Role of remuneration and career development on employee turnover in mines surrounding the Eastern Bushveld Igneous Complex

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Declaration

I, Sammy Sekofola Makola, student number 2398705, declare that this research report, titled **"The role of remuneration and career development on employee turnover in mines surrounding the Eastern Bushveld Igneous Complex"**, submitted to the Faculty of Commerce, Law and Management at the University of the Witwatersrand is my original work.

This report:

- has not been submitted before, in whole or in part, for any degree or examination at any other academic institution.
- is the result of my own investigation, except where otherwise acknowledged in the text.
- complies with ethical research standards as approved by the Wits Business School Ethics Committee.

I further confirm that all sources used have been accurately cited and referenced and I take full responsibility for the content and integrity of the work.

Signed: Sammy Sekofola Makola Date: 29 January 2025

Acknowledgements

I extend my heartfelt gratitude to my family for their unwavering support throughout this journey:

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- To my children, Kgoshi, Kwena and Leago: Thank you for your understanding and sacrifices, which allowed me the time and focus needed to complete this research.
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List of Abbreviations and Acronyms

BIC	Bushveld Igneous Complex
ECM	Eastern Chrome Mines
GDP	Gross Domestic Product
HR	Human Resource
HRM	Human Resource Management
IDP	Individual Development Plans
PGM	Platinum Group Metals
POPI	Protection of Personal Information
SA	South Africa
SAMI	South African Mining Industry
SPSS	Statistical Package for the Social Sciences
TMM	Trackless mobile machine
TRP	Two Rivers Platinum
UK	United Kingdom
USA	United States of America

List of Definitions

Operational Term	Definition
Bushveld Igneous Complex	This is a large layered igneous intrusion formed two billion years ago within the earth's crust. It has been tilted and eroded and its outcrops (mainly platinum group metals (PGMs), chrome and vanadium) are found primarily on the Western, Eastern and Northern limbs of South Africa (Mineral Council South Africa, 2023).
Employee turnover (also referred to herein as turnover)	A percentage of employees who leave an organisation during a specified period (Forbes Advisor, 2022). Employee turnover can further be divided into voluntary, where employees leave the organisation at their own will, and involuntary, which entails employment termination by the employer (Egan et al., 2004; Forbes Advisor, 2022).
Employee turnover intent (also referred to herein as turnover intention)	An intention by an employee to quit their jobs or leave their employer (Jha, 2009). This intention is most often followed by actual turnover behaviour (Jha, 2009).
Critical or scarce skills	Occupations critical to a business's success and whose skills are scarce in an industry (Mining Qualifications Authority, 2021). In the context of this study, these are grouped as trackless mobile machine (TMM) operators, artisans, miners, supervisors and middle management.
Remuneration (also referred to herein as compensation)	A remuneration package in this context relates to salaries, incentives and employee benefits that form part of rewards paid or given to employees in return for providing a service to an organisation (Shaw et al., 1998).

Abstract

This research investigated the impact of remuneration and career development on employee turnover in mining operations in the Eastern Bushveld Igneous Complex (BIC), a critical hub for South Africa's mineral resources. The study highlighted the high turnover rates among employees with critical skills, which pose risks to operational stability and profitability. It examined how dissatisfaction with remuneration and limited career development opportunities adversely influence employee turnover intent.

Using a descriptive quantitative research design, the study surveyed employees with critical skills and human resource practitioners from selected mining operations in the Eastern BIC. Results showed that more than half of respondents had considered leaving their jobs within the past year. Career development emerged as the most significant factor influencing turnover intent, followed by dissatisfaction with remuneration.

The findings revealed that although employees value competitive basic salaries, performance-linked incentives significantly affect retention. Similarly, opportunities for professional growth and structured career development paths are critical for retaining talent. The study underscores the importance of fostering supportive leadership and enhancing organisational culture to address turnover effectively.

Recommendations include developing robust incentive schemes, providing targeted career development programmes and enhancing leadership practices to improve employee satisfaction and retention. This research provides actionable insights for mining companies to mitigate turnover risks and sustain operational success in the Eastern BIC. Future research should explore these dynamics across broader mining regions and job categories to generalise findings and refine retention strategies.

Keywords: Career development, critical skills, Eastern Bushveld Igneous Complex, employee turnover, employee turnover intent, remuneration.

Chapter 1: Introduction

1.1 Statement of Purpose

This research investigated the role of remuneration and career development in the rising employee turnover rate in the Eastern limb of the Bushveld Igneous Complex (BIC) (also referred to as the region). It provides recommendations to mining companies on implementation measures to arrest this phenomenon.

1.2 Mining Industry Background

South Africa (SA) is known for its rich endowment of mineral resources, including gold, chromium, platinum group metals[1] (PGMs), iron ore, copper, manganese and other valuable minerals. Figure 1 shows that SA accounts for 90% of PGM global reserves, followed by Russia at 6.4% and Zimbabwe at 1.7%; the remaining percentage is held by Canada and the United States of America (USA) (GlobalData, 2023).

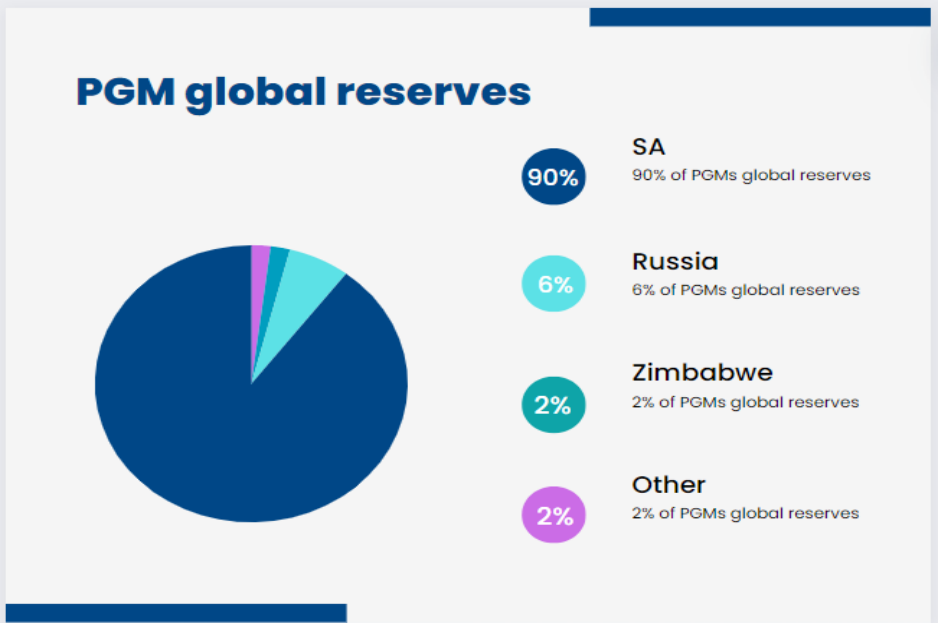

*Figure 1: PGM Global Reserves (GlobalData, 2023)*Over 80% of the world's known PGM resources are in SA's BIC (Mineral Council South Africa, 2023).

[1] Also known as platinum group minerals.

Over 80% of the world's known PGM resources are in SA's BIC (Mineral Council South Africa, 2023). SA also boasts 72% of the world's chromite (referred to hereafter as chrome) reserves (van der Walt, 2016) and was the largest chrome producer in 2022 (Pistilli, 2023).

The BIC is found primarily on SA's Western, Eastern and Northern limbs, as indicated in Figure 2 (Mineral Council South Africa, 2023). The Western limb spans from the Amandebult operation in Thabazimbi to Eland near Brits; the Eastern limb stretches from the Lebowa operation in Limpopo to south of the Booysendal operation near Mashishing; and the Northern limb is concentrated around the Mogalakwena and Dwalkop operations next to Mokopone. The Eastern limb is subdivided between the northern cluster of mines – starting from Samancor Mines next to Modikwa Mine to Bokone Mine (Lebowa) – and the southern cluster[2] of mines – beginning from Two Rivers to Booysendal mines, including Glencore Eastern Chrome Mines (ECM) and Dwars River Chrome Mines.

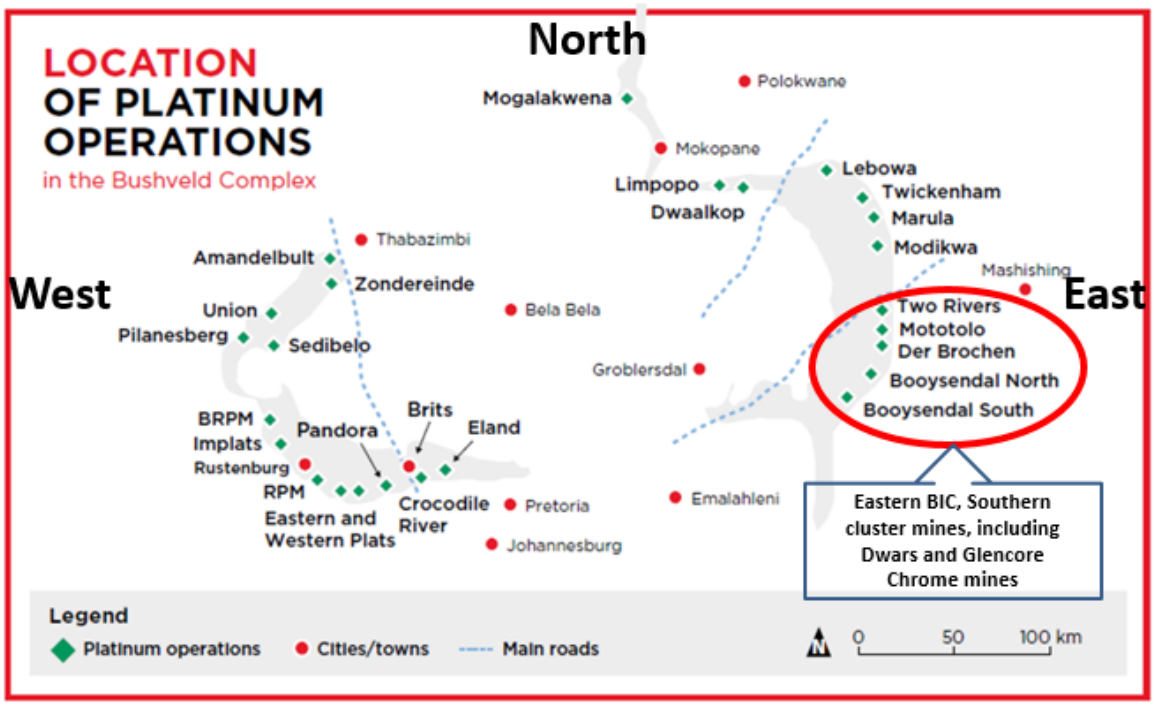

Figure 2: Bushveld Igneous Complex (Mineral Council South Africa, 2023)

The mining industry is integral to the South African economy, with a R493.8 billion contribution to the country's gross domestic product (GDP) in 2022 (Cowling, 2023). The South African Mining Industry (SAMI) employed 475 561 people in 2022, with the PGM sector

[2] This study focuses on the southern cluster of mines in the Eastern BIC.

being the largest employer of all mineral commodities at 172 159 employees (Cowling, 2023). The mining sector in the Eastern BIC is crucial to the success of local communities by reducing the high unemployment rate (31.9% in 3rd quarter of 2023) with which SA continues to grapple (StatsSA, 2023).

Pockets of success have been noted in the communities surrounding the Eastern BIC, with the mining sector being one of the main contributors. Such success stories include a higher average salary of R31 200 in the region versus the national average of R26 086 and a high literacy rate of approximately 95% – partly due to the mining companies' continued investment in education (Hetherington et al., 2023; Trading Economics, 2023).

1.3 Global and South African Turnover Perspective

Interest in mining education is declining globally, as shown in Figure 3 below, and 70% of Canadian young talent say they would not work in the mining industry (McKinsey & Company, 2023). A 2022 survey found that 40% of Australian mining industry employees plan to resign from their jobs within a year (Mining People International, 2022).

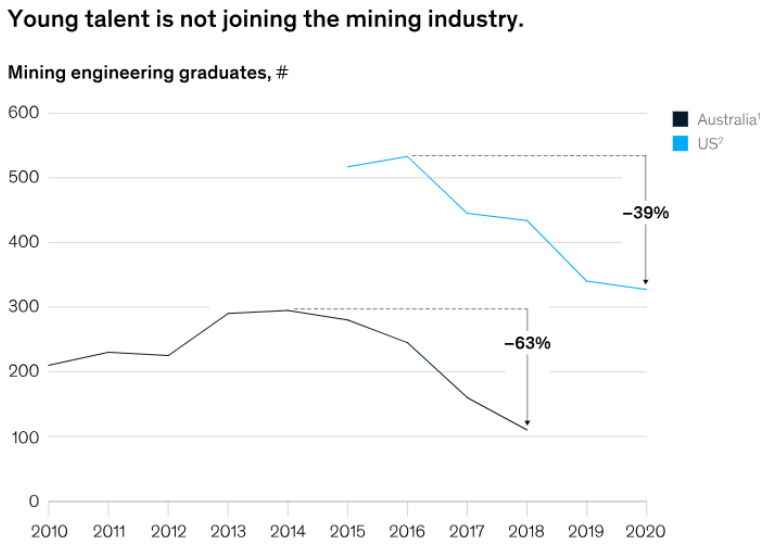

Figure 3: Mining Engineering Graduates Trend in the USA and Australia (McKinsey & Company, 2023)

71% of global mining leaders agree that a shortage of critical skills has contributed to the difficulty in delivering on production targets, and 86% of mining executives say talent acquisition and retention have become a serious challenge (McKinsey & Company, 2023).

The labour turnover rate in SA was 16.6% in 2022, with 64% of the turnover emanating from critical skills. The primary reasons were career progression, remuneration and employment conditions (Richter, 2023). The United Kingdom (UK) reported a lower labour turnover rate of 13.8% (Cendex, 2023). Van der Walt et al. (2016) confirm that this high turnover rate in SA also affects the PGM mining industry as the sector loses highly skilled and knowledgeable employees.

1.4 Research Problem

The mines in the Eastern BIC are grappling with an alarming rise in employee turnover, with skilled employees hopping from one mine to another. Employee turnover harms organisational effectiveness and profitability due to loss of critical skills, disruptions to operational stability and increased operational costs (Al Mamun & Hasan, 2017; Suarez, 2021). The financial impact includes direct and indirect costs related to the recruitment and onboarding processes, training and loss of human and social capital-related benefits (Al Mamun & Hasan, 2017).

High turnover negatively affects employee morale due to increased workload and stress levels when the departed labour is being replaced (Al-Suraihi et al., 2021; Suarez, 2021). These compounding effects result in an elevated risk of safety incidents and diminished profits for the organisation, thus threatening business continuity and community livelihoods (Beach et al., 2003; Ton & Huckman, 2008).

Existing literature suggests that various factors influence employee turnover, including remuneration, career development opportunities, work overload, work-life balance, leadership and organisational culture (Bryant & Allen, 2013; Ogony & Majola, 2018). Although there is generally ample research on employee turnover, there is limited research on how remuneration and career development opportunities influence employee turnover intent and turnover behaviour at mines in the Eastern BIC. The findings of this research will add to the current body of knowledge on employee turnover, with specific geographical insights focusing on career development and remuneration in the Eastern BIC. Research has shown that turnover intent precedes actual turnover behaviour (Chintamanee, 2023; Jha, 2009).

1.5 Research Objectives

To investigate how career development and remuneration interrelate with employee turnover intent and turnover behaviour in selected mines in the Eastern BIC and recommend implementation measures to arrest the turnover behaviour. When turnover intent is well understood in the selected mining operations, measures can be implemented to prevent the turnover intent from transitioning into turnover behaviour.

1.6 Justification of the Study

Although ample research exists globally and in SA about employee turnover, the study on Eastern BIC adds specific geographical insights to the body of research on this topic. The findings of this research are expected to provide specific regional insights for mining companies to intervene to address employee turnover challenges and foster a more sustainable and resilient mining sector in the region.

A reduced employee turnover rate improves workplace stability and turnover-related costs and curbs the loss of institutional knowledge and critical skills (Batt & Colvin, 2011). Stabilising employee turnover by first understanding turnover intent is crucial to promoting overall sectoral productivity and profitability, translating into sustainable employment and improved social well-being as local communities rely on the mining sector for their livelihoods.

1.7 Delimitations of the Study

The study acknowledges that external factors, such as changes in macroeconomic conditions, government policies, industry regulations and family dynamics, may influence turnover; however, these are outside the scope of this study.

The study focuses on employees with critical skills in the southern cluster of mines of the Eastern BIC. It also focuses on voluntary turnover without discounting the impact of involuntary turnover.

1.8 Assumptions

The following assumptions were made about the study:

- Research respondents were literate and could understand and answer questions related to the topic.

- Research respondents would answer the survey questions accurately and honestly.
- External factors, such as macroeconomic challenges, regulatory changes and industry-wide trends, do not disproportionately influence turnover differently from one mine to another in the region.

1.9 Chapter Overview and Study Summary

Chapter 1 focuses on high employee turnover in the Eastern Limb of the (BIC), highlighting the importance of the mining industry in South Africa. It identifies the problem of rising turnover rates, outlines research objectives, and sets the stage for exploring factors like remuneration and career development in subsequent chapters.

In the subsequent chapters, the study delves into a literature review related to employee turnover and turnover intent in Chapter 2. The research methodology is detailed in Chapter 3, while Chapters 4 and 5 present and analyse the research results. The study concludes with recommendations and conclusions in Chapter 6, followed by a reference list at the end of the research report.

Chapter 2: Literature Review

2.1 Introduction

This literature review provides an overview of existing research on employee turnover and related factors, focusing on how career development and remuneration influence turnover (intent and actual behaviour). This chapter synthesises insights from previous studies, theoretical frameworks and empirical findings and draws a hypothesis that connects the literature and employee turnover.

2.2 Broad Factors Influencing Employee Turnover

Employee turnover is complex, and its determinants span many variables (Bryant & Allen, 2013). Factors that influence turnover include demographics, organisational leadership, culture, work overload and stress, work-life balance, job satisfaction and human resource management (HRM) practices, such as remuneration packages, employee benefits and career progression opportunities (Bryant & Allen, 2013; Chen, 2020; Ogony & Majola, 2018).

Negative leadership behaviour influences turnover as it breeds a culture of fear and hostility in the workplace, leading to job dissatisfaction, increased stress levels, work overload, work-life imbalance and a high turnover rate (Brouwers & Paltu, 2020; Karasek, 1990; Keashly & Jagatic, 2000). These factors breed an unfavourable workplace and result in the development of employee turnover intent, which eventually transitions into turnover behaviour (Chintamanee, 2023; Jha, 2009).

Although many factors influence an organisation's ability to retain critical skills, remuneration and career advancement are the main contributors to high turnover in many industries (Bryant & Allen, 2013; Ogony & Majola, 2018; Ogora & Muturi, 2015). Employee turnover intent forms an integral part of this study as turnover intent often leads to actual turnover behaviour (Chintamanee, 2023; Jha, 2009).

2.3 Role of Career Development on Employee Turnover

Career development entails various forms of support organisations provide to enable their employees to realise growth in their professions or careers (Merchant Jr, 2010). It is intended to keep employees growing vertically or laterally within the organisation (Gartner, 2023; Merchant Jr, 2010). These support mechanisms include coaching, mentoring, skills

development, networking and facilitating an employee's career development (Gartner, 2023; Merchant Jr, 2010).

Therefore, organisations prioritising employee training and development opportunities will likely improve employee morale and retention rates and attract critical skills to the company (Amos et al., 2008; Liu et al., 2006). Employees exposed to training and career development opportunities are likely to stay committed to the organisation, thus reducing the risk of turnover intent (Amos et al., 2008).

Merchant Jr. (2010) further asserts that organisations must actively ensure employees have updated career development plans and support them in achieving their career goals. Front-line managers in the mining sector play a crucial role in motivating and supporting employees to advance their careers (Hadebe et al., 2023). Leaders and organisations that develop high-quality skills and career development opportunities trump their competitors in attracting and retaining scarce and critical skills (Thomas et al., 2018).

2.4 Relationship Between Remuneration Packages and Employee Turnover

A remuneration package in this context refers to salaries, incentives and employee benefits that form part of rewards paid or given to employees in return for providing a service to an organisation (Shaw et al., 1998). Higher remuneration packages are known as solid determinants of job satisfaction, resulting in higher productivity, improved employee morale and motivation and lower turnover rates (Dobbs, 2001; Labov, 1997). Employees assign varying significance to the monetary component of compensation and other employee benefits (de la Torre-Ruiz et al., 2019; Williams et al., 2008).

Studies reveal that employees with higher compensation satisfaction believe their organisation cares about their well-being and values their contributions (Miceli & Lane, 1990; Williams et al., 2008). Employees with a higher compensation satisfaction level will consequently reciprocate with organisational commitment, leading to higher productivity and lower turnover intention (Miceli & Lane, 1990; Williams et al., 2008). Companies whose remuneration packages include benefits, such as higher retirement benefits and medical coverage, generally enjoy lower turnover than their competitors (Sutton, 1985).

Compensation alone will not curb turnover intent or behaviour as this is a complex matter influenced by various personal, economic and organisational factors (Bryant & Allen, 2013).

2.5 Theoretical Framework

This subsection explores the efficiency wage theory, the social exchange theory, and Herzberg's two-factor theory to understand the relationship between remuneration, career development and turnover. The efficiency wage theory's labour turnover model explains that organisations with a relatively higher remuneration package will have a lower turnover rate than peers with lower salaries (Katz, 1986). Without ruling out the possibility, Katz (1986) asserts that employees are unlikely to resign from a job that pays relatively higher than the market offering rate.

The social exchange theory corroborates several studies and asserts that employees will express a positive attitude, loyalty and commitment to an organisation that is perceived to support their needs, value their contribution and care about their well-being (Settoon et al., 1996). Employees reciprocate perceived organisational support with commitment and discretionary effort beyond what is contractually required from the employee (Settoon et al., 1996). Employees who perceive employers who offer career advancement opportunities and competitive pay structures as caring for their personal well-being and livelihoods consequently reciprocate with organisational commitment, resulting in lower turnover intentions (Miceli & Lane, 1990; Ogony & Majola, 2018; Williams et al., 2008).

Frederick Herzberg's two-factor theory asserts that job satisfaction depends on two issues (Figure 4): hygiene and motivating factors (Alshmemri et al., 2017; Herzberg, 1968; Mudor, 2011). Hygiene factors, such as salary, supervision and working conditions, are extrinsic to the job and help avoid job dissatisfaction (Alshmemri et al., 2017; Herzberg, 1968; Mudor, 2011). Motivating factors, including job advancement and growth opportunities, affect employees' attitudes towards their work; the combination of these factors affects job satisfaction and, consequently, employee turnover (Holston-Okae & Mushi, 2018).

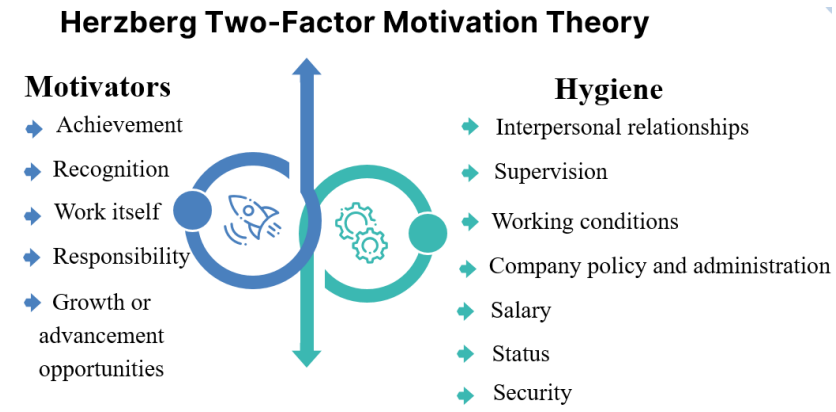

Figure 4: Herzberg Two-Factor Theory (Herzberg, 1968)

2.6 Conceptual Framework

Figure 5 suggests that remuneration packages, which include a basic salary, incentives, employee benefits (Shaw et al., 1998), and career development, are independent variables that influence employee turnover.

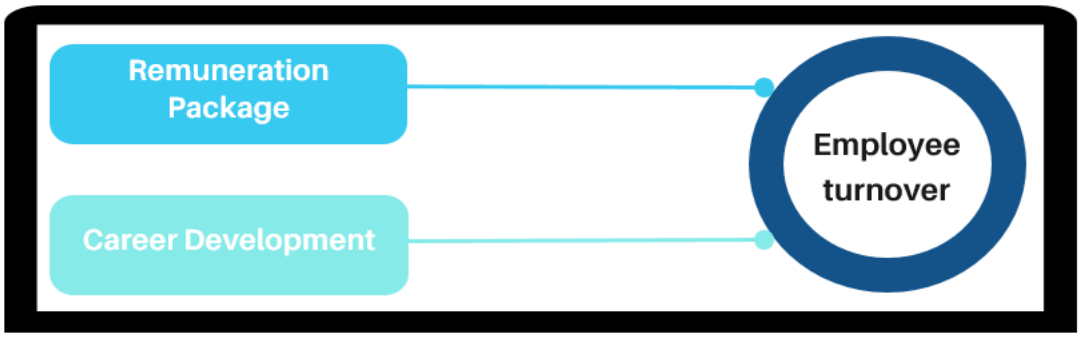

Figure 5: Conceptual Framework

Two hypotheses were generated from the conceptual framework and literature as stipulated below.

Remuneration:

Hypothesis 1: There is a relationship between remuneration and employee turnover (Dobbs, 2001; Labov, 1997; Miceli & Lane, 1990; Williams et al., 2008).

Competitive remuneration packages will be associated with reduced turnover intent, and inadequate compensation will lead to increased turnover behaviour (Dobbs, 2001; Labov, 1997; Miceli & Lane, 1990; Williams et al., 2008)

Career development:

- **Hypothesis 2:** There is a relationship between career development and employee turnover (Amos et al., 2008; Liu et al., 2006; Thomas et al., 2018).

Employees with access to career development opportunities will exhibit lower turnover intent. Conversely, a lack of career advancement prospects will result in higher turnover behaviour (Amos et al., 2008; Liu et al., 2006; Thomas et al., 2018).

2.7 Chapter Overview

Chapter 2 delves into employee turnover intent and its negative impact on organisational effectiveness and profitability, including skill loss and increased costs. It identifies key turnover factors like leadership behaviour, organisational culture, career development, and remuneration. The chapter emphasises the importance of career advancement and compensation satisfaction in reducing turnover intentions. It discusses theoretical frameworks such as efficiency wage theory, social exchange theory, and Herzberg's two-factor theory and presents a conceptual framework with hypotheses on the relationship between remuneration, career development, and employee turnover.

Chapter 3: Research Methodology

3.1 Introduction

This chapter outlines the methodology for studying the relationship between career development, remuneration, and employee turnover in the Eastern BIC mining sector. It describes the use of a descriptive quantitative research design and a structured survey distributed to HR practitioners and employees with critical skills. Data was collected through purposive sampling and an electronic survey capturing demographic information and participants' experiences regarding career development and remuneration's impact on turnover.

3.2 Research Design and Method

This study used a cross-sectional descriptive quantitative research design to collect primary data via a questionnaire (Ogony & Majola, 2018). This design is effective for examining the relationship between independent variables and employee turnover (Ogony & Majola, 2018). While it limits participants' ability to explain nuanced experiences, it offers focused, standardised, and convenient data collection (Meadows, 2003).

3.3 Population and Sampling Method

The study targeted employees with critical or scarce skills (TMM operators, artisans, miners, supervisors, and middle management) in selected mining companies in the Eastern BIC. A purposive sampling method focused on these skilled employees, as research indicates that this group of employees are likely to have experienced turnover intent and have resigned from a previous employer before their current employment (Richter, 2023; van der Walt, 2016). HR practitioners were included in the population because they are well-positioned to provide professional insights on employee turnover based on their experiences.

3.4 Research Instrument

A structured survey questionnaire with a Likert scale format was used, allowing participants to answer self-completion questions via the Qualtrics electronic platform, compatible with smartphones (Ogony & Majola, 2018). This instrument gathers quantitative data on how remuneration influences turnover intent and actual turnover of skilled employees, while also covering demographics (Ogony & Majola, 2018). The research instrument will also cover the participants' demographics, as Chintamanee (2023) found that employee background and

demographics affect turnover intent. Skilled labour was targeted due to their likely experience with turnover (Richter, 2023; van der Walt, 2016). Electronic surveys are convenient and easy to process but may face delayed responses and technological limitations (Ogony & Majola, 2018; Sekaran & Bougie, 2016).

3.5 Data Analysis Strategies and Interpretation

Statistical techniques, including crosstabulations and the chi-square test, examined the relationship between remuneration, career development, and turnover. Survey data on satisfaction levels, turnover intent and historical turnover were analysed using SPSS software. Despite potential challenges with data output, SPSS's ability to handle large datasets with multiple variables and summarise results makes it advantageous for analysis and interpretation (Rahman & Muktadir, 2021).

3.6 Procedure for Data Collection

The following procedure for data collection was followed:

- Develop a survey questionnaire based on identified turnover variables.
- Obtain ethical approval and ensure compliance with data protection regulations.
- Pilot-test the survey questionnaire to ensure validity and reliability.
- Distribute surveys to mining companies in the region, targeting sample groups.
- Launch the survey with clear instructions and monitor responses.
- Close the survey once data collection goals are met.

3.7 Assumptions and Limitations

Assumptions and limitations included the following:

- Difficulty reaching targeted employees might result in a biased sample.
- Technical issues with survey platform accessibility might hinder data collection.
- Participants might provide socially desirable or inaccurate responses, impacting the validity of the data.
- The study focused on the southern cluster of mines in the Eastern BIC in SA. The analysis would not include other mining operations or industries outside this region.
- Time constraints might limit the extent of data collection and analysis.

- The target population was categorised as literate skilled employees due to general prerequisite qualification levels. Research has also indicated that mining employees in the Eastern BIC region have high literacy levels (Hetherington et al., 2023).

3.8 Quality Assurance

After receiving ethics approval, the research instrument was tested with colleagues, HR experts, and the research supervisor to ensure reliability (Ogony & Majola, 2018). The validity of the instrument was measured against the research objectives, focusing on career development, remuneration, and turnover (Ogony & Majola, 2018). Descriptive statistics and quantitative tools such as Levene's test, effect size analysis, independence sample t-test and chi-square tests were used to measure and examine equality, statistical significance in correlations between variables, and confidence level in the data.

These quality assurance steps are crucial for ensuring the trustworthiness and credibility of the study findings, and SPSS was a critical tool used to analyse the collected data (Ogony & Majola, 2018; Sekaran & Bougie, 2016).

3.9 Ethical Considerations

The following aspects were considered for ethical compliance:

- Obtain necessary ethical approvals for conducting research involving human participants.
- Obtain informed consent from participants.
- Ensure confidentiality and anonymity of participants.
- Protect sensitive company-related information.
- Adhere to privacy and data protection regulations such as those prescribed in the Protection of Personal Information (POPI) Act.

3.10 Time Horizon

A one-shot (cross-sectional) time horizon option was sufficient to answer the research questions in the survey (Ogony & Majola, 2018). This was undertaken so that data were gathered at one point over several weeks without needing to redo the analysis at a different time (Sekaran & Bougie, 2016).

3.11 Chapter Overview

Chapter 3 details the research methodology employed to examine the impact of remuneration and career development on employee turnover in the Eastern BIC mining sector. A descriptive quantitative design was used, with data collected through a structured survey targeting skilled employees in key roles and HR practitioners. The study ensured validity and reliability through pilot testing and adherence to ethical guidelines, including informed consent and data protection. This methodology provided a structured framework for investigating the relationship between the independent variables and employee turnover.

Chapter 4: Presentation of Research Results

4.1 Introduction

Chapter 4 analyses the study's findings from the structured questionnaire on remuneration and career development's impact on employee turnover in the southern cluster mines of the Eastern BIC. It starts with demographic insights, followed by descriptive statistics on turnover history, employment satisfaction, and job satisfaction scores. Turnover intent is examined through cross-tabulations and chi-square tests, exploring relationships with demographic factors and satisfaction levels. The chapter concludes with hypothesis testing on the impact of remuneration and career development on turnover intention, leading into the discussion in Chapter 5.

4.2 Demographic Information

The research questionnaire reached 210 respondents, with 205 (98%) consenting to participate. After excluding three individuals outside the geographic limit and 45 whose job categories were outside the study's scope, 157 valid responses were collected from employees in the southern cluster mines of the Eastern BIC.

The demographic distribution graphs in Figure 6 provide a detailed overview of the survey sample across gender, age-range and job categories.

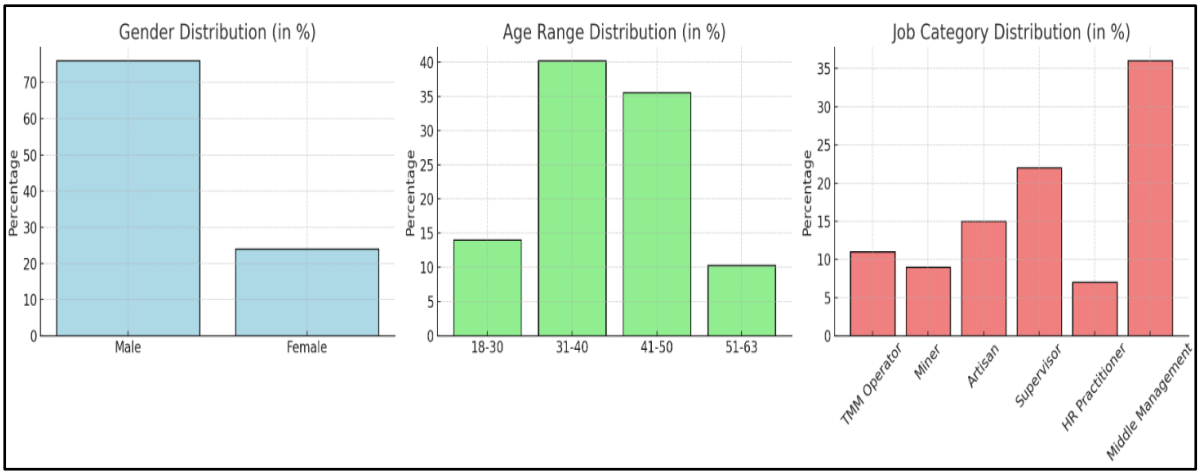

Figure 6: Demographic Distribution

The gender distribution shows a majority of male respondents (76%) and a minority of female respondents (24%), indicating a gender imbalance. The age distribution reveals that most

employees are aged 31–40 (40%) and 41–50 (38%), with fewer in the 18–30 (15%) and 51–63 (11%) age groups, indicating a concentration in the middle age brackets. The job category distribution highlights a strong presence of leadership and critical skilled roles, with middle management (36%), supervisors (22%), and artisans (15%) being the most represented in the sample. In comparison, operational roles like TMM operators (11%), miners (9%), and HR practitioners (7%) are less represented in the sample.

4.3 Descriptive Statistics

4.3.1 Historic Turnover Behaviour

The pie chart in Figure 7 illustrates the respondents' historic turnover behaviour by displaying the percentage of respondents who had resigned from another mining company before joining their current employer. Of the 157 respondents, 45.9% indicated that they had resigned from a previous employer, while 54.1% had not.

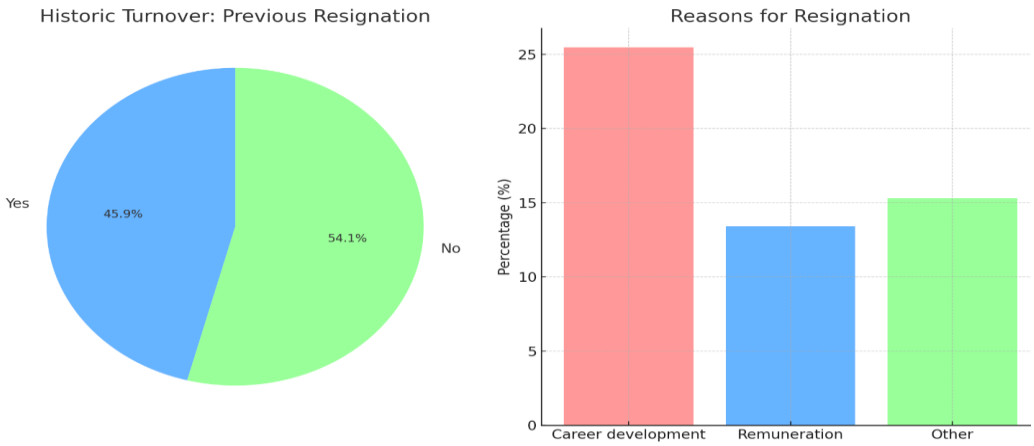

Figure 7: Historic Turnover

The bar chart in Figure 7 summarises the reasons respondents cited for resigning from their previous employers. Of the 72 respondents who answered ‘Yes’ to having resigned from a previous mining company, 40 respondents (25.5%) cited career development as the primary reason for their resignation, 21 respondents (13.4%) cited remuneration and 24 respondents (15.3%) chose ‘Other’ as their reason for resignation.

4.3.2 Overall Satisfaction Scores

The bar graph in Figure 8 shows the mean scores on each satisfaction aspect on a scale of 1 to 5, with 1 indicating extreme dissatisfaction and 5 indicating the highest satisfaction level. The results show that the respondents were most satisfied with their benefits (3.23) and incentives (3.02), followed by basic salary (2.91); they were least satisfied with career development opportunities (2.85).

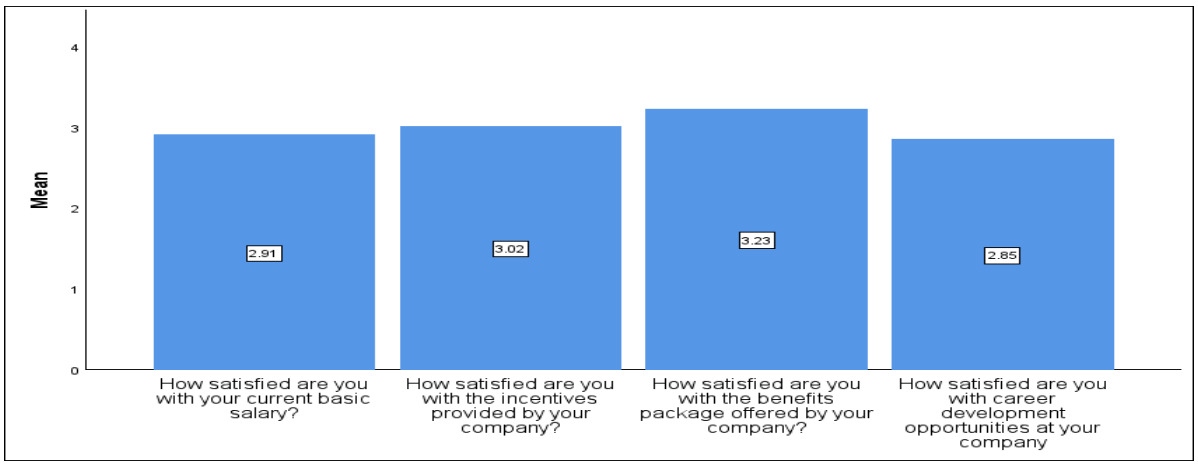

Figure 8: Overall Satisfaction Scores

The overall satisfaction score was calculated by obtaining an average score on the four satisfaction questions in Figure 8. Table 1 highlights a mean score of 3, indicating an average overall level of satisfaction.

Table 1: Descriptive Statistics on Overall Satisfaction

Overall Satisfaction

	N	Minimum	Maximum	Mean	Std. Deviation
Overall satisfaction	157	1.00	5.00	3.0032	1.13510
Valid N (listwise)	157				

Figure 9 below displays the percentage of respondents who considered leaving their jobs within the past year. Of the total sample, 55.41% (n = 87) of respondents indicated that they had considered leaving their current job, while 44.59% (n = 70) reported that they had not.

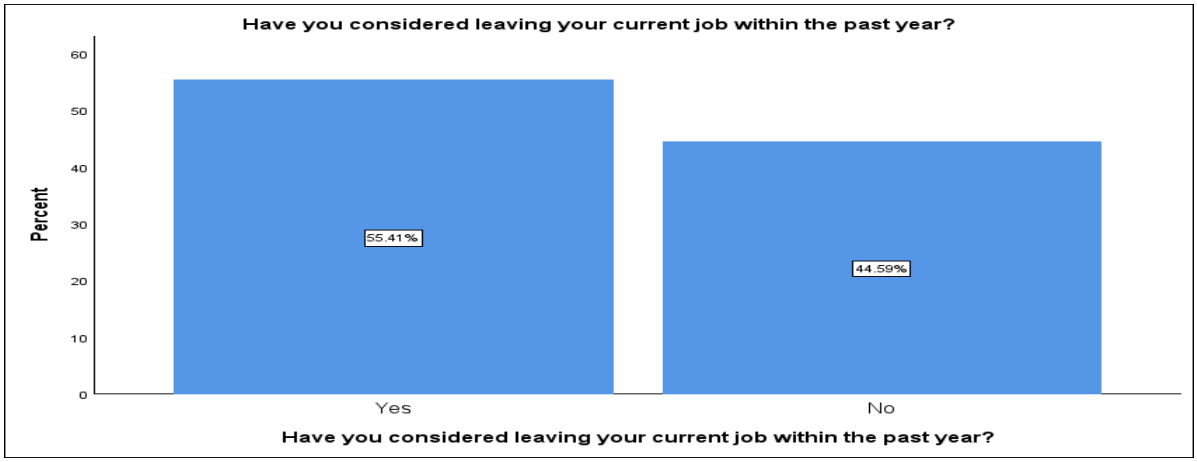

Figure 9: Overall Turnover Intention

Figure 10 illustrates respondents' reasons for their intention to leave their respective companies. The three categories of reasons are dissatisfaction with pay or remuneration, lack of career development and other reasons. The most significant percentage of respondents, 36.46%, cited a lack of career development as the primary reason for considering leaving their company, while 28.1% were dissatisfied with remuneration. The remaining 35.42% cited other reasons.

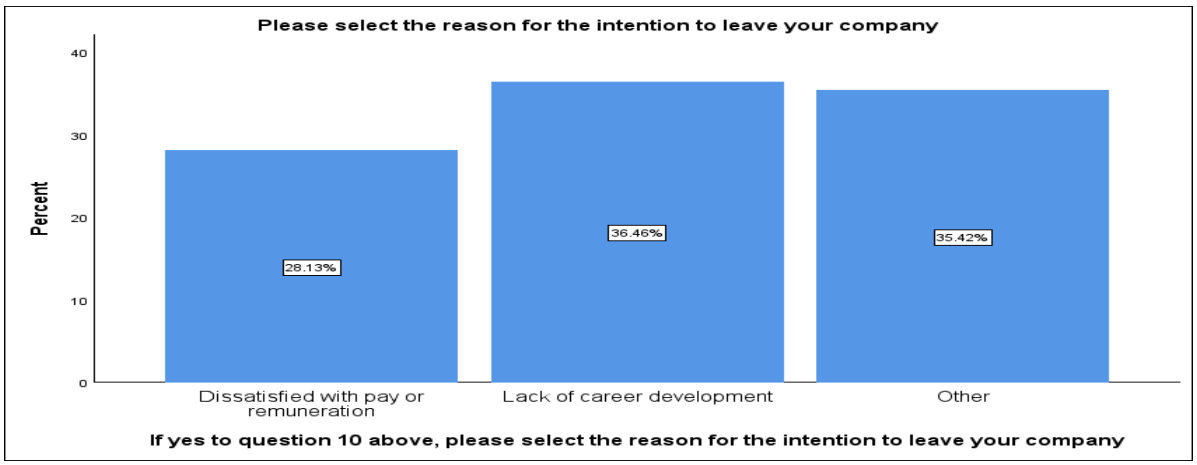

Figure 10: Reason for Turnover Intent

Figure 11 presents the distribution of the main reasons under the 'other' category that respondents gave for their intention to leave their company. The most significant percentage, 34.48%, indicated that dissatisfaction with leadership or supervision was their primary reason. This was followed by organisational culture at 24.14% and work overload or stress at 20.69%. A smaller portion of respondents, 15.52%, identified inadequate work-life balance as their main

reason. In contrast, the least cited reason, at 5.17%, was the intention to withdraw money from a provident or pension fund.

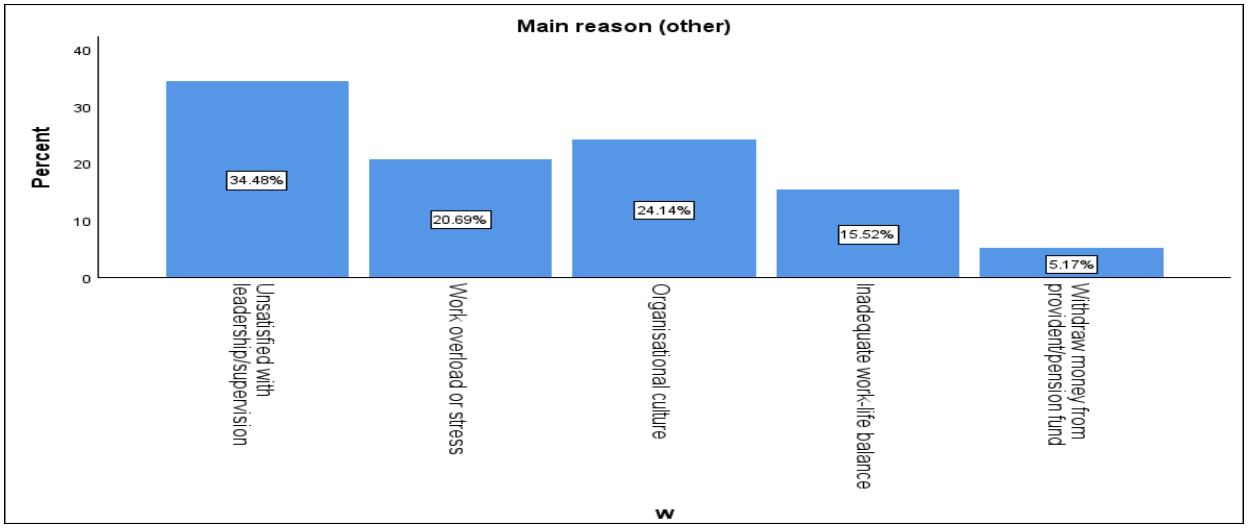

Figure 11: Other Reasons for Turnover Intent

Table 2 below indicates the crosstabulation performed to examine employee responses to 'other' reasons cited for turnover.

Table 2: Crosstabulation on Other Reasons for Turnover

Crosstabulation on Other Reasons for Employee Turnover Consideration

			If you indicated having considered "other" reason for turnover intent in question 11, please select one main reason below.					
			Unsatisfied with leadership/supervision	Work overload or stress	Organisational culture	Inadequate work-life balance	Withdraw money from provident/pension fund	Total
Have you considered leaving your current job within the past year?	Yes	Count	18	11	12	7	2	50
		% within If you answered "other" to question 11, please select one main reason below	90.0%	91.7%	85.7%	77.8%	66.7%	86.2%
	No	Count	2	1	2	2	1	8
		% within If you answered "other" to question 11, please select one main reason below	10.0%	8.3%	14.3%	22.2%	33.3%	13.8%
Total	Count		20	12	14	9	3	58
	% within If you answered "other" to question 11, please select one main reason below		100.0%	100.0%	100.0%	100.0%	100.0%	100.0 %

A chi-square test of independence (Table 3) was conducted to examine the association between 'other' reasons and employee turnover. The results of the Pearson chi-square test, χ^2 (5, N = 58) = 2.047, p =.727, indicated no statistically significant association between 'other' reasons and consideration of an employee leaving their job. Therefore, no further exploration of the crosstabulation was performed.

Table 3: Chi-Square Tests on Other Reasons for Employee Turnover

Chi-Square Tests on Other Reasons for Turnover

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	2.047[a]	4	0.727
Likelihood Ratio	1.814	4	0.770
Linear-by-Linear Association	1.682	1	0.195
N of Valid Cases	58		

a. 6 Cells (60.0%) have expected count less than 5. The minimum expected count is.41.

4.3.3 Turnover Intent and Overall Satisfaction

An independent samples t-test was conducted to compare overall satisfaction scores between employees who have considered leaving their jobs (turnover intent) and those who have not. This analysis determined whether or not overall employee satisfaction scores significantly impact employee turnover intent. Table 4 summarises the group statistics of overall employee satisfaction and turnover intent.

Table 4: Group Statistics for Overall Satisfaction

Group Statistics

Have you considered leaving your current job within the past year?		Number	Mean	Std. Deviation	Std. Error Mean
Overall satisfaction	Yes	87	2.7213	1.05132	0.11271
	No	70	3.3536	1.14485	0.13684

A Levene's test for equality of variances, as tabulated in Table 5, indicates that the variances in overall job satisfaction between employees with and without turnover intent were not significantly different, F (1, 155) = 1.81, p =.18, meaning that the assumption of equal variances was met.

A t-test for equality of means revealed a significant difference in overall job satisfaction between the two groups, assuming equal variances, t (155) = -3.60, p <.001. Employees who have considered leaving their jobs reported significantly lower overall job satisfaction (M = 2.72, SD = 1.05) than those who have not considered leaving (M = 3.35, SD = 1.14).

Table 5: Independent Samples Test

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means							
						Significance				95% Confidence Interval of the Difference	
		F	Sig.	t	df	One-Sided p	Two-Sided p	Mean Difference	Std. Error Difference	Lower	Upper
Overall satisfaction	Equal variances assumed	1.81	0.18	-3.60	155.00	0.00	0.00	-0.63	0.18	-0.98	-0.29
	Equal variances not assumed			-3.57	141.96	0.00	0.00	-0.63	0.18	-0.98	-0.28

The effect sizes for the difference in overall job satisfaction between employees who have considered leaving their jobs and those who have not were computed using three measures, as indicated in Table 6. Cohen's d indicated a large effect, d = -0.578, 95% CI [-0.898, -0.256]. Thus, there is a significant and strong relationship between satisfaction and turnover intent in the sample.

Table 6: Independent Samples Effect Sizes

Independent Samples Effect Sizes

				95% Confidence Interval	
		Standardizer[a]	Point Estimate	Lower	Upper
Overall satisfaction	Cohen's d	1.09394	-0.578	-0.898	-0.256
	Hedges' correction	1.09927	-0.575	-0.894	-0.255
	Glass's delta	1.14485	-0.552	-0.878	-0.223

a. The denominator used in estimating the effect sizes.
Cohen's d uses the pooled standard deviation.
Hedges' correction uses the pooled standard deviation plus a correction factor.
Glass's delta uses the sample standard deviation of the control (i.e., the second) group.

The effect size analysis supports the findings from the independent samples t-test. The results indicate that employees who have considered leaving their jobs report significantly lower overall satisfaction than those who have not. This suggests that turnover intent may be linked to lower satisfaction.

4.3.4 Employee Satisfaction Parameters

Satisfaction with current basic salary

Figure 12 illustrates respondents' satisfaction levels with their current basic salary. The largest group, 24.8%, indicated that they are neither satisfied nor dissatisfied with their salary, reflecting a neutral stance. A close proportion of respondents, 23.6%, are somewhat satisfied with their pay. Regarding dissatisfaction, 19.7% are somewhat dissatisfied, while 19.1% are extremely dissatisfied. A smaller portion of the respondents, 12.7%, expressed extreme satisfaction with their salary. The bar graph in Figure 12 shows a relatively even distribution of satisfaction levels, with a slight tilt toward neutrality or mild dissatisfaction.

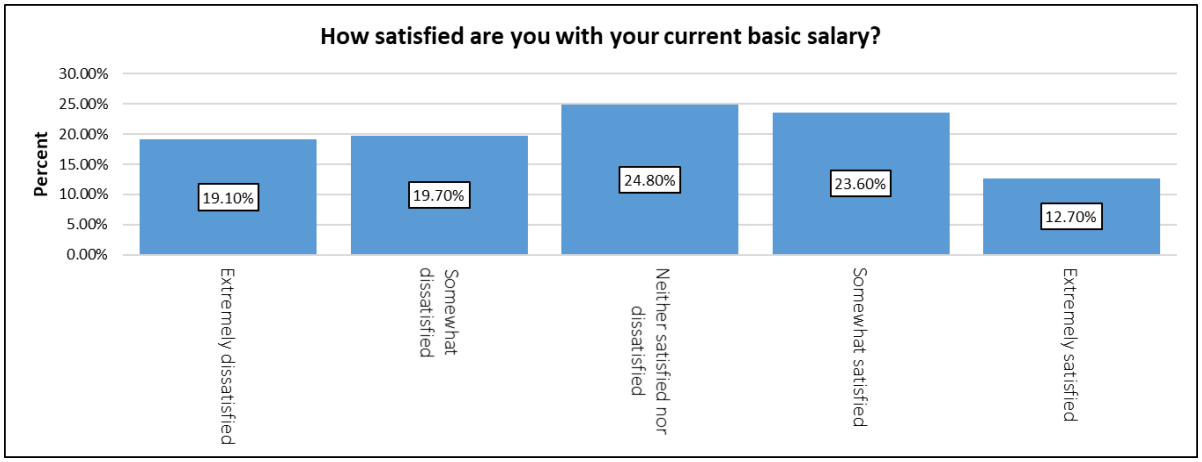

Figure 12: Basic Salary Satisfaction Scores

Satisfaction with incentives

As highlighted in Figure 13, the most significant proportion of respondents, 27.4% (n = 43), reported being somewhat satisfied with the incentives provided by their companies. Meanwhile, 19.7% (n = 31) expressed being extremely dissatisfied, closely followed by 19.1% (n = 30) who were neither satisfied nor dissatisfied. Additionally, 17.8% (n = 28) were somewhat dissatisfied, and 15.9% (n = 25) indicated they were extremely satisfied. The responses indicate a general trend toward moderate satisfaction with incentives, though dissatisfaction is also significant, with more than a third of respondents being somewhat or extremely dissatisfied.

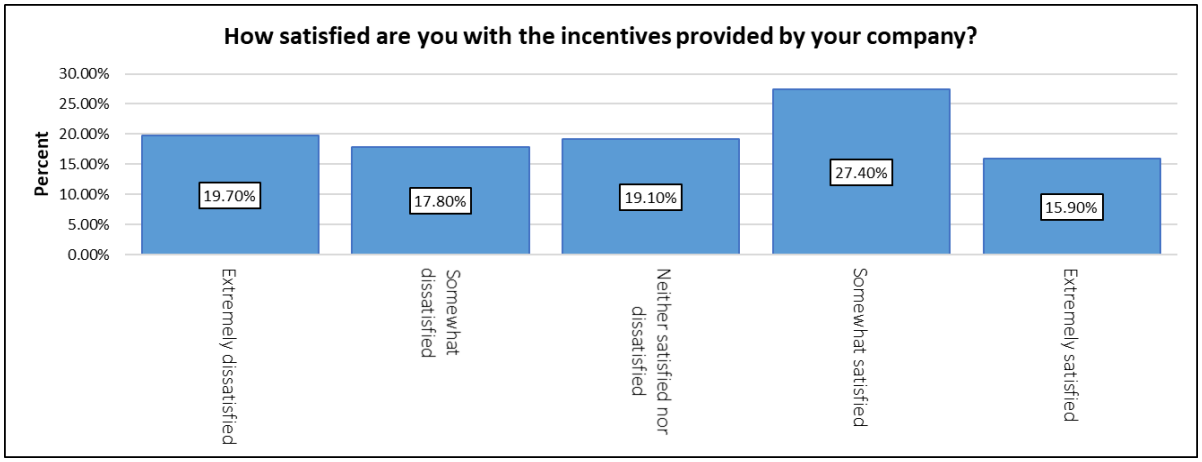

Figure 13: Incentives Satisfaction Scores

Satisfaction with the benefits package

The respondents' satisfaction with the benefits package offered by their company is outlined in Figure 14. The most significant proportion of respondents, 29.9% (n = 47), reported being somewhat satisfied with the benefits package, while 21.0% (n = 33) expressed being extremely satisfied. A notable portion of respondents were either extremely dissatisfied or neither satisfied nor dissatisfied, both categories representing 16.6% (n = 26). Additionally, 15.9% (n = 25) indicated dissatisfaction with the benefits package. Overall, the data suggests that most respondents lean towards satisfaction with the benefits package, with 50.9% (n = 80) expressing at least moderate satisfaction, though a significant portion remain neutral or dissatisfied.

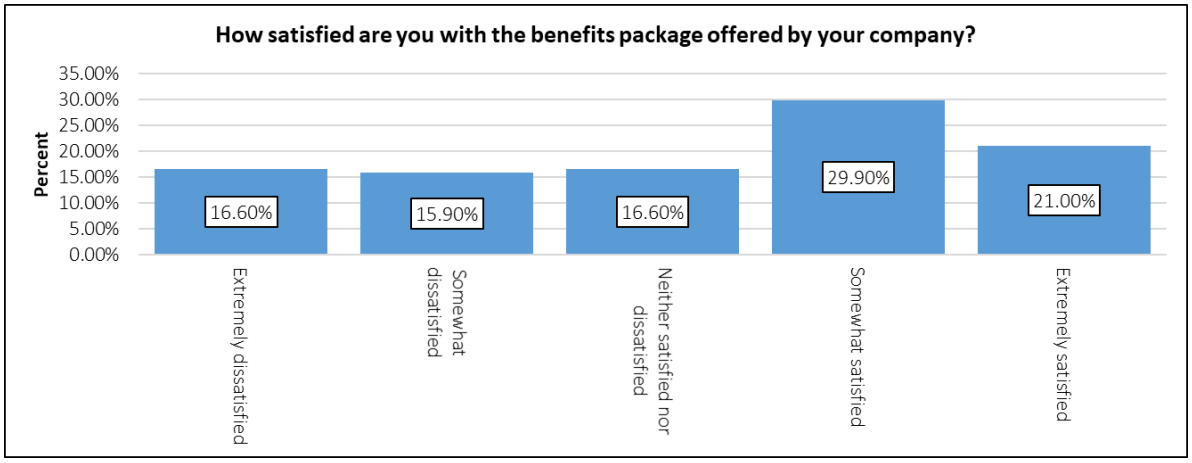

Figure 14: Benefits Satisfaction Scores

Satisfaction with career development opportunities

Figure 15 reveals varying satisfaction levels with career development opportunities among respondents. A significant proportion, 29.9% (n = 47), reported being extremely dissatisfied, representing the largest group. In contrast, 21.7% (n = 34) indicated being extremely satisfied, while 13.4% (n = 21) reported being somewhat satisfied. Additionally, 23.6% (n = 37) expressed a neutral stance, reporting neither satisfaction nor dissatisfaction. A smaller portion, 11.5% (n = 18), reported being somewhat dissatisfied. These results suggest that although a substantial number of respondents are dissatisfied with career development opportunities, a notable portion of the respondents express either satisfaction or neutrality in their views.

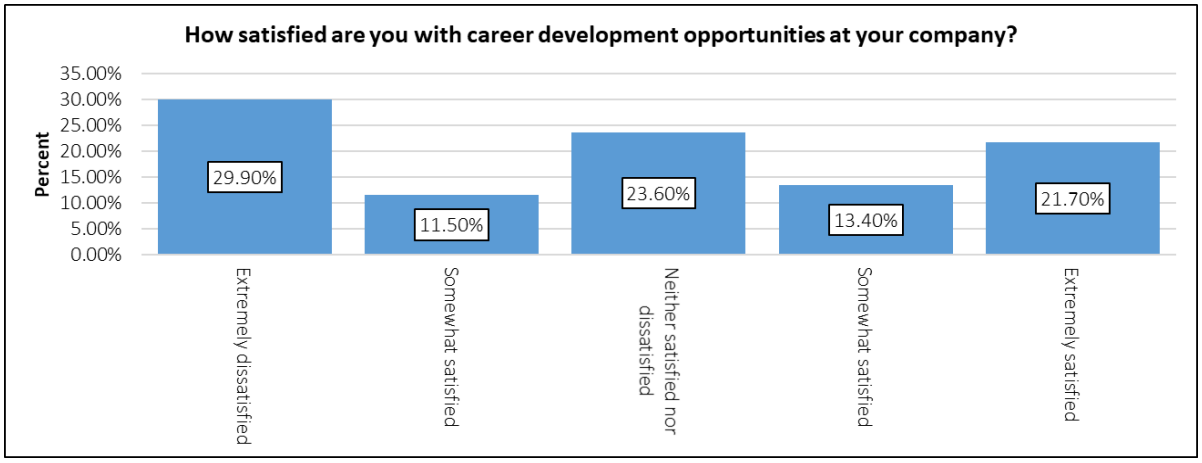

Figure 15: Career Development Satisfaction Scores

4.3.5 Relationship Between Turnover Intent and Demographic Variables

The analysis examined the relationship between turnover intent and several other demographic variables, including gender, age range, job category and the operation in which the employee is employed.

Age and turnover intent

Table 7 summarises the analysis between age and turnover intent. The results suggest that age group does not significantly impact employee turnover intent, so no further exploration of the crosstabulation was performed.

Table 7: Crosstabulation of Age and Turnover Intent

Crosstabulation of Age and Turnover

			Age range				
			18–30 years old	31–40 years old	41–50 years old	51–63 years old	Total
Have you considered leaving your current job within the past year?	Yes	Count	10	36	31	10	87
		% within age range	52.6%	50.7%	60.8%	62.5%	55.4%
	No	Count	9	35	20	6	70
		% within age range	47.4%	49.3%	39.2%	37.5%	44.6%
Total		Count	19	71	51	16	157
		% within age range	100.0%	100.0%	100.0%	100.0%	100.0%

Table 8 shows a chi-square test conducted to examine the association between age groups and whether employees had considered leaving their jobs within the past year. The results showed no statistically significant association between age group and turnover intent, χ^2 (3, N = 157) = 1.617, p =.655.

Table 8: Chi-Square Tests on Age and Turnover Intent

Chi-Square Tests on Age and Turnover

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	1.617[a]	3	0.655
Likelihood Ratio	1.624	3	0.654
Linear-by-Linear Association	1.142	1	0.285
N of Valid Cases	157		

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 7.13.

Gender and turnover intent

Table 9 indicates the crosstabulation performed to examine the association between gender and whether employees have considered leaving their current jobs within the past year.

Table 9: Crosstabulation of Gender and Turnover Intent

Crosstabulation of Gender and Turnover Intent

			What gender do you identify as?		
			Male	Female	Total
Have you considered leaving your current job within the past year?	Yes	Count	69	18	87
		% within What gender do you identify as?	58.0%	47.4%	55.4%
	No	Count	50	20	70
		% within What gender do you identify as?	42.0%	52.6%	44.6%
Total		Count	119	38	157
		% within What gender do you identify as?	100.0%	100.0%	100.0%

The chi-square test tabulated in Table 10 assessed the relationship between gender and whether employees had considered leaving their current jobs within the past year. The results indicated no significant association between gender and job consideration, χ^2 (1, N = 157) = 1.314, p

=.252. These results suggest that gender does not have a statistically significant impact on whether employees have considered leaving their current jobs within the past year. Therefore, no further exploration of the crosstabulation was performed.

Table 10: Chi-Square Tests on Gender and Turnover Intent

Chi-Square Tests on Gender and Turnover

	Value	df	Asymptotic Significance (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	1.314[a]	1	0.252		
Continuity Correction[b]	0.919	1	0.338		
Likelihood Ratio	1.308	1	0.253		
Fisher's Exact Test				0.267	0.169
Linear-by-Linear Association	1.305	1	0.253		
N of Valid Cases	157				

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 16.94.

b. Computed only for a 2x2 table

Job category and turnover intent

The data presented in Table 11 is a crosstabulation of the responses to turnover intent by job category.

Table 11: Crosstabulation on Job Category and Turnover Intent

Crosstabulation of Job Category and Turnover

			What is your current job category?						
			TMM Operator	Miner	Artisan/technician	Supervisor	HR Practitioner	Middle Management	Total
Have you considered leaving your current job within the past year?	Yes	Count	11	7	10	22	8	29	87
		% within What is your current job category	55.0%	58.3%	50.0%	57.9%	66.7%	52.7%	55.4%
	No	Count	9	5	10	16	4	26	70
		% within What is your current job category	45.0%	41.7%	50.0%	42.1%	33.3%	47.3%	44.6%
Total		Count	20	12	20	38	12	55	157
		% within What is your current job category	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

A chi-square test of independence (Table 12) was conducted to examine the association between job category and whether respondents considered leaving their current job within the past year. The results of the Pearson chi-square test, χ^2 (5, N = 157) = 1.150, p =.950, indicated no statistically significant association between job category and considering leaving their job. Therefore, no further exploration of the crosstabulation was performed.

Table 12: Chi-Square Tests on Job Category and Turnover Intent

Chi-Square Tests on Job Category and Turnover

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	1.150[a]	5	0.950
Likelihood Ratio	1.165	5	0.948
Linear-by-Linear Association	0.008	1	0.929
N of Valid Cases	157		

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 5.35.

Operation and turnover intention

The crosstabulation in Table 13 summarises the relationship between the operation at which respondents are employed and whether they have considered leaving their jobs within the past year.

Table 13: Crosstabulation Turnover per Mining Operation

Crosstabulation of Turnover per Mining Operation

			Which operation are you employed at?				
			Two Rivers Platinum Mine	Glencore Eastern Chrome Mines	Mototolo Complex	Booysendal Mines	Total
Have you considered leaving your current job within the past year?	Yes	Count	10	15	54	8	87
		% within Which operation are you employed at?	62.5%	38.5%	65.1%	42.1%	55.4%
	No	Count	6	24	29	11	70
		% within Which operation are you employed at?	37.5%	61.5%	34.9%	57.9%	44.6%
Total		Count	16	39	83	19	157
		% within Which operation are you employed at?	100.0%	100.0%	100.0%	100.0%	100.0%

Inspection of the percentages showed that 62.5% of respondents from Two Rivers Platinum (TRP) Mine (n = 16) had considered leaving their jobs, and 38.5% of respondents at Glencore ECM (n = 39) had considered leaving. In contrast, 65.1% of respondents from the Mototolo Complex (n = 83) had considered leaving their jobs, marking the highest percentage of employees considering departure. At Booysendal Mines (n = 19), 42.1% had considered leaving

The results indicate a significant relationship between the specific mining operation and whether employees considered leaving their jobs in the past year. This suggests that employees' retention considerations vary depending on the operation at which they work. Although Two Rivers and Booysendal mines had a relatively lower number of respondents, the results suggest some trends in this regard and should be useful information for the operations.

Table 14 tabulates the chi-square test of independence that was conducted to examine the association between the mining operation at which employees work and whether they have considered leaving their jobs within the past year. The Pearson chi-square test yielded a statistically significant result, χ^2 (3, N = 157) = 9.350, p =.025, indicating a significant association between the mining operation and employees' consideration of leaving their jobs.

Table 14: Chi-Square Tests on Mining Operation

Chi-Square Tests on Mining Operations

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	9.350[a]	3	0.025
Likelihood Ratio	9.386	3	0.025
Linear-by-Linear Association	0.011	1	0.917
N of Valid Cases	157		

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 7.13.

4.4 Hypotheses Testing

Figure 16 re-emphasises the conceptual framework that remuneration packages, which include a basic salary, incentives, employee benefits (Shaw et al., 1998), and career development, are independent variables that influence employee turnover.

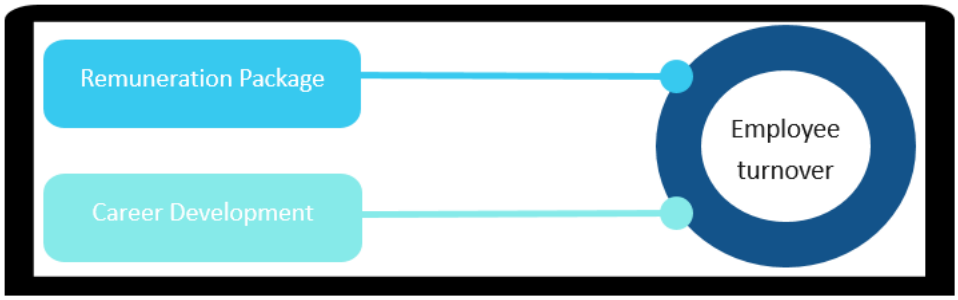

Figure 16: Conceptual Framework

Two hypotheses were determined for this study. Hypothesis 1 suggests that there is a relationship between remuneration and employee turnover rate; Hypothesis 2 posits that a relationship exists between career development and employee turnover.

Subsections 4.4.1 and 4.4.2 compare the study results to the hypotheses presented above.

4.4.1 Hypothesis 1: Relationship Between Remuneration and Turnover

The respondents' satisfaction with their basic salary was cross-tabulated with their turnover intention and is summarised in Table 15.

Table 15: Crosstabulation on Basic Pay and Turnover

Crosstabulation of Basic Pay and Turnover

			How satisfied are you with your current basic salary?					
			Extremely dissatisfied	Somewhat dissatisfied	Neither satisfied nor dissatisfied	Somewhat satisfied	Extremely satisfied	Total
Have you considered leaving your current job within the past year?	Yes	Count	20	19	20	22	6	87
		% within How satisfied are you with your current basic salary?	66.7%	61.3%	51.3%	59.5%	30.0%	55.4%
	No	Count	10	12	19	15	14	70
		% within How satisfied are you with your current basic salary?	33.3%	38.7%	48.7%	40.5%	70.0%	44.6%
Total		Count	30	31	39	37	20	157
		% within How satisfied are you with your current basic salary?	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Table 16 displays the chi-square test to determine whether the relationship was significant. The results showed no significant relationship between turnover intention and satisfaction with basic salary $\chi 2$ (4) = 7,714, p =.103). Therefore, no further exploration of the crosstabulation was performed.

Table 16: Chi-Square Tests on Basic Pay and Turnover

Chi-Square on Tests on Basic Pay and Turnover

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	7.714[a]	4	0.103
Likelihood Ratio	7.797	4	0.099
Linear-by-Linear Association	4.482	1	0.034
N of Valid Cases	157		

a. 0 cells (.0%) have expected count less than 5. The minimum expected count is 8.92.

The relationship between turnover intention and satisfaction with incentives was cross-tabulated and reported in Table 17. Exploration of the cross-tabulation in Table 17 showed that of respondents who were very dissatisfied with incentives, 64.5% considered leaving the company, while 64.3% of those who were somewhat dissatisfied considered it. A total of 48.8% of those somewhat satisfied with incentives show an intention to leave, while this applies to only 28% of those who are very satisfied with their incentives.

Table 17: Crosstabulation of Incentives and Turnover

Crosstabulation of Incentives and Turnover

			How satisfied are you with the incentives provided by your company?					
			Extremely dissatisfied	Somewhat dissatisfied	Neither satisfied nor dissatisfied	Somewhat satisfied	Extremely satisfied	Total
Have you considered leaving your current job within the past year?	Yes	Count	20	18	21	21	7	87
		% within How satisfied are you with the incentives provided by your company?	64.5%	64.3%	70.0%	48.8%	28.0%	55.4%
	No	Count	11	10	9	22	18	70
		% within How satisfied are you with the incentives provided by your company?	35.5%	35.7%	30.0%	51.2%	72.0%	44.6%
Total		Count	31	28	30	43	25	157
		% within How satisfied are you with the incentives provided by your company?	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

A Chi-square test was performed to determine whether the relationship was significant. Table 18 shows a significant relationship between turnover intention and satisfaction with incentives χ^2 (4) = 12.872, p =.012.

Table 18: Chi-Square Tests on Incentives and Turnover

Chi-Square Tests on Incentives and Turnover

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	12.872[a]	4	.012
Likelihood Ratio	13.094	4	.011
Linear-by-Linear Association	8.294	1	.004
N of Valid Cases	157		

a. 0 cells (.0%) have expected count less than 5. The minimum expected count is 11.15.

The relationship between turnover intention and satisfaction with the benefits package was tabulated and reported in Table 19.

Table 19: Crosstabulation on Benefits Package and Turnover

Crosstabulation of Benefits Package and Turnover

			How satisfied are you with the benefits package offered by your company?					
			Extremely dissatisfied	Somewhat dissatisfied	Neither satisfied nor dissatisfied	Somewhat satisfied	Extremely satisfied	Total
Have you considered leaving your current job within the past year?	Yes	Count	16	16	16	27	12	87
		% within How satisfied are you with the benefits package offered by your company?	61.5%	64.0%	61.5%	57.4%	36.4%	55.4%
	No	Count	10	9	10	20	21	70
		% within How satisfied are you with the benefits package offered by your company?	38.5%	36.0%	38.5%	42.6%	63.6%	44.6%
Total		Count	26	25	26	47	33	157
		% within How satisfied are you with the benefits package offered by your company?	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

A Chi-square was performed to test whether the relationship was significant (Table 20). Results showed no significant relationship between turnover intention and satisfaction with benefits χ^2 (4) = 6.461, p =.167. The crosstabulation was, therefore, not investigated further.

Table 20: Chi-Square on Benefits Package and Turnover

Chi-Square Tests on Benefits Package and Turnover

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	6.461[a]	4	0.167
Likelihood Ratio	6.469	4	0.167
Linear-by-Linear Association	3.854	1	0.050
N of Valid Cases	157		

a. 0 cells (.0%) have expected count less than 5. The minimum expected count is 11.15.

4.4.2 Hypothesis 2: Impact of Career Development on Turnover

Respondents' satisfaction with their possibilities for career development was cross-tabulated with their turnover intention and reported in Table 21.

Table 21: Crosstabulation of Career Development and Turnover

Crosstabulation of Career Development and Turnover

			How satisfied are you with career development opportunities at your company?					
			Extremely dissatisfied	Somewhat dissatisfied	Neither satisfied nor dissatisfied	Somewhat satisfied	Extremely satisfied	Total
Have you considered leaving your current job within the past year?	Yes	Count	36	11	20	9	11	87
		% within How satisfied are you with career development opportunities at your company	76.6%	61.1%	54.1%	42.9%	32.4%	55.4%
	No	Count	11	7	17	12	23	70
		% within How satisfied are you with career development opportunities at your company	23.4%	38.9%	45.9%	57.1%	67.6%	44.6%
Total		Count	47	18	37	21	34	157
		% within How satisfied are you with career development opportunities at your company	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

A Chi-square test was performed to test whether the relationship was significant (Table 22). Results showed a significant relationship between turnover intention and satisfaction with career development opportunities χ^2 (4) = 17,458, p =.002. Exploration of the crosstabulation showed that respondents were very dissatisfied with career development. A total of 76.6% considered leaving the company, while 61.1% of those who were somewhat dissatisfied also considered turnover behaviour. A total of 42.9% of those somewhat satisfied with career development opportunities showed an intention to leave. In comparison, only 32.4% were very satisfied with their career development opportunities.

Table 22: Chi-Square Tests on Career Development and Turnover

Chi-Square Tests on Career Development and Turnover

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	17.458[a]	4	.002
Likelihood Ratio	18.062	4	.001
Linear-by-Linear Association	17.232	1	<.001
N of Valid Cases	157		

a. 0 cells (.0%) have expected count less than 5. The minimum expected count is 8.03.

4.5 Chapter Overview

Chapter 4 highlights the study's findings on the impact of remuneration and career development on employee turnover in the southern cluster mines of the Eastern BIC. The workforce is predominantly male and aged 31–50. Nearly 46% of respondents had previously resigned from mining roles, with career development dissatisfaction being the main reason for turnover. Satisfaction scores were average, with benefits and incentives rated higher than basic salary and career development opportunities.

Over 55% of respondents considered leaving their jobs in the past year. Hypothesis testing revealed a significant link between turnover intent and dissatisfaction with career development and incentives, emphasising the need for structured career pathways and targeted incentives to retain skilled employees.

Chapter 5: Discussion of Research Findings

5.1 Introduction

This chapter interprets the research findings in Chapter 4 in light of the existing literature and theories reviewed in this study. The primary objective of this discussion is to understand how remuneration, career development and other factors influence the turnover of employees in the mining industry at Eastern BIC. Highlighting their relevance for retention strategies, the implications of these findings are considered in this specific industrial and geographical context.

5.2 Interpretation of Findings

Interestingly, more than half of the respondents had considered leaving their jobs at the Eastern BIC mining operations in the past year. This does not only relate to turnover intent but historic turnover, as 54% of respondents have indicated that they have had turnover behaviour before joining their current employers. These results paint a worrying picture for employers, as research has shown that there is often a correlation between turnover intention and eventual turnover behaviour (Jha, 2009; Richer et al., 2002).

The high turnover intent issue is pertinent at the Mototolo Complex. However, the comparison could be skewed because this operation recorded the highest number of respondents at 53%, followed by Glencore ECM at 23%. TRP and Booysendal are comparable as they both account for 12% of the total sample. TRP respondents indicated a significantly higher turnover intent than Booysendal.

Turnover was found to be unrelated to demographic variables such as age, gender and job category. This finding contradicts research by Chintamanee (2023), which found that age significantly influenced voluntary employee turnover in the hotel industry. This contradiction could be because the research was conducted in a different industry and was not in the context of the mining industry in the Eastern BIC.

5.2.1 Remuneration's Influence on Turnover

The study revealed a complex relationship between remuneration components and turnover. Of particular note is that satisfaction with incentives significantly impacts turnover, while basic salary satisfaction does not. This finding contrasts with much of the existing literature, which

typically underscores basic salary as a critical determinant of job satisfaction and retention (Bryant & Allen, 2013; De la Torre-Ruiz et al., 2019). In the context of the Eastern BIC, while competitive basic salaries are essential, they may not be sufficient to retain employees without additional performance-linked incentives.

The efficiency wage theory provides a valuable framework for understanding this result, positing that higher wages can improve employee retention by fostering loyalty and reducing job search behaviours (Katz, 1986). However, the data indicate that incentives, rather than basic salary, hold a stronger relationship with retention in this context. This finding suggests that employees may place a high value on variable compensation, viewing it as a direct reward for performance and a signal of the employer's recognition of their contributions (Labov, 1997). This aligns with findings from Miceli and Lane (1990), who observed that perceived support through tangible rewards, such as bonuses, strengthens organisational commitment and reduces turnover.

Furthermore, dissatisfaction with incentives appears to increase turnover intent, which supports Herzberg's two-factor theory (Herzberg, 1968). Herzberg distinguishes between hygiene factors (e.g., salary) that prevent dissatisfaction and motivating factors (e.g., incentives) that drive satisfaction and retention. Although research by Bryant and Allen (2013) found that employees almost always cite compensation as the main reason to quit their jobs, this set of results indicates that grouping compensation into one pack may not reveal the nuanced aspects of remuneration that influence turnover differently.

5.2.2 Career Development's Influence on Turnover

Majority of the respondents with historic turnover behaviour cited career development as the main reason for having left their previous employers. The research findings indicate that career development opportunities significantly impact turnover, with lower satisfaction correlating with a greater likelihood of leaving. This finding is consistent with previous studies highlighting the importance of career advancement opportunities in retaining skilled employees, particularly in industries where critical skills are in high demand (Amos et al., 2008; Ogony & Majola, 2018).

Career development can encompass various organisational initiatives, such as training, mentorship and opportunities for promotion (Merchant Jr, 2010). Employees who perceive limited growth opportunities are likely to become disengaged and seek advancement

opportunities elsewhere, as demonstrated in the study's findings, where 36.5% cited career development as a primary reason for turnover intent. According to Herzberg's two-factor theory, career development opportunities act as intrinsic motivators, fostering a sense of purpose and satisfaction in employees' roles (Alshmemri et al., 2017). This intrinsic motivation is particularly relevant for retaining younger and middle-management employees, as these groups are often more focused on career progression (Liu et al., 2006).

Social exchange theory also explains the positive relationship between career development and retention. Employees are more likely to remain loyal to organisations that actively invest in their personal and professional growth, as this investment is perceived as a form of organisational support (Settoon et al., 1996). Employers foster a reciprocal relationship by providing career development opportunities where employees feel valued and reciprocate through commitment and reduced turnover intent (Settoon et al., 1996).

5.2.3 Influence of Other Reasons on Turnover

Beyond remuneration and career development, additional factors, mainly dissatisfaction with leadership, organisational culture and work overload, were identified as contributing to turnover intent. Dissatisfaction with leadership was cited as a major contributor amongst the other reasons of turnover, indicating that employees may feel unsupported or undervalued by management. This finding aligns with research indicating that leadership quality and organisational culture significantly impact employee satisfaction and retention (Chen, 2020; Ogony & Majola, 2018).

Toxic leadership behaviours, such as poor communication and lack of emotional intelligence, can create a hostile work environment, leading to stress, job dissatisfaction and increased turnover (Brouwers & Paltu, 2020). As social exchange theory suggests, employees who perceive inadequate support from their leaders may be less inclined to reciprocate with loyalty, ultimately increasing their turnover intentions (Settoon et al., 1996). Moreover, organisational culture, which encompasses values, practices and behavioural norms within the company, can either enhance employee engagement or foster disengagement if perceived as unsupportive (Karasek & Theorell, 1990).

Work overload was also highlighted as contributing to turnover, particularly in demanding mining roles. Excessive workload can lead to burnout and affect employees' work-life balance, a factor increasingly valued in contemporary employment (Al-Suraihi et al., 2021). Employees

who feel overwhelmed may seek alternative employment with better work-life balance, a pattern noted in other high-demand industries (Suarez, 2021).

5.3 Implications for Practice

The findings have several practical implications for mining companies aiming to reduce turnover among skilled employees. First, organisations should consider implementing regular employee satisfaction assessments to identify areas of concern early. Satisfaction with career development and incentives emerged as significant predictors of turnover, suggesting that companies should focus retention efforts on enhancing these areas. For instance, structured career paths, mentorship programmes and personalised development plans may encourage employees to envision a long-term career.

Moreover, the significant variability in turnover across different mining operations suggests that tailored retention strategies may be necessary. Operations with higher turnover intent, such as Mototolo Complex, may require targeted interventions involving leadership training to improve managerial support and communication. The efficiency wage theory further suggests that organisations offering above-market incentives may reduce turnover by fostering a sense of security and loyalty among employees (Katz, 1986).

While maintaining competitive basic salaries is essential, this study suggests that designing effective incentive schemes could enhance employee retention. Furthermore, the differences in findings between operations may prompt investigation into which attributes at particular operations contribute to variations in turnover.

5.4 Limitations of the Study

While this study offers valuable insights, it has several limitations. The relatively small sample size limits the generalisability of the findings to the broader mining industry in the Eastern BIC. Additionally, the study focused on specific job categories within the Eastern BIC, which may not have fully captured turnover dynamics in other regions or industries. The disproportionate representation of respondents in the different operations limit comparability and generalisation.

Future research could expand the sample to include different job levels and geographical locations, providing a more comprehensive understanding of turnover factors across the mining

sector. Future studies could also target a sizeable group of occupations to explore whether different job categories respond differently to turnover determinants.

5.5 Chapter Overview

In summary, this chapter discussed the research findings in relation to the theoretical frameworks and literature reviewed earlier in the study. Career development and incentives were identified as significant factors influencing turnover, with implications for targeted retention strategies in the mining sector. The findings suggest that enhancing career pathways and providing competitive incentives may reduce turnover, particularly in high-demand roles critical to operational stability in the industry.

Chapter 6: Recommendations and Conclusion

6.1 Introduction

This chapter summarises the key findings of the research, provides actionable recommendations for addressing employee turnover and identifies future research opportunities. Recommendations are directed at improving remuneration policies and career development strategies and addressing leadership and organisational culture issues in the mining sector operating in the Eastern BIC.

6.2 Summary of Key Findings

This study investigated the role of remuneration and career development on employee turnover in mines surrounding the Eastern BIC. Results showed that more than half of the respondents (55.4%) have considered leaving their job within the past year. The most common reason for people resigning from their jobs was a lack of career development (36.5%). About 28% gave dissatisfaction with pay or remuneration as the reason. The remainder of the respondents mentioned other reasons for their choice, the most important of which was dissatisfaction with leadership/supervision (34.5%), followed by organisational culture (24.1%) and work overload (20.7%).

In terms of satisfaction, respondents were relatively mostly satisfied with their benefits (mean = 3.23) and incentives (mean = 3.02), followed by basic salary (mean = 2.91); they were least satisfied with career development opportunities (mean = 2.85). These scores are on a 5-point scale. Overall, their satisfaction level could be regarded as average (mean = 3).

The relationship between turnover intention and demographic variables showed no significant relationship between turnover and age, gender and job level. Mining operations differed significantly in terms of the staff turnover intention. At Mototolo Complex, 65.10% of respondents have considered leaving their jobs, while in Glencore ECM, 38.5% have considered leaving. Although 42.1% of respondents at Booysendal and 62.5% at TRP considered leaving, the sample size at these two operations was relatively small, making it difficult to draw inferences from these percentages.

The relationship between turnover intention and satisfaction scales, namely satisfaction with basic salary, incentives, benefits and career opportunities, was investigated; each aspect was

examined individually, as well as the overall average satisfaction score. Regarding the former, turnover intention was not significantly related to respondents' satisfaction with their basic salary or benefits but was significantly related to their satisfaction with incentives and career development opportunities, with higher satisfaction being associated with lower turnover intention. Looking at the overall satisfaction score, the respondents who considered leaving the company had a significantly lower overall satisfaction level than those who did not. Previous research has indicated that there is a strong relationship between turnover intent and turnover behaviour (Chintamanee, 2023; Jha, 2009).

6.3 Study Limitations

While this study provides valuable insights into the factors influencing employee turnover in the southern cluster mines of the Eastern BIC, several limitations were faced:

- **Sample size and representativeness:** The study relied on responses from 157 participants, which limits the generalisability of the findings to the broader mining industry in the region or beyond. Additionally, the sample size was disproportionately distributed across different mining operations, with some mines contributing fewer responses. This uneven distribution could have affected the reliability of comparisons across operations.
- **Geographic scope:** The research was restricted to the southern cluster of mines in the Eastern BIC. As a result, the findings may not fully represent turnover dynamics in other mining regions within SA.
- **Focus on specific job categories:** The study targeted employees with critical or scarce skills, such as TMM operators, artisans, miners, supervisors and middle management. While this focus provided deep insights into these roles, it excluded other job categories, such as administrative and unskilled labour, which have unique turnover factors.
- **Self-reported data:** The study relied on self-reported survey responses, which are subject to biases such as social desirability and recall errors. Participants may have underreported dissatisfaction or overstated their satisfaction to present themselves favourably or align with perceived expectations.
- **Technological and logistical challenges:** While an electronic survey was convenient, it may have excluded potential respondents who lacked access to smart devices or reliable internet connectivity. This could have biased the sample towards more

technologically equipped employees, potentially overlooking perspectives from less connected individuals.

- **Inability to establish causality:** The statistical analyses focused on identifying relationships between variables, such as satisfaction with remuneration, career development and turnover intent. However, the study design did not allow for the establishment of causality. For example, while dissatisfaction with career development correlates with higher turnover intent, it cannot be definitively concluded that the former causes the latter.
- **Leadership and cultural dynamics:** Although leadership quality and organisational culture emerged as important turnover drivers, the study did not explore these aspects deeply. For example, specific leadership styles or cultural practices were not analysed, leaving room for further investigation.
- **Time constraints:** The research was conducted within a limited timeframe, restricting the data collection and analysis depth. A more extended period could have allowed for more extensive sampling and a deeper exploration of complex turnover dynamics.

These limitations highlight the need for caution when generalising the study's findings. Future research should address these gaps by expanding the geographic and occupational scope, adopting longitudinal and mixed methods designs and considering external factors and leadership dynamics more comprehensively. Despite these limitations, the study provides a solid foundation for understanding turnover drivers and informing targeted retention strategies in the mining sector.

6.4 Recommendations

6.4.1 Recommendation for Career Development

Based on the findings of the study, here are detailed recommendations for career development to address employee turnover in the Eastern BIC:

- **Structured career development plans**
    - Individual development plans (IDPs): Create a platform for tailored development plans for employees, identifying specific skills, goals and pathways for progression.

  - Clear progression paths: Develop visible career pathways that outline the steps required for promotions and lateral movements within the organisation.
- **Training and upskilling programmes**
  - Technical skills training: Offer regular training to update employees on the latest industry tools and technologies.
  - Leadership development programmes: Equip employees, particularly those in middle-management and supervisory roles, with leadership and managerial skills.
  - Cross-functional training: Introduce programmes allowing employees to develop skills outside their primary job roles, increasing versatility and opportunities for lateral movement.
- **Mentorship and coaching**
  - Formal mentorship programmes: Pair experienced professionals with junior employees to guide their career growth.
  - Regular coaching sessions: Encourage supervisors and HR teams to hold career coaching sessions with employees to discuss aspirations and performance.
- **Career development opportunities**
  - Job rotation programmes: Provide opportunities for employees to rotate across different functions or departments to gain broader experience.
  - Internal recruitment: Prioritise internal talent for new roles, ensuring current employees see opportunities for upward or lateral growth within the company.
- **Recognition and advancement**
  - Annual performance reviews: Align these reviews with discussions on career progression and potential future roles.
  - Succession planning: Identify high-potential employees for leadership roles and provide targeted development opportunities.
- **Collaboration with educational institutions**
  - Partner with local universities and training institutions to provide sponsored courses, certifications or degrees that align with the organisation’s needs.
- **Employee feedback and monitoring**
  - Career development surveys: Regularly seek feedback on existing career development initiatives to identify areas of improvement.

    - Career development programme reviews: Regularly review the effectiveness of career development programmes and their impact on employee retention using turnover metrics and satisfaction surveys.
- **Addressing barriers to career growth**
    - Identify and mitigate systemic issues such as workplace culture or leadership gaps that hinder career progression.

These strategies not only address career development dissatisfaction but also foster a culture of growth and commitment, reducing turnover and enhancing the organisation's attractiveness to potential employees.

6.4.2 Recommendation for Remuneration

- **Competitive base salaries**
    - Benchmarking against industry standards: Regularly benchmark salaries against industry standards and regional competitors to ensure competitiveness.
- **Performance-based incentives**
    - Bonuses: Introduce or enhance performance-related bonuses tied to individual, team or company goals.
    - Profit-sharing plans: Offer profit-sharing arrangements to foster a sense of ownership and reward employees for the company's success.
- **Skill-based compensation**
    - Multi-skilling incentives: Reward employees for developing cross-functional skills that add value to the organisation.
- **Recognition and retention rewards**
    - Retention and service awards: Reward tenure with bonuses or additional benefits, recognising long-term commitment and positive contribution to business outcomes.
- **Transparent pay policies**
    - Clear communication: Ensure employees understand how their remuneration is structured, including base pay, bonuses and benefits.
    - Equity and fairness: Address internal pay disparities to promote a sense of fairness and transparency.
- **Monitoring and adjustment**

- Market trend analysis: Continuously monitor economic and industry trends to stay ahead of remuneration challenges.

By implementing these recommendations, the organisation can address dissatisfaction with appropriate remuneration, foster loyalty and attract top talent. A well-structured remuneration strategy that aligns with market realities and employee expectations will significantly reduce turnover and improve overall morale.

6.4.3 Recommendations for Future Research

Future research should broaden the geographic scope to include other mining regions, allowing for comparisons that inform industry-wide strategies. Longitudinal studies are recommended to examine turnover trends over extended periods, providing insights into long-term retention strategies. Additionally, future studies should investigate turnover determinants across a broader range of job roles to capture more nuanced perspectives.

6.5 Conclusion

This study demonstrates that career development opportunities and incentive satisfaction are the pivotal factors influencing employee retention in the southern cluster mines of the Eastern BIC. While competitive basic salaries remain important, addressing intrinsic motivators, such as career growth and effective leadership, is crucial. By implementing the recommendations outlined in this chapter, mining companies can improve employee satisfaction, reduce employee turnover and ensure operational stability. Future research should build on these findings to refine retention strategies further and contribute to a sustainable mining industry.

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