leave (IL).

$H_7$ : Training and development (TD) has a negative influence on Intention to leave (IL).

$H_8$ : Organisational support (OS) has a negative influence on Intention to leave (IL).

$H_9$ : Work-life balance (WLB) has a negative influence on Intention to leave (IL).

$H_{10}$ : Employee engagement (EE) has a negative influence on Intention to leave (IL).

The regression weights between the 11 latent constructs were evaluated to determine the acceptability of the hypothesised structural model, which revealed that only three paths were statistically significant (all negatively related to the dependent variable, IL) at the  $p < 0.001$  level. These significant paths were: (1) OC:  $-0.14$ ; small practical effect, (2) CB:  $-0.30$ ; medium practical effect and (3) TD:  $-0.10$ ; small practical effect. In interpreting the practical effect of these relationships, Cohen's (1988) guidelines were applied, where  $r = 0.10$ – $0.29$  (small practical effect),  $r = 0.30$ – $0.49$  (medium practical effect) and  $r = 0.50$ – $1.0$  (large practical effect). The relationships between the other seven independent variables and IL were not statistically significant. Possible reasons for these insignificant relationships are discussed next. These results indicate that the original theoretical model will have to be adapted (Hair et al., 2019).

After specifying the structural model, its validity had to be assessed, which produced the following GOF indices:

- Chi-square. Value of 3956.00, 1315 *df*,  $p = 0.001$  = Good model fit.
- Root mean square error of approximation. Value of 0.054 = Good model fit.
- Tucker-Lewis index. Value of 0.88. The TLI of 0.88 is slightly lower than the suggested threshold of 0.90 suggested by Hair et al. (2019) for a good model fit. However, according to Ab Hamid et al. (2017), this is close enough to the threshold to still be used as an indicator of good model fit.

The structural model was accepted as valid as all of the GOF indices indicated adequate and unequivocal good model fit as per the guidelines provided by Ab Hamid et al. (2017) and Hair et al. (2019).

## Discussion

The scores from the SRQ revealed that respondents generally had a negative perception of 7 out of the 12 employee retention dimensions, while they viewed

5 factors positively. However, some of these scores are close to the cut-off point of 3.2 and lack practical significance. The dependent variable, IL, had a mean score of 3.52, indicating that respondents tended towards the 'Chances are good' (Option 4) response rather than the 'Undecided' (Option 3) response when asked whether they intended to leave the SOE. The internal consistency scores for the SRQ ranged from 0.58 to 0.97, with an overall reliability of 0.98. These results are similar to results obtained by authors who reported on the reliability scores of the individual eight instruments that the SRQ was composed (refer Table 2) (Addo & Dartey-Baah, 2020; Döckel, 2003; Fouché et al., 2017; Lumley et al., 2011; Martins, 1989; Theron et al., 2014; Xu & Thomas, 2011; Yukl et al., 2013).

The validated structural model confirmed three statistically significant relationships with IL at the  $p < 0.001$  level: OC (H1: -0.14), CB (H4: -0.30), and TD (H7: -0.10). According to Cohen's (1988) guidelines, OC and TD had a small practical effect, while CB had a medium practical effect. These practical effect sizes have important implications for interpreting the real-world significance of these relationships, beyond just statistical significance (Flora et al., 2025). The small negative correlations obtained for these three relationships suggest that while they are statistically significant, their practical impact is small and medium. This could imply that these three constructs alone are not strong drivers of IL, or that their influence is mediated or moderated by other factors (Flora et al., 2025). However, Flora et al. (2025) argued that even small practical effects can be meaningful in large populations, such as in the current study ( $N = 685$ ).

The validated structural model thus confirmed 3 of the 10 initially formulated hypotheses, as underneath: (\*\*\*) $p < 0.001$ :

- H<sub>1</sub>: Organisational culture (OC) has a negative influence on Intention to leave (IL). Estimate = -0.14\*\*\* (Accepted).
- H<sub>4</sub>: Compensation and benefits (CB) has a negative influence on Intention to leave (IL). Estimate = -0.30\*\*\* (Accepted).
- H<sub>7</sub>: Training and development (TD) has a negative influence on Intention to leave (IL). Estimate = -0.10\*\*\* (Accepted).

Three of the 10 hypothesised relationships in the original structural model were statistically significant. These results are consistent with prior research, which has consistently highlighted the importance of these constructs in influencing employee retention. Compensation and benefits emerged as the strongest predictor of employee retention, supporting findings by Shakeel (2015) and Dhanpat et al. (2018), who identified inadequate remuneration as a primary driver of turnover. Organisational culture emerged as the second strongest predictor of employee retention, which is supported by research by Purohit (2016), Al Mamun and Hasan (2017) and Zimmerman et al. (2019), who all found that a positive OC promoted long-term commitment. Similarly, Shah and Sarkar (2017) found that OC enhanced teamwork and alignment with organisational goals. Training and

development emerged as the third strongest predictor of employee retention, which is supported by results reported by Kaur (2017) and Nkomo et al. (2018), who found that TD enhanced employee value and career prospects.

While these studies support the accepted hypotheses, it is important to acknowledge that the strength of these relationships may be context dependent. For example, the fact that CB emerged as having the strongest effect on retention could reflect the financial uncertainties currently being experienced by SOE employees in the South African economy characterised by high unemployment. Also, the importance of a positive OC could be more desired in South African SOEs than other organisations because of restrictive bureaucratic structures or autocratic leadership. In the same vein, TD could be particularly valued because of internal skills shortages or limited external employment opportunities.

Contrasting studies have shown that compensation, while often cited as a key retention factor, is not always sufficient on its own to ensure long-term employee retention. Sorn et al. (2023) found that although CB played a significant role, it must be part of a broader retention strategy that includes job satisfaction, WLB and a positive OC. They argued that focusing solely on CB may overlook deeper motivational drivers. Similarly, contrary to the assumption that TD always improves retention, Sumayya et al. (2022) found that while training enhances employee performance, it can also make employees more marketable. This potentially increases their likelihood of leaving an organisation, especially if internal career paths are limited. And although OC has been validated as a retention driver, its impact can also be context-dependent. Hasym et al. (2024) found that while a positive culture supports retention, its influence is less significant in environments where CB and career development are lacking. This suggests that culture alone may not retain employees if other foundational needs are unmet.

The relationships between the other seven constructs and IL were not statistically significant. Several theoretically and empirically grounded reasons, as discussed by Hair et al. (2019), Flora et al. (2025) and Permarupan et al. (2024), may explain these outcomes: (1) Some constructs might influence IL indirectly through mediating variables such as job satisfaction, organisational commitment or perceived OS. For example, Permarupan et al. (2024) found that job satisfaction plays a key mediating role between human resource management practices and employees' IL. As mediators were not included in the current retention model, direct effects may have appeared insignificant. (2) If the items used to assess the seven insignificant constructs were ambiguous or too broad, they may not have accurately captured the intended constructs, leading to insignificant results. (3) The demographic profile and employment conditions of the sample could have shaped how participants evaluated the relevance of certain constructs, diminishing their perceived impact. (4) The hypothesised seven insignificant

relationships may simply not exist in the population because of incorrect assumptions about causal links. (5) The unique cultural, organisational and sectoral dynamics within the SOE may have influenced the relationships obtained between the variables. (6) The removal of half of the original items of the SRQ (53) to improve the validity of the measurement model may have resulted in the constructs not being adequately measured.

Because of these insignificant relationships, seven of the originally proposed hypotheses were rejected. The insignificant statistical relationships obtained between EL (H2), MJ (H3), SS (H5), RR (H6), OS (H8), WLB (H9) and EE (H10) and IL, contradict results reported by various authors (Döckel, 2003; Ibrahim & Mayende, 2018; Meirinhos et al., 2017; Welch & Brantmeier, 2021) who all found that there is a significant relationship between these seven factors and employee retention. Possible reasons for these contradicting results are the same as the reasons for the insignificant relationships obtained in the structural model discussed in detail earlier.

Based on a literature review, 12 positive employee retention constructs were theorised to have a direct negative influence on IL, the measurement of employee retention in the current study. These 12 constructs are indicated in Table 1, and the theorised relationships are indicated in Figure 1. After an EFA and a CFA were conducted on the data, these 12 relationships were reduced to 10, which were hypothesised as direct paths in the developed structural model. Structural equation modelling indicated that only 3 of the 10 hypothesised paths were statistically significant. As a result, the original theoretical model was adapted by removing the seven insignificant relationships and retaining only the three significant relationships. The validity of the adapted structural model, shown in Figure 2, was thus improved, as it reflected only statistically significant relationships supported by the data.

## Practical implications

This research provides important insights for retaining employees in South African SOEs. As compensation and benefits have the most significant negative impact on employees' intentions to leave, managers should prioritise



**FIGURE 2:** Final adapted theoretical model of employee retention for state-owned enterprises in South Africa.

offering competitive and fair compensation packages. This could involve salary increases, bonuses and comprehensive benefits to retain employees. However, such solutions could be difficult to implement given that SOEs must operate within rigid budget frameworks, often prioritising operational survival over employee incentives (Bernstein, 2024). Cultivating a positive OC is essential as it greatly reduces the IL. Managers should strive to create a supportive, inclusive and engaging work environment by encouraging teamwork, recognising employee achievements and maintaining transparent communication. In addition, providing training and development opportunities is crucial for employee retention. Managers should offer continuous learning opportunities, career development programmes and skill enhancement workshops to keep employees motivated and engaged.

Even though factors such as ethical leadership, meaningful work, SS, internal and external relationships, OS, WLB and EE were not statistically significant in this study, they should not be overlooked. Managers should regularly assess these areas to avoid potential problems in the future. In addition, as various factors influence employees' intentions to leave, managers should implement personalised retention strategies. Understanding the unique needs and preferences of individual employees can help in creating more effective retention plans. By addressing these areas, managers can develop a more stable and dedicated workforce, resulting in improved organisational performance and lower turnover rates.

It is acknowledged that implementing these recommended employee retention strategies could prove challenging, as South African SOEs operate within complex structural and contextual environments. Structural challenges include ambiguous mandates, governance challenges (Maphanga, 2023), bureaucratic rigidity, fragmented human resource systems and skills mismatch (Dlamini et al., 2021). Contextual challenges include transformation pressures (Govender, 2009), budget constraints, brain drain, labour relations (Dlamini et al., 2021) and public scrutiny (Maphanga, 2023). These realities emphasise the need for context-specific retention strategies.

The practical recommendations discussed earlier can also be linked to broader human resource management (HRM) theory:

- Offering competitive and fair compensation packages within budgetary constraints. This aligns with Equity Theory (employees compare their inputs such as effort, skills and time to their outputs such as salary, recognition and benefits relative to others), Herzberg's two-factor theory (motivation stems from intrinsic and hygiene factors such as pay) and Strategic Human Resource Management (SHRM) (aligning human resource [HR] practices with an organisation's long-term goals) (Anil, 2021; Maphanga, 2023).
- Cultivating a positive OC. Such a culture nurtures belonging and purpose and encourage employees to stay in

an organisation. This is tied to job embeddedness (the more embedded an employee is, the less likely they are to leave) and Social Exchange Theory (relationships are maintained when the perceived benefits outweigh the effort, time and emotional strain) (Anil, 2021; Maphanga, 2023)

- Providing training and development opportunities. This supports Human Capital Theory (employees increase their economic value through investments in education, training, and health) and SHRM (investing in long-term employee value) (Anil, 2021; Maphanga, 2023)
- Ethical leadership, meaningful work, healthy relationships and EE. These align with the principles of SHRM, which has a long-term focus and focuses on workforce potential. It also encourages tailoring retention strategies to SOE mandates and transformation goals (Devi & Reddy, 2025).

## Limitations

This study had several limitations. Firstly, it concentrated on employee retention within SOEs, requiring caution when applying the results to other organisations. Secondly, the questionnaire used to assess employee retention was not specifically designed for South African SOEs. Thirdly, the study employed a cross-sectional survey design, which limits the ability to infer causal relationships between variables. Fourthly, the removal of 50% of the questionnaire items in the measurement model during CFA because of low factor loadings to improve model fit indices could have compromised the content validity of the constructs. Fifthly, the study relied on a self-completed survey questionnaire, which may have introduced common method bias and self-reporting bias, as all data were collected from the same respondents using a single method. Sixthly, a limitation was that the TLI value obtained for the structural model was 0.88, which falls slightly below the commonly accepted threshold of 0.90 for indicating good model fit. This could have limited the precision of the model's explanatory power. Seventhly, a limitation was using IL as a proxy for measuring employee retention. Eighthly, the low reliability score of 0.41 recorded for the job characteristics scale could have affected the validity of findings related to job characteristics.

## Recommendations for future research

It is recommended that the employee retention model developed and validated in this study undergo further validation in other organisations. In addition, a new questionnaire tailored to the developed and validated employee retention model should be created and validated for use across all South African SOEs.

## Conclusion

By adapting the structural model to reflect only the empirically supported relationships, this study not only confirms existing theory but also contributes a context-specific understanding of employee retention dynamics in South African SOEs. The literature supports these retained

structural model paths, and the current study also adds value by showing which constructs matter most in South African SOEs, a relatively under-researched context.

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## Competing interests

The authors declare that they have no financial or personal relationships that may have inappropriately influenced them in writing this article.

## Authors' contributions

C.H.M. was the project leader for this study and reviewed the literature, gathered and analysed the data and compiled the draft manuscript. B.H.O. was the supervisor of the project and assisted with the finalisation of the manuscript.

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## Data availability

The data that support the findings of this study are available from the corresponding author, B.H.O., upon reasonable request.

## Disclaimer

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