



Interplay of human capital development and related behavioural factors as panacea for turnover intentions



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Orientation: Retaining staff remains a daunting task for organisations, more so for millennials. They are significantly less satisfied in their jobs and are more likely to have perceptions that may negatively impact job satisfaction, commitment, engagement and turnover intentions (TIs).

Research purpose: The aim of this study is twofold: firstly, it explores the effect of human capital development (HCD) on staff retention, and secondly, it examines the intervening function of job satisfaction, commitment and loyalty on the correlation between HCD and staff retention.

Motivation for the study: Human capital development culture is related to a myriad of organisational behaviours impacting TIs.

Research approach/design and method: A quantitative and cross-sectional research approach was adopted, employing an online survey with 210 respondents. SMART PLS 4 was used for analysis while structural equation modelling (SEM) was employed to gauge the structural correlations between the factors.

Main findings: Firstly, structural equation modelling results revealed that HCD has a positive but small as well as non-significant impact on staff retention. Secondly, the mediation inquiry revealed that job satisfaction and commitment intervene in the correlation between HCD and staff retention or TI, except for loyalty.

Practical/managerial implications: The pursuit of an HCD culture aligned to organisational goals is a necessary remedy to not only advance sustainable efficiencies and success but also enhance staff retention.

Contribution/value-add: This empirical research evidence provides a much broader perspective on the role of HCD on the nexus between multiple organisational behaviours related to TIs. Entrenching HCD culture in HR policies and practices could result in desired organisational outcomes.

Keywords: commitment; human capital development; job satisfaction; loyalty; mining sector; retention.

Introduction

Global competition has become increasingly aggressive, leading to a growing labour market and an upsurge in job hopping. The coronavirus disease 2019 (COVID-19) simply compounded this challenge. As a result, organisations are facing issues with surplus job opportunities. These global challenges have made employees reconsider their career advancement opportunities, comparing what their organisation is offering with what competitors are providing. For example, Khumalo's article (2024) in the *Business Day Newspaper* asserts that Coronation, one of SA's largest asset managers, is outperforming the sector in retaining its top talent, largely because of the ownership structure and incentives it has put in place to withstand the scramble for hires. This situation can lead to employees contemplating leaving or staying which could ultimately impact productivity and engagement (Ahmad et al., 2020). Various factors affect employee loyalty, such as servant leadership, organisational support and empowerment (Fitriyana et al., 2023).

The human resources field operates in a knowledge-based environment in which employees' skills, talents and knowledge are considered essential for organisational sustainability (Amos et al., 2017; Nel et al., 2021). To gain a competitive edge, companies must focus on enhancing the knowledge, skills and attitudes of their employees through training, a process that ultimately improves

organisational performance and competitiveness (Ramdhani et al., 2017). Training can reduce turnover intentions (TIs) and increase employee commitment. When employees feel committed to the organisation, they are less likely to leave, a rapport that fosters a strong bond between commitment and retention (Sitzmann & Weinhardt, 2018). The success of any organisation not only depends on hiring the right people for the right job but also on attracting and retaining employees through meaningful training and development activities (Siddiqui & Sahar, 2019). Employee retention is seen as a successful investment within different organisations because of the high expense of recruiting new employees (Alzayed & Murshid, 2017).

When employees lack opportunities for career advancement, they may develop a negative outlook towards their organisation, potentially leading them to consider leaving. The provision of a myriad of appropriate training and development opportunities can help increase employee commitment to the organisation, which, in turn, indirectly influences employee retention (Dhanpat et al., 2018). If, for example, significant sectors such as mining in South Africa are to stay relevant, take advantage of the opportunities that still remain and contribute to adjacent sectors, they need to implement systems and processes that will help drive future growth. One of the critical ways they can do this is through skills development (Masuku, 2023). The mining industry is an important part of the South African economy. As of 2023, the industry contributed around 202.1 billion South African rand to the country's gross domestic product (GDP) and employed a total of 475 561 people (Statista Research Department, 2024). Furthermore, companies such as those in mining that endeavour to proactively drive skills development often see the following: (1) improved health and safety – employees are likely to work more safely, (2) better productivity and loyalty – more productivity because of employees feeling valued, thus, contributing to creating a loyal and dedicated workforce and (3) stronger social licence to operate thus, boosting company's social licence to operate among people whose buy-in is critical and to limit social and economic tensions (Masuku, 2023). Human capital development (HCD) is an essential factor not only in the growth and success of any organisation (Rawashdeh et al., 2022) but also a panacea towards job security and comfort to the so-called 'born-before-technology' (BBTs) cohort amid the inexorable rampant adaptation to the digital era and Fourth Industrial Revolution (4IR), especially in the mining sector.

Purpose and problem statement

Employee turnover can be detrimental to an organisation, both financially and culturally. When employees leave, they take valuable knowledge with them, affecting productivity and morale (Al-Suraihi et al., 2021). A plethora of existing research studies have investigated the reasons behind the turnover decision. For example, De Silva et al. (2007),

Hughes and Rog (2008), Pepe (2010), and Ronald and Parbudyal (2010) opined that there are three key factors that influence these pervasive intentions to leave the organisation, namely employees' perception of organisational support, organisational commitment (OC) and organisational complexity. Albeit other researchers maintained that lack of job satisfaction is the major cause of employee turnover (Barnabas & Amah, 2018), there are a myriad of factors that can be employed to establish and measure the causes of turnover. For example, Dockel (2003) bemoans the fact that employers battle to retain their treasured high-technology workforce because of a general dearth of skilled employees and robust recruitment tactics by others in the high-technology arena. With the growth in technological innovations and globalisation, employees have continued to acquire additional skills that have made them more sought after by employers. This has increased employees' quest for better pay, improved working conditions and defined career growth paths. The resultant effect of all these is employee turnover (Barnabas & Amah, 2018). This technological change taking place around us has an impact on the workplace, including in the mining sector (Braham, 2018) where digitising and automation have become the norm. Firstly, it is for this reason we chose this article to explore the effect of HCD on staff retention and, secondly, examine the intervening role of job satisfaction, commitment and loyalty on the correlation between HCD and staff retention as depicted in Figure 1.

In addition to the above three factors, other aspects such as job engagement (Saks, 2006) and job satisfaction (Slocum & Hellriegel, 2007) are seen to affect the employees' intentions to leave the organisation albeit engagement is not part of the unit of interest and analysis for this article. This study adds to the discourse by investigating the influence HCD could potentially have on employee retention. The study further empirically explores the mediating effects that job satisfaction, commitment and loyalty have on employee retention or TI, particularly within the mining industry.

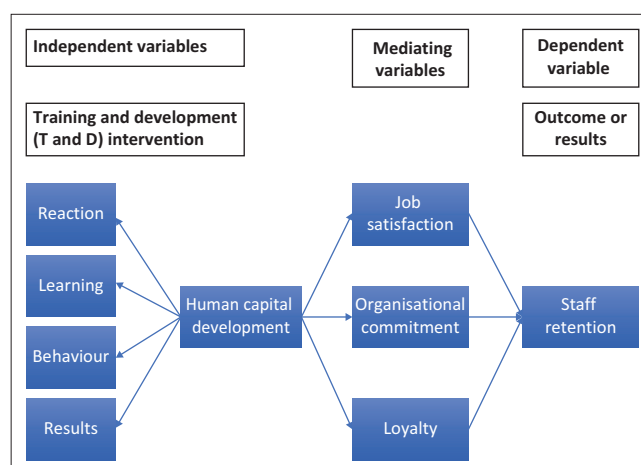


FIGURE 1: Conceptual framework of the study.

Literature review

The concepts in this article provide context and rationale for research.

Staff retention/turnover intention

The TI is defined as a behavioural intention that emerges from different factors such as policies applied within an organisation, labour market characteristics and employee perceptions (Gaertner & Nollen, 1992). The reasons behind the turnover decision have been investigated in the reviewed literature. For example, Hughes and Rog (2008), Pepe (2010), Ronald et al. (2010) and De Silva et al. (2007) identified three key factors that influence employees' intentions to leave the organisation, namely, their perception of organisational support, OC and organisational complexity. In his study, Saks (2006) added job engagement and Slocum and Hellriegel included job satisfaction (Slocum & Hellriegel, 2007). This article further introduces HCD as a mediator – an essential factor in the growth and success of any organisation (Rawashdeh et al., 2022) – as one of the critical mediators that can enhance and thwart employees' propensity to leave the organisation.

Human capital development and staff retention/turnover intention

Human capital development is a term used to describe a range of internal activities that aim to enhance the knowledge, skills and competence of individuals. It involves investing in people through education, training, health and empowerment (Al-Tit et al., 2022; Erokhin et al., 2023). From an economic angle, expenditures on HCD are costs that command a price in the labour market (Alnachef & Alhajar, 2017; Fallon & Rice, 2015); thus, organisations invest in employees when they perceive a return on their expenditure (Fitong et al., 2022; Hideg et al., 2018). This practice involves implementing a series of organised human resource (HR) practices to promote employees' knowledge and capabilities within an organisation. In their study, Dietz and Zwick (2022) find that training increases employee retention by up to 14% for all training measures and a stronger retention effect of 18% for credible training, depending on the estimation method. Training visibility and portability reduce retention by up to 2.5% in general and by 4% for credible training, respectively. For instance, Masuku (2023) posits that the mining industry is not unaware of the importance of skills development. Learnerships, bursaries, portable skills, internships and adult education programmes are all deeply embedded in the way the industry works. Edirisinghe and Manuel (2019, p. 35) opined that HCD is crucial for every production-conscious organisation because it always surpasses artificial intelligence. This article's approach towards HCD is premised on Kirkpatrick's (1976) model. It is a model globally recognised for assessing training efficacy and consists of four levels, namely: (1) reaction, (2) learning, (3) behaviour and (4) results (Nawaz et al., 2023). The model's appropriateness for this study is

premiered on the fact that it is constructed by means of an effective and constructive technique to examine learning outcomes among individuals and organisational structures regarding training.

Organisations' survival and renewal now depend on the role of HCD in creating economic growth and wealth (Gulaliyev et al., 2019). Siddiqui and Sahar (2019, p. 24) contend that HCD is the acquisition of knowledge and skills that allow employees to perform their current and future tasks efficiently, effectively and confidently. A sustainable feat that can be accomplished through a deliberate strategy to invest in human capital with the intention to retain it for future gains. Therefore, as employees are exposed and presented with development opportunities, there is a likelihood that their intention to leave will be drastically reduced. Hence the following hypothesis:

H1: There is a significant relationship between training HCD and staff retention/turnover intention.

Job satisfaction and staff retention

Job satisfaction is defined in various ways by researchers, for instance, Hoppock (1935) describes it as any mixture of psychological, physiological and environmental situations that prompt a person to honestly state that they are happy with a job. There are many factors associated with job satisfaction that organisations should pay attention to, among them, employee social welfare and wellbeing. When these two factors are considered, employees tend to be satisfied with their work environment, a situation that results in a high rate of retention and production and financial spinoffs for an organisation (Adil et al., 2020). The Employee Job Satisfaction and Engagement Report from the Society for Human Resource Management (Lee et al., 2016) notes four benefits of ensuring employees' job satisfaction, namely: (1) increased profits, (2) higher productivity, (3) lower turnover and (4) loyalty. Therefore, it is evident that the higher the job satisfaction, the lesser the TI. As a result, the following hypotheses were formulated:

H2: There is a significant relationship between job satisfaction and staff retention/turnover intention.

Organisational commitment and staff retention/turnover intention

Organisational commitment refers to employees' attitude towards the organisation, including their attachment, identity and loyalty. This attachment is demonstrated through the individuals' decisions to remain with the organisation, their wholehearted embracing of the company's goals and making a positive contribution to its progress and overall attitude (Febrian et al., 2023). Similarly, De Nobile and Bilgin (2022) suggest that OC is a result of employees' dedication to the organisation. Gopinath et al. (2020) further define OC as the willingness of employees to expend effort on behalf of the company and their acceptance of organisational goals from a motivational standpoint.

Numerous documentary evidence attest to the relationship between OC and staff retention/turnover intentions. For example, Van Dyk's (2011) studies showed that a strong positive relationship existed between the OC variables and the retention factor variables. Similarly, Satardien et al. (2019) report that significant correlations were found between OC and TI. It can therefore, be safely inferred that perceived organisational commitment assumes a significant role in reducing TIs, it is necessary to ensure that organisations prioritise strategies that can reinforce and strengthen the commitment to retain treasured talent. The above information signifies and warrants the development of the following hypothesis:

H3: There is a significant relationship between perceived organisational commitment and staff retention/turnover intention.

Loyalty and staff retention/turnover intention

Employee loyalty refers to the sense of dependence and attachment employees feel towards their employer or supervisor (Cachón-Rodríguez et al., 2022). From employees' perspective, loyalty is an important factor that may not always result in financial benefits but can compensate for any shortcomings they encounter. A positive and sustainable HR management approach improves employee relations, retention, loyalty and organisational performance (Cachón-Rodríguez et al., 2022).

Loyalty can have a positive impact by preventing employees' negative reactions. For example, loyal employees are likely to be patient and speak positively about their organisation (Meschke, 2021), especially if opportunities for HCD are entrenched and accessible within their organisation. Conversely, a lack of loyalty as a consequence of few developmental opportunities with limiting promotional prospects may lead to negative reactions, such as neglecting duties or quitting. Therefore, organisations need to recognise and value employee loyalty. This practice can be achieved through developing a learning culture, reward and incentive programmes among others, tailored to the company's specific circumstances. The recognition of loyalty creates a positive work environment that can improve organisational performance (Jansson & Wiklund, 2019). The loyalty of employees boosts productivity, reduces turnover, improves the company's image and lowers absenteeism (Jayasekara & Weeraman, 2021; Tanwa et al., 2023), hence, this hypothesis:

H4: There is a significant relationship between loyalty and staff retention.

Mediating effects that job satisfaction has on human capital development and staff retention

Documented literature continues to indicate that HCD has a critical mediating role regarding myriad organisational behaviours intended to among others improve employee job satisfaction, loyalty and retention, rather than the mere impact of sustainability actions (Cachón-Rodríguez et al., 2022).

Increasing job satisfaction in the workforce will surely affect their performance (Nguyen et al., 2020). Job satisfaction consists of both intrinsic and extrinsic reactions (Riyanto et al., 2021). When a person's needs (i.e. physiological, safety, social needs, prestige and/or self-actualisation) are met, that individual feels content with the job (Boudabbous & Boudabbous, 2020). **Well-trained employees** are satisfied employees who tend to work harder, are more productive and can help combat high turnover rates. Ongoing training has proven to be a factor that contributes greatly to levels of employee satisfaction and productivity (LearningZen, 2017; Naong, 2014; Schmidt, 2007).

Satisfied employees tend to have a positive attitude towards their work environment and a relaxed perception of their job that they often share with their colleagues. This optimistic approach can enhance the employees' performance and contribute to the overall success of the organisation (Khalaf et al., 2019). The quality of in-service education influences the satisfaction and performance of educators directly or indirectly (Funmilola et al., 2013). Although Berhanu (2023) reported a positive relationship between staff development, educator job satisfaction and performance, he, however, found that job satisfaction partially mediates the relationship between academic development and employee job performance, hence this hypothesis:

H5: There is a mediating effect that job satisfaction has on HCD and staff retention/turnover intention.

Mediating effects that commitment has on human capital development and staff retention/turnover intention

Employees who are committed to the organisation are motivated to contribute their best efforts towards the progress of the company. They are more likely to remain with organisations that share their values and goals (Febrian et al., 2023). According to Gan and Yusof (2019), retaining employees is currently considered one of the most difficult activities for organisations. When an organisation promotes a relationship network among its employees, it helps them feel more connected and committed to the organisation, which, in turn, enhances employee commitment (Cachón-Rodríguez et al., 2022). Emerald Publishing Limited (2021) opined that company leaders can increase commitment levels by introducing appropriate HCD programmes and applying measures to make staff perceptions of the development opportunities positive. This is confirmed by the findings of Hosen et al. (2024) that a significant correlation between training and development and work performance and career development among hotel personnel is mediated by organisational commitment. Similarly, studies have shown that organisational commitment can mediate TI (Suifan et al., 2017; Xia et al., 2022). After the needs of employees in the organisation are met, they will have a sense of attachment to the organisation, so their willingness to continue to maintain membership in the organisation will

be stronger, and the generation of turnover behaviour will be reduced (Xia et al., 2022). Human capital development intervention continues to enhance and concretise employees' organisational loyalty and commitment and thwart their intentions to leave, hence, this hypothesis:

H6: There is a mediating effect that commitment has on HCD and staff retention/turnover intention.

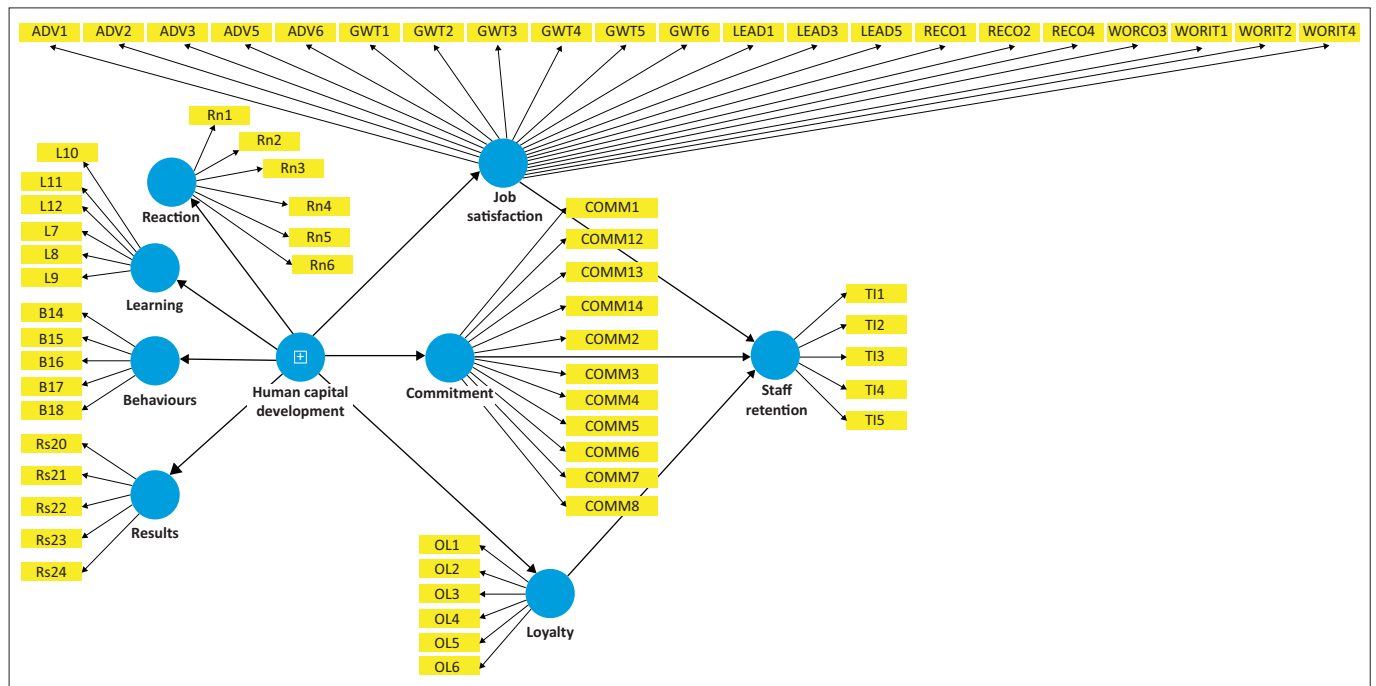
Mediating effects that loyalty has on human capital development and staff retention

The concept of human capital involves viewing employees as valuable assets of a company. As intangible assets cannot be reflected in financial statements, they are not recognised as such. However, companies see such assets as an investment and aim to benefit from their presence (Febrian et al., 2023). Employee loyalty refers to an individual's willingness to maintain a relationship with an organisation, even if it requires sacrificing personal gain and expecting nothing in return (Febrian et al., 2023). Cachón-Rodríguez et al. (2022) and Mampuru et al. (2024) suggest that to increase loyalty and reduce employee turnover, it is important to cultivate a work environment based on shared relationships as well as an entrenched capacitation development culture. This milieu helps to improve employees' perceptions of the organisation's actions and behavioural policies and ultimately enhances their desires to stay and be associated with the organisation.

H7: There is a mediating effect that loyalty has on HCD and staff retention/turnover intention.

Theoretical context

Although a plethora of theories underscoring the significance of striking a balance between employee and organisational contributions and inducements are documented, in this article, the authors chose the seminal work by March and Simon (1958) on the Theory of Organisational Equilibrium as well as Vroom's (1964) Expectancy Theory to anchor this study. Vroom's Expectancy Theory is postulated under a 'valence-instrumentality expectancy framework'. When an employee starts work at an organisation, he or she has certain expectations of his or her role. Equally, management requires an individual to fulfil a certain role within the organisation and expects that person to be able and willing to complete the designated job and work the required hours. These expectations are known formally as a psychological contract (Whittington-Jones, 2005, p. 24). The emphasis is on a relationship comprising effort, performance and retention ($E - P - R$), that is, by improving the relationship between effort and performance through training, employee motivation is likely to improve with TIs reduced reciprocally. Equally, March and Simon's (1958) model – behaviour results from a stimulus that connected decisions about employee turnover to work satisfaction, thus, implying that people who are satisfied with their existing positions would be more committed and inclined to want to stay with their companies (Desai, 2018; Muda et al., 2022). March and Simon (1958) hypothesise that employees will continue to be members of an organisation if it provides financial incentives that are equal to or greater than their contributions (Irabor & Okolie, 2019). As a result, both the organisation and the individual try to ensure compatibility between the inducements and the



ADV, job satisfaction construct item measurement termed advancement; B, items measuring job satisfaction construct behaviour; GWT, items measuring job satisfaction construct growth; LEAD, items measuring job satisfaction construct supervisor support; RECO, items measuring job satisfaction construct recognition; RS, items measuring the job satisfaction construct results; WORKCO, items measuring job satisfaction construct working conditions; WORKIT, items measuring job satisfaction construct work itself; L, items measuring the job satisfaction construct learning; Rn, items measuring the job satisfaction construct reaction; COMM, items measuring the construct commitment; TI, turnover intentions i.e. items used to measure staff retention; OL, organisational loyalty i.e. items used to measure the construct, loyalty.

FIGURE 2: Conceptual context and structural model analysis.

extent of the labour the individual is willing to expend. Perceived desirability and perceived ease of quitting the company are the two aspects that influence an employee's loyalty (Basu, 2021) and a strong deliberate HCD culture can intercede with such intentions.

Conceptual context and development of hypotheses

The creation of hypotheses was led by the structural relationship depicted in the conceptual framework in Figure 2.

Methodology

Research design

This research espoused a positivist approach to test existing theories (Creswell & Creswell, 2018). A quantitative method was used, and the research embraced a descriptive and correlative approach (Apuke, 2017; Bryman, 2016) to investigate constructs and the relationships between them.

Population and sampling

The target population consisted of 210 employees from South Africa's mining sector, who had enrolled and completed an HR degree programme during the last five years at a university of technology. A census was used to collect data about every individual in the population. A census is a method in which an investigator collects data related to the problem under investigation by covering every item of the population or universe (Creswell & Creswell, 2018).

Instrumentation and data collection

An online survey with established questions was used to collect data from the respondents. This instrument consisted of a demographic section and attitudinal factors. Job satisfaction was measured based on the Minnesota Satisfaction Questionnaire (MSQ) tool by Aloisio et al. (2021), retention based on the Turnover Intention Questionnaire by Brohi et al. (2018), commitment based on the Organisational Commitment Questionnaire by Lee et al. (2001), loyalty based on the Organisational Loyalty Scale by Bester et al. (2015) and Chikazhe et al. (2021) and HCD instrument adapted from Effectiveness of Training Questionnaire by Naong (2016) modelled from Kirkpatrick's (1976) framework. A pilot study was conducted with 40 respondents through which the questionnaire's initial reliability was determined (Creswell & Creswell, 2018).

Data analysis

The analysis of structural equation modelling (SEM) was conducted using SMART PLS 4. Structural equation modelling provides a flexible and comprehensive methodology for representing, estimating and testing a theoretical model with the objective of explaining as much

variance as possible (Ramlall, 2017). The SEM methodology includes the confirmatory factor analysis (CFA) and the structural model analysis. The CFA assesses the validity of the measurements while the structural model analysis tests the research hypotheses specified in the conceptual model.

Ethical consideration

The study adhered to all relevant ethical research standards and received approval from the Faculty Research and Innovation Committee of the Faculty of Management, Central University of Technology Free State with reference number FMSEC15719. Informed consent was obtained from respondents – the assurance of voluntary participation, anonymity, confidentiality and the fact that their responses would be used solely for research purposes formed part of the covering letter.

Results

Descriptive statistics

Participants in the sample consisted of 49% males and 51% females. A total of 99% of the respondents possessed a post-school/matric qualification and only 1% had below grade 12. The majority (38.1%) of the respondents had between 1 and 5 years of work experience within the same company, while 12.9% of respondents had 21 or more years of experience within the same company. The largest group (21.9%) were between the ages of 46 to 50, falling into the *maintenance career stage*, characterised by holding a job, maintaining societal roles and possibly planning for retirement. Within the age range between 36 and 40 years, 19.5% of respondents belonged to the *establishment phase* of their career stage, that is, looking for permanent stable jobs. The smallest group (4.3%) were aged 56 years and above that comprises the *maintenance* and *decline phases* that involve planning for and looking forward to retirement (Bergh et al., 2018). A total of 79% of respondents had received training during the past 18 months – 44.8% received it once, 36.7% received it twice and 18.6% had attended more than three training sessions in the same period.

Structural equation modelling analysis

The SEM methodology involves conducting CFA to test the validity of measurements and structural model analysis (Gallagher & Brown, 2013) to test research hypotheses specified in conceptual models (see Figure 2 above). Details of both these processes are presented below.

Confirmatory factor analysis

Confirmatory factor analysis is essential in SEM to ensure measurement accuracy. It examines relationships between indicators and their corresponding latent variables, as well as between latent variables. The model's validity is assessed through factors such as reliability, convergent validity and

discriminant validity (Brown, 2015). The various aspects of confirmatory factor analyses are discussed here.

Goodness of fit and validity of the measurement model

Reliability of the scales

According to Taherdoost (2016), reliability assesses how reliable and consistent the results are when a phenomenon is measured. In SEM research, Cronbach's alpha and composite reliability (CR) are typically used to evaluate the reliability of the scale (Field, 2013). Cronbach's alpha and CR require a cut-off value of 0.7, while 0.6 is occasionally acceptable (Malhotra et al., 2017). The results presented in Table 1 demonstrate that Cronbach's alpha, which spans from 0.900 to 0.988, indicates that all eight (08) latent variables taken into consideration in the model have generally good internal consistency. Additional evidence for these Cronbach's alpha results is provided by CR coefficients that lie in the range of 0.988 to 0.912. Thus, these findings confirm the reliability of all the constructs used in this study.

Convergent validity

Hosany et al. (2015) and Malhotra et al. (2017) defined convergent validity as the extent to which a group of items measure a single underlying concept in the same direction. In this study, the factor loadings were found to be equal to or greater than 0.5, indicating that the items used in the research are measuring the same concept. Moreover, the estimates of average variance extracted (AVEs) were all above 0.5, which suggests that the items are consistent and trustworthy measures of the latent variable as portrayed in Table 1. The final model's items are reliable and valid measurements of their respective constructs, as supported by the statistical results presented in Table 1.

Statistical evidence of discriminant validity

Discriminant validity refers to how a latent variable or construct is different from other latent variables (Taherdoost, 2016). According to Fornell and Larcker (1981), the square root of the AVE should be greater than the inter-construct correlation coefficients. To assess discriminant validity, all pair-wise correlations between constructs are compared with the square root of the AVE of each construct (Malhotra et al., 2017). Correlations that are higher than the square root of AVE indicate poor discriminant validity between the involved constructs.

The results in Table 2 below indicate a high correlation between constructs, raising discriminant validity concerns. For instance, the behaviour to HCD ratio (0.955) exceeds 0.9.

Structural model analysis

After obtaining good model fit results, the significance of each relationship in the conceptual framework and the variance obtained (R^2) was estimated. The standardised

regression coefficients and the significance of relationships are presented in Figure 3. Beta values indicate the strength and direction of the relationship, whereas p -values estimate the significance (for p -values below 0.05) (Pallant, 2010). Job satisfaction has a negative ($\beta = -0.215$), but small ($f^2 \leq 0.14$) significant ($p < 0.05$) effect on staff retention. Commitment has a negative ($\beta = -0.273$) but small ($f^2 \leq 0.14$) and significant ($p < 0.05$) effect on staff retention. Therefore, hypotheses H2 and H3 are accepted. Likewise, HCD has a positive ($\beta = 0.11$), but small ($f^2 \leq 0.14$) and non-significant effect ($p > 0.05$) on staff retention. Loyalty has a negative ($\beta = -0.168$), small ($f^2 \leq 0.14$) and non-significant ($p > 0.05$) effect on staff retention. Therefore, hypotheses H1 and H4 are rejected.

On the mediation effects analysis, 2 out of 3 hypotheses of mediation were reported to be full and, thus, were supported and accepted. It was indicated in Figure 3 that commitment mediates the effect of HCD on staff retention because the indirect effects of commitment are significant ($p < 0.05$). However, the direct effect is non-significant ($p > 0.05$). Similarly, job satisfaction mediates the effect of HCD on staff retention because the indirect effects of job satisfaction are significant ($p < 0.05$). However, the direct effect is non-significant ($p > 0.05$). Ideally, the direct effect ought to be significant. This finding warrants further investigation. Hence, hypotheses H6 and H7 are accepted, respectively. Loyalty was found not to be mediating the relationship between human capital management and staff retention ($p > 0.05$). Therefore, this hypothesis 7 is rejected.

The driving force behind developing the empirical model was to give a satisfactory account of computing that integrates observable interplay among variables of interest under study; overall, the empirical model explains 88.6% ($R^2 = 0.886$) of the variance of behaviour and 17.8% ($R^2 = 0.178$) of commitment. Moreover, the model accounts for 33% ($R^2 = 0.33$) of job satisfaction. The results further report that the model explains 91.3% ($R^2 = 0.913$) of learning. Additionally, the model explains 21.7% ($R^2 = 0.217$) of loyalty and 78.9% ($R^2 = 0.789$) of reaction. Finally, the model accounts for 77.7% ($R^2 = 0.777$) of results and 27.2% ($R^2 = 0.272$) of the variance of staff retention.

Discussions and implications

This article advocated for an entrenched HCD culture that could mediate and enhance job satisfaction, prospects for organisational growth and profitability and drastically reduce prospects for employees' intentions to leave, notwithstanding the fact that the results proved the opposite, with job satisfaction mediating HCD. From the empirical findings of this study, job satisfaction and commitment remain the most critical predictors of TIs. These results concurred with those of numerous studies (Irahor & Okolie, 2019; Libres, 2020). Alzayed and Murshid (2017) reported that employees' perceptions of commitment and job satisfaction are the two main factors that negatively affect the

TABLE 1: Statistical evidence of reliability and convergent validity.

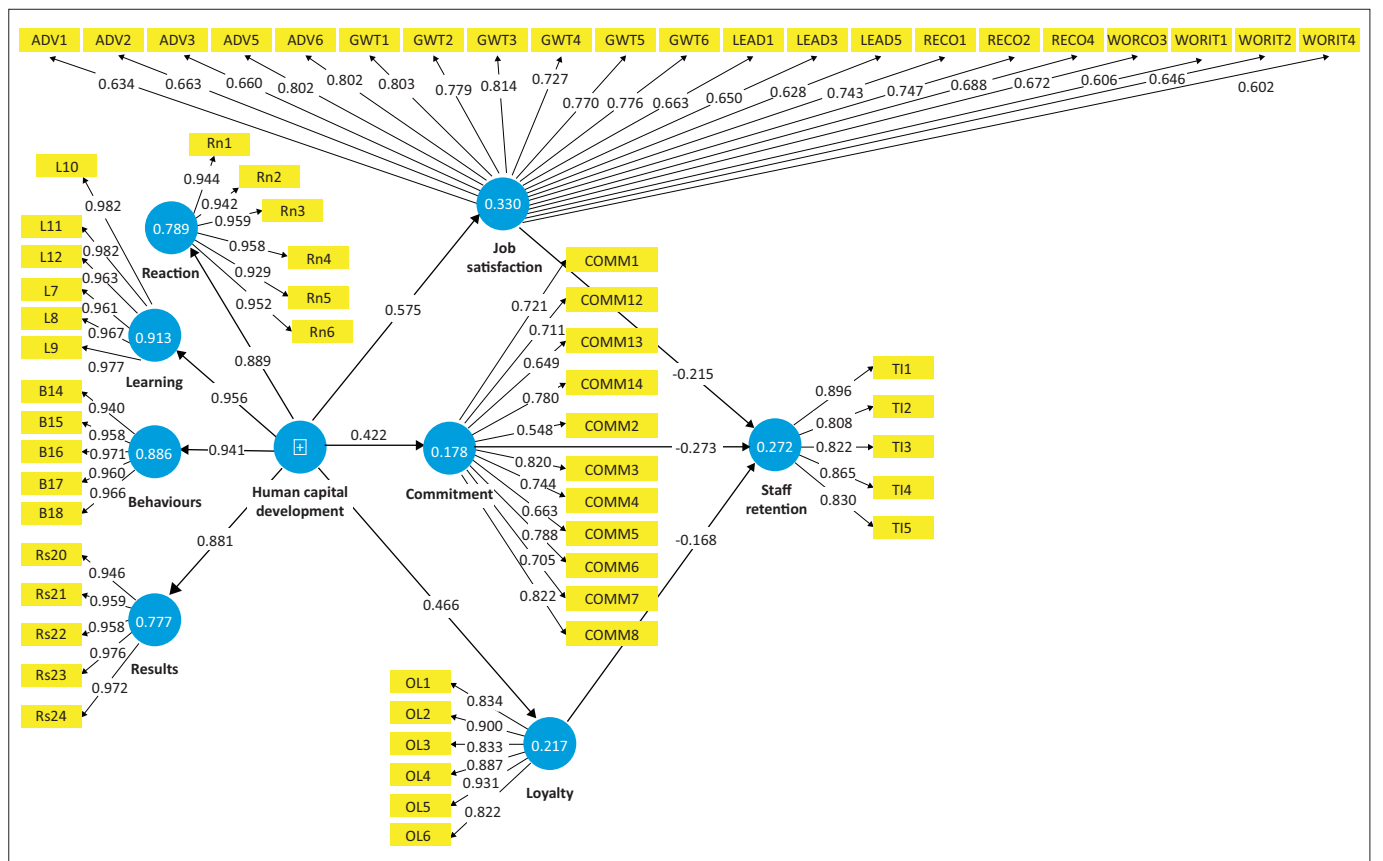
Constructs	Items	Factor loadings	<i>p</i>	Cronbach's alpha	Composite reliability	AVE	Final number of items and initials
Behaviour	B14	0.940	*	0.978	0.978	0.920	5 (6)
	B15	0.958	*	-	-	-	-
	B16	0.971	*	-	-	-	-
	B17	0.960	*	-	-	-	-
	B18	0.966	*	-	-	-	-
Commitment	COMM1	0.721	*	0.910	0.926	0.529	11 (15)
	COMM2	0.548	*	-	-	-	-
	COMM3	0.820	*	-	-	-	-
	COMM4	0.744	*	-	-	-	-
	COMM5	0.663	*	-	-	-	-
	COMM6	0.788	*	-	-	-	-
	COMM7	0.705	*	-	-	-	-
	COMM8	0.822	*	-	-	-	-
	COMM12	0.711	*	-	-	-	-
	COMM13	0.649	*	-	-	-	-
COMM14	0.780	*	-	-	-	-	
Job satisfaction	ADV1	0.634	*	0.951	0.956	0.505	21 (32)
	ADV2	0.663	*	-	-	-	-
	ADV3	0.660	*	-	-	-	-
	ADV5	0.802	*	-	-	-	-
	ADV6	0.802	*	-	-	-	-
	GWT1	0.803	*	-	-	-	-
	GWT2	0.779	*	-	-	-	-
	GWT3	0.814	*	-	-	-	-
	GWT4	0.727	*	-	-	-	-
	GWT5	0.770	*	-	-	-	-
	GWT6	0.776	*	-	-	-	-
	LEAD1	0.633	*	-	-	-	-
	LEAD3	0.650	*	-	-	-	-
	LEAD5	0.628	*	-	-	-	-
	RECO1	0.743	*	-	-	-	-
	RECO2	0.747	*	-	-	-	-
	RECO4	0.688	*	-	-	-	-
	WORCO3	0.672	*	-	-	-	-
	WORKIT1	0.606	*	-	-	-	-
	WORKIT2	0.646	*	-	-	-	-
WORKIT4	0.602	*	-	-	-	-	
Learning	L7	0.961	*	0.988	0.988	0.942	6 (6)
	L8	0.967	*	-	-	-	-
	L9	0.977	*	-	-	-	-
	L10	0.982	*	-	-	-	-
	L11	0.973	*	-	-	-	-
	L12	0.963	*	-	-	-	-
Loyalty	OL1	0.834	*	0.935	0.942	0.755	6 (6)
	OL2	0.900	*	-	-	-	-
	OL3	0.833	*	-	-	-	-
	OL4	0.887	*	-	-	-	-
	OL5	0.931	*	-	-	-	-
	OL6	0.822	*	-	-	-	-
Reaction	RN1	0.944	*	0.977	0.977	0.898	6 (6)
	RN2	0.942	*	-	-	-	-
	RN3	0.959	*	-	-	-	-
	RN4	0.958	*	-	-	-	-
	RN5	0.929	*	-	-	-	-
	RN6	0.952	*	-	-	-	-
Results	Rs20	0.946	*	0.980	0.981	0.926	5 (5)
	Rs21	0.959	*	-	-	-	-
	Rs22	0.958	*	-	-	-	-
	Rs23	0.976	*	-	-	-	-
	Rs24	0.972	*	-	-	-	-
Staff retention	TI1	0.896	*	0.900	0.912	0.714	5 (5)
	TI2	0.808	*	-	-	-	-
	TI3	0.822	*	-	-	-	-
	TI4	0.865	*	-	-	-	-
	TI5	0.830	*	-	-	-	-

B, items measuring job satisfaction construct behaviour; COMM, items measuring the construct commitment; ADV, job satisfaction construct item measurement termed advancement; GWT, items measuring job satisfaction construct growth; LEAD, items measuring job satisfaction construct supervisor support; RECO, items measuring job satisfaction construct recognition; WORKCO, items measuring job satisfaction construct working conditions; WORKIT, items measuring job satisfaction construct work itself; L, items measuring the job satisfaction construct learning; OL, organisational loyalty i.e. items used to measure the construct, loyalty; RN, items measuring the job satisfaction construct reaction; TI, turnover intentions i.e. items used to measure staff retention.

*, Indicates the significance of the factor at a 99% confidence interval.

TABLE 2: Fornell and Larker assessment of discriminant validity.

Variables	Behaviour	Commitment	Human capital development	Job satisfaction	Learning	Loyalty	Reaction	Results	Staff retention
Behaviour	0.959	-	-	-	-	-	-	-	-
Commitment	0.448	0.727	-	-	-	-	-	-	-
Human capital development	0.941	0.422	0.881	-	-	-	-	-	-
Job satisfaction	0.555	0.601	0.575	0.711	-	-	-	-	-
Learning	0.885	0.409	0.956	0.537	0.970	-	-	-	-
Loyalty	0.448	0.649	0.466	0.692	0.469	0.869	-	-	-
Reaction	0.756	0.329	0.889	0.523	0.817	0.383	0.947	-	-
Results	0.818	0.361	0.881	0.493	0.780	0.403	0.670	0.962	-
Staff retention	-0.222	-0.465	-0.207	-0.432	-0.212	-0.443	-0.136	-0.189	0.845



B, items measuring job satisfaction construct behaviour; COMM, items measuring the construct commitment; ADV, job satisfaction construct item measurement termed advancement; GWT, items measuring job satisfaction construct growth; LEAD, items measuring job satisfaction construct supervisor support; RECO, items measuring job satisfaction construct recognition; WORKCO, items measuring job satisfaction construct working conditions; WORKIT, items measuring job satisfaction construct work itself; L, items measuring the job satisfaction construct learning; OL, organisational loyalty i.e. items used to measure to measure the construct, loyalty; Rs, Items measuring the job satisfaction construct Results; RN, items measuring the job satisfaction construct reaction; TI, turnover intentions i.e. items used to measure staff retention.

FIGURE 3: Results of the interplay of human capital development and other selected behavioural variables as panacea towards organisational staff turnover.

employees’ intentions to leave. Similarly, Tett and Meyer (2006) showed that employee satisfaction and OC each contribute independently to the prediction of intention. Furthermore, Desai (2018) asserted that to improve their performance, profitability and retention rates, organisations must prioritise employee satisfaction. The findings were equally in synch with those of Naong (2014) who indicated that there was a significant correlation between job satisfaction and effectiveness of training transfer – that is, those employees who received more training were more motivated than those who received less training or no training at all. The implication thereof means that employees who have high job satisfaction understand the benefits of training and its possibility for improving both their chances

of being retained and their promotional prospects, consequently, subliminally assuring their commitment and loyalty to the organisation.

Management of organisations is alive to the reality brought about by the advent of digitalisation, that is, 4IR, because it persists in exerting immense pressure on the workforce to either ‘swim or sink’, thus, impacting their sense of job security.

Limitations of the study

Despite the contribution to research on staff retention discourse within the workplace, a few limitations were encountered,

which provides scope for further research. Firstly, albeit the findings focused on the mining sector and generalisation is limited to this sector, pertinent indicators can definitively be made. Secondly, the results show a high correlation between constructs, which raises concerns about discriminant validity as the behaviour to HCD ratio (0.955) exceeds 0.9. The HTMT test generates ratios that assess how any two constructs share a common variance, and the ratios are not supposed to exceed 0.9 (Henseler et al., 2015, p. 115). A lack of discriminant validity undermines confidence in results (Farrell, 2010). Further, Creswell and Creswell (2018) caution that while cross-sectional research presents advantages such as affordability and excellent control of measurement processes, its limitations involve the inability to determine causality and the reliance on a single time point for data collection.

Recommendations and managerial implications

Even though the context of this study is mining, its findings can be applied to any sector of the South African economy and globally in which staff turnover remains a grave concern for sustained organisational growth and profitability. The findings of this study indicated that HCD has a predictive effect on staff retention, as mediated by the interplay of all identified behavioural variables dissected. This fact implies that HR practitioners, through the provision of skills and knowledge enhancement programmes, can be empowered to diagnose retention ills timeously and apply this study's framework of integrated HCD as a catalyst towards their workforce retention strategies. This study gives managers prior knowledge and enables them to base their decisions on this study's findings, which indicate that for an organisation commitment supersedes loyalty when aiming at retaining future staff. Managers will be equipped with tested knowledge that a satisfied and competent staff is an investment in the organisation's future. This understanding is important for staff retention and the organisation's future productivity, especially in uncertain times. It is vital therefore for management and HR practitioners to make an effort to comprehend the needs and expectations of their employees, which will assist organisations adopt appropriate strategies to improve employee performance and reduce turnover. Finally, this study contributes to the discourse around human resource management and the relationship among a myriad of organisational behaviours and training outcomes.

Recommendations for future research

This study revealed very interesting results, especially the interplay between variables and their role and impact on the TIs of the workforce, requiring further study for various generational groups, relatively educated with an appetite for advancement. Significantly, although documentary evidence continues to reveal statistically significant relationships between various organisational behaviours and training, for example, data from Gil et al. (2023) indicated a positive and

statistically significant relationship between a supportive organisational climate and training process outcomes; Castro's (2008) results indicate that there was a strong positive correlation (0.813 at the 0.01 level) between organisational climate and job satisfaction and Naong (2014) reported a significant correlation between job satisfaction and effectiveness of training transfer. This study shows that HCD has a positive but small and non-significant effect on staff retention with numerous studies indicating to the contrary, for example, Malek et al. (2018) in their study in the hotel industry found that as manager training increases, employee TIs decrease. Similarly, Kesen (2016) in their studies in different service firms observed that innovation and training in multiple functions variables are having a significant power for decreasing turnover. Otoo's (2022) findings also indicated that the association between HRD and employee TIs was mediated by employee engagement. To sum it up, Guchait and Cho (2010) showed that HRD practices significantly and positively impact employee's intention to stay in their current position.

It is, therefore, necessary that a further study with a bigger sample size is undertaken to explore this finding further. Albeit training improves organisational performance through workforce development (Nik Nazli & Sheikh Khairudin, 2018), studies, however, also suggest that only 10% of learning transfers to job performance (Holton & Baldwin, 2000). Further, a concern about discriminant validity was reported from the data regarding the closeness of the correlation between HCD (0.966) and learning (0.900). This study, therefore, recommends using either HTMT as a criteria or a statistical test to assess discriminant validity (Kline, 2018; Sarstedt et al., 2022). A deeper understanding and greater context can be gained by using either qualitative or mixed-method designs to study these constructs under study.

Recommendations and conclusion

From the literature, it is evident that HCD programmes play a critical role in enhancing job satisfaction, loyalty and retention among employees. By prioritising tailored training initiatives, organisations can create a positive work environment and elevate their overall reputation (Mampuru et al., 2024). The study's findings indicated that implementing HCD has a positive impact on staff retention rates via job satisfaction. It was further found that job satisfaction and commitment also have a considerable effect on staff retention despite the acknowledgement that the effects of HCD on retention are positive but small and not significant. Furthermore, the study revealed and recognised the significance of loyalty in the HR discourse because it changes the complexity of the role that loyalty plays as a dependent variable. This study emphasises the importance of HR practitioners and management's deliberate intervention measures, specifically an entrenched HRD culture, geared towards advancing staff commitment as a criterion over loyalty when retaining productive staff.

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Authors' contributions

X.M.R. performed the literature review and data collection for the first draft of the article. M.N.N. as the main supervisor worked on the overall objectives of the study and refined the literature section, the results and the conclusion.

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