

Exploring Business Acumen Matrices in a South African Retail Organisation

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ABSTRACT

Understanding business acumen is crucial to the sustainability of retail organisations, as it relates to human capital and equity theory lenses. The impetus for undertaking this research is the paucity of similar studies in the retail sector in South Africa that used machine learning for assessments. The trend, in literature, shows that in the retail sector, the quantifiable business ability metrics are the return on equity (ROE), the return on assets (ROA), and earnings before interest, taxes, depreciation, and amortisation (EBITDA). The research philosophy adopted was positivism, while the research design was longitudinal (2016 to 2024) and exploratory. Moreover, the key findings (fixed ($r = 0.73$) and variable pay ($r = 0.83$)) were positively correlated with total salary, while the regression results were not significant. Even though variable pay constituted a higher proportion of the chief executive officer's (CEO's) salary, the pattern was inconsistent. Moreover, the sampled retail sector organisation demonstrated an exorbitant wage gap between the CEO and low-income earners. Even so, the Holt-Winters forecasted that the CEO's salary would continue to increase from 2026 to 2028. Overall, the managerial impact is that wage differences generate reputational damage and force trade unions to negotiate higher wages. Yet, paying the CEO a competitive salary increases motivation, job satisfaction, and retention.

Keywords: Earnings before Interest, Taxes, Depreciation, Amortisation, Return on Equity, Return on Assets, Retail Organisation, Wage Gap



1. INTRODUCTION

Business acumen is a topic that appeals to both academics and practitioners. Academics, who conduct research in different organisations and write books, journal articles, conference papers, and develop new business matrices, can appreciate this content (Tuovinen, 2024). The business acumen matrices that were developed were generated from financial statements (see literature review). Hence, practitioners skilled in computing business acumen matrices can leverage acquired insights to propose actions to enhance organisational performance. Importantly, similar business acumen cannot be applied to all organisations; it should be based on their key focus and the sector in which they operate (Yeung, Woolcock & Sullivan, 1996).

Some scholars define business acumen as the competency to extract information from the organisation to formulate strategies that benefit customers (Veldsman & Coetzee, 2022), highlighting the financial impact of human resource activities on business (Rasmussen, Ulrich & Ulrich, 2024). Yet, Joseph's (2024) doctoral thesis indicated the absence of a universal definition of business acumen and a singular framework for business approaches in the literature, highlighting the necessity for further research and providing additional insights into the field (the aim of this study). Joseph (2024) also opined that chief human resource officers (CHROs) lack business acumen and competence, particularly in measuring the utilisation of people analytics.

Furthermore, it appears that HRM practitioners lack training in conducting and calculating business acumen matrices (e.g., ROA), salary as a percentage of revenue, and earnings before EBITDA (Ragas, 2023), highlighting the relevance of the current study. Delgado (2021) and Vargas (2015) identified the lack of involvement by CEOs in strategic and operational planning as a primary cause of this deficiency. Thus, this article provides guidelines for CHROs and aspiring people analytics professionals on extracting information from financial statements, calculating business acumen matrices, and extrapolating how they are impacted by investment.

Overall, Shoprite's status as the largest supermarket (listed on the Johannesburg Stock Exchange (JSE) in South Africa) enhances the credibility of this study. Its EBITDA of 9.76% in 2025 is robust, consistently outperforming other South African retailers, who had EBITDAs as follows: SPAR Group (2.5%), Pick n Pay (2.6%), Woolworths Group Limited (5.4%) and Dis-Chem (6.5%). The literature revealed that traditional statistics use business acumen and analytic predictors (EBITDA, ROA, ROE) for CEOs' salaries (Joseph, 2024). However, research measuring CEO salary structures over a long period of time is limited in the South African retail sector. Recent research established that variable pay comprises a high proportion of the CEO's salary (Maleka, Sefolo & Henama, 2024). This study uniquely employed machine learning to analyse historical data to identify salary structures and predict CEO salaries, addressing a gap in the research related to executive remuneration for CEOs and low-earning individuals in major retail organisations (Bussin & Moday, 2015). This focus is notably limited in South African literature (Bussin & Ncube, 2017).

Based on the above discussion, the question really is: why does business acumen matter? Overall, understanding business acumen matters, as it equips managers and human resource practitioners with strategic competencies to gain a competitive edge and achieve sustainability. Also, understanding the influence of people analytics (e.g., labour costs and training expenses) is a crucial competency for human resource practitioners to acquire.

1.1 WHY THE RETAIL SECTOR ORGANISATION IN SOUTH AFRICA?

Business acumen analytics show that retail organisations (i.e., Makro, Shoprite, SPAR, and Woolworths) create substantial revenue and high ROA, suggesting that they are resilient, profitable, and create value for the shareholders. By contributing 20% to the gross domestic product (GDP) in South Africa (SA), they generate the second-highest

amount of people analytics, besides the South African state (Ward & Pillay, 2023). This shows their crucial role in job creation, where the broader definition of the unemployment rate is 40%. They also provide job opportunities for inexperienced young people and employ a mix of higher-level employees with low to semi-skilled workers, earning an average of R5000 per month.

Also, CEOs are predominantly highly qualified, experienced, white males—indicating limited diversification at the CEO level—while most black workers are under-skilled. In terms of talent acquisitions, they fall behind in attracting employees with in-depth insights into business experience, acumen, and people analytics (Malandar Advisory, n.d.). Another challenge is the pay gap, with research showing that the pay gap ratio between the CEO of Woolworths and the lowest-paid employees is 1,308:1 (Madinga, Aspeling & Dlamini, 2024). Also, there is insufficient research on the pay gaps between the CEO's salary and low-income earners in the retail sector; thus, the current study aims to add to the existing body of knowledge involving wage discrepancies.

2. PROBLEM STATEMENT

After reviewing the literature, it is clear that similar research is sparse in SA, and the current study will address this gap by exploring the following research questions:

- What is the relationship between business acumen matrices (ROA, ROE, EBITDA) and the CEO's total salary?
- How is the CEO's salary structured at the retail organisation?
- What is the wage gap between the CEO and the wage bill of low-income earners in the retail sector?

3. LITERATURE REVIEW

3.1 HUMAN CAPITAL THEORY

Human capital theory, introduced by Becker in 1962 and revisited in 1964, posits that organisations enhance their employees' capabilities—abilities, knowledge, and skills—through investment, ultimately aiming to enhance productivity and efficiency in the workplace (Borodkin, 2024). The theory is crucial for understanding organisational human resources, financial aspects, and productivity. It emphasises the importance of employee education, workplace training, people management, communication, and employee well-being (Demchenko, 2024; Maleka, Mporfu, Hlatywayo, Meyer, Carr & Parker, 2019). These variables are key elements when considering people's investment impact on business acumen matrices, particularly for retail organisations in South Africa.

Also, human capital theory asserts that managers should be able to lead, train, and guide personnel in the workplace (Getahun, 2020). Therefore, leaders in the retail industry, such as Shoprite, can guide and train their employees to facilitate productivity and achieve the use of business acumen matrices, and reduce the wage gap. Financial performance indicators such as ROA, ROE, and EBITDA are observable proxies for the productive deployment of this executive human capital, and theory predicts that stronger financial performance should result in higher CEO salaries. Empirical evidence from South African JSE listed firms, however, provides only partial support for this expectation: while some studies demonstrate links between executive pay and certain financial metrics, the relationships are often weak, inconsistent, or moderated by other factors, such as ownership structure, with institutional shareholders affecting the pay–performance linkage in complex ways in JSE firms (Nel, Jachi & Scholtz, 2025).

Moreover, human capital theory highlights the importance of emotional intelligence in management (i.e., to show empathetic qualities) to foster employee relations built on trust, respect, and unity (Gimranova, Aimagambetov, Bukatov & Vladimirov, 2024; Gurgenidze, 2024). Managers must recognise the importance of respecting, supporting, and valuing employees as essential assets within an organisation, shifting away from viewing them solely as cost centres (Becker, 1962; De Boeck, 2024). The key competences related to human capital theory highlight the importance of education and training in reducing the wage gap in the retail sector. This will allow empowered employees to advance within organisations, thereby decreasing wage disparities. Critics, however, argue that the theory lacks a clear measurement of skills and talents. Therefore, this study advocates for the use of business acumen matrices in the SA retail organisation. Essentially, skills and talents must be measurable or quantified to guide decision-making in the retail business sector.

3.2 EQUITY THEORY

The other wage gap theory, developed by Adams in the early 1960s, is known as equity theory. Adams opined that fair wage determination should consider employees' input based on their education, training, and experience (Bhandari & Subedi, 2024). Similarly, human capital theory states that these variables should be used as objective measures to determine wages (Becker, 1962). Equity theory posits that wage inequality arises when there is incongruence between the inputs (e.g., education and experience) and outcomes (e.g., wages). Thus, when employees perceive this disparity, they could become disengaged, less committed, and disaffected. This can be demonstrated by the formula: ET (equity theory) = I (inputs) < O (output). Conversely, employees are likely to be more committed, satisfied, and engaged when their wages are perceived to equal or exceed the greater of their inputs, which can be represented as $ET = I \Rightarrow O$ (Cosier & Dalton, 1993).

These two theoretical frameworks support this study from the position of educational level, skills, and experience—key variables in the retail sector. Also, these theories support the premise that employees must be objectively assessed and inequality reduced in the workplace. Employees in the SA retail organisation require support to enable the organisation to achieve goals, like profitability and productivity, through the implementation of business acumen matrices and people analytics. Moreover, training and education investment are theorised to help reduce the wage gap, particularly between CEOs and low-income earners in retail organisations.

3.3 BUSINESS ACUMEN MATRICES

This study focuses on business matrices derived from data based on comprehensive and financial position statements (Lee & Lee, 2024), which illustrate the organisation's profits and expenditures from which the equity return is extracted. The revenue and salary cost data can be used to calculate labour cost as a percentage of the cost of revenue (Liles, Tang, Petrovic, Dambrino, Thompson & Chambless, 2024; Pal, 2010). The latter matrix indicates the organisation's expenditure relative to its generated revenue; a high spending level suggests potential difficulties in meeting obligations such as maintenance and debt repayment. The debt ratio is calculated by dividing total liabilities by total assets, where liabilities are what the organisation owes, and assets are what the organisation owns. Owner equity, listed in the statement of financial position, is determined by subtracting the total liabilities from total assets (Lee & Lee, 2024; Tamrakar & Shrestha, 2022).

A high ROE means that the organisation is profitable and will be able to pay high salaries and not retrench employees, thus ensuring job security. This financial health enables the organisation to attract talented employees and invest in their development (Espegren & Hugosson, 2025; Karsim, Loliyani, Loliyana & Salma, 2025). From a human capital perspective, investing in employees leads to productivity or organisational performance. Other scholars opined

that employees who are paid well and experience job security have adequate levels of job satisfaction, organisational commitment, and engagement (Maleka et al., 2019).

TABLE 2: BUSINESS ACUMEN MATRICES

Business acumen matrices	Description
Return on assets (ROA)	This business-related matrix calculates the net income via assets.
Return on equity (ROE)	It is a business matrix that calculates net profits from owner shares.
Earnings Before Interest, Taxes, Depreciation, and Amortisation (EBITDA)	This matrix shows how an organisation's operational profitability focuses on making profits from its core activities.

Source: Marx & De Swart (2013)

This divergence suggests that, although human capital theory offers a normative justification for CEO pay differentials, it alone cannot fully explain observed wage inequality in the South African corporate context.

3.4 Wage gap

The wage gap, also known as wage inequality, is the difference between employees in wage earnings—it can be horizontal or vertical. The focus of the article is on the vertical, where the CEO's salary is compared to that of the employees in the retail organisation (Yuan, Sun & Chen, 2025). Even though human capital theory acknowledges that wage differences are based on discrimination, it is silent on organisational justice, also known as fair pay. In a nutshell, fairness, according to organisational justice theory, is based on employees comparing their wages with those of other employees and managers, including the CEOs (Susati, 2025). Organisational justice scholars have adumbrated that organisational justice has three dimensions (Getahun, 2020). One of the dimensions is procedural justice, which focuses on the procedures and policies that are taken to reduce unfairness (Tamrakar & Shrestha, 2022). Regarding compensation, such policies should be based on job evaluation and the position of the organisation in the market. Job evaluation is known as a process of evaluating a position, assigning a grade to it, and documenting this description, which comprises the job title, job specifications, principal duties and responsibilities, and working conditions (Ruzungunde, Sanhokwe & Chinyamurindi, 2024). The other dimension is called interactive justice, which involves how managers interact with employees. From a wage perspective, if the organisation is not unionised, based on the manager's bias, certain employees might be compensated higher than others, either based on race, ethnicity, religion, or gender. This would perpetuate a wage gap, which is not based on discrimination, as human capital theory states. Lastly, distribution justice explains how resources are distributed in an organisation (Getahun, 2020). In retail, wages are distributed among employees and management, which is the focus of the study. If the gap between these actors is profound, organisations face reputational damage, and levels of engagement and job satisfaction decline significantly (Schultz & Nel, 2020; Tamrakar & Shrestha, 2022), while unions demand and bargain for higher wages (Bendix, 2019). Executive remuneration is a contentious and complex topic, and it is based on employees earning a base and guaranteed salary, as well as variable pay, such as shares, provident fund performance bonuses, and holidays (Maleka, Mmako & Swarts, 2017). In the South African context of high-income inequality, large CEO–employee wage gaps may erode perceptions of distributive justice among low-income earners, particularly when pay outcomes are perceived as disconnected from contribution to the organisational performance (Colquitt, Conlon, Wesson, Porter & Ng, 2001).

3.5 Conceptual framework

The conceptual framework in Figure 1 below shows the business acumen matrices that inform the CEO's pay.

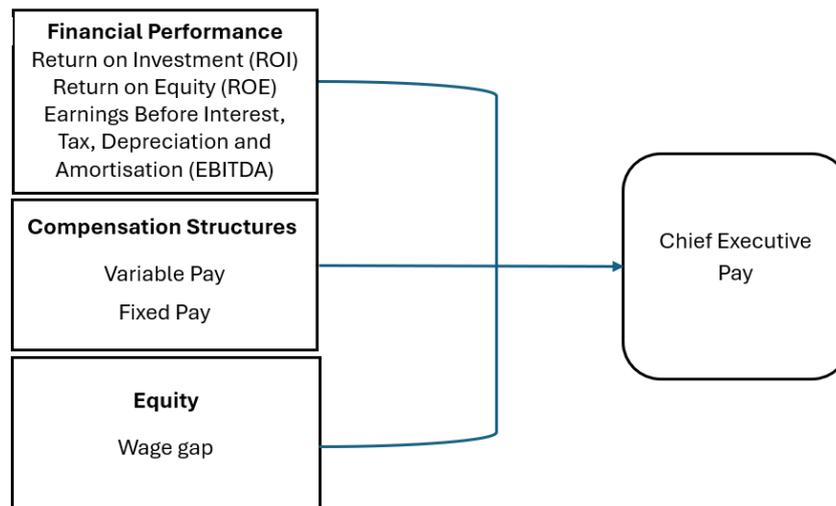


FIGURE 1: CONCEPTUAL FRAMEWORK

Source: Researchers

Figure 1 shows the conceptual framework that comprises matrices under financial performance (ROI, ROA, and EBITDA), compensation structures (variable pay and fixed pay), and finally, equity (wage gap).

The following are the hypotheses:

- H₁: There is a positive relationship between organisational performance metrics and the CEO's salary.**
- H₂: Variable pay comprises the highest proportion of the CEO's salary.**
- H₃: The wage difference between the CEO's salary and that of low-income earners in the retail sector is substantial.**

4. METHODOLOGY

4.1 RESEARCH DESIGN

The research paradigm deemed appropriate to address the research question was positivism. In addition, this study is explicitly positioned as an exploratory statistical and time-series analysis rather than a predictive modelling exercise. In addition, machine learning is minimal, and the estimated correlations highlight associations. Therefore, the focus is on trend analysis rather than stable predictive rules and is intended to inform theory development. As such, it is envisaged that the machine learning algorithms would be used to inform theory development and produce illustrative insights rather than generalisable estimates. This epistemological stance of this paradigm is that knowledge is created using numbers, and its ontological stance is that the researcher should be objective when analysing data (Creswell & Creswell, 2020). The study utilised a quantitative approach within a positivist paradigm, employing a descriptive and exploratory research design. It highlighted the scarcity of similar studies in the South African context and focused on describing business acumen matrices. As for the research design, the data analysis was longitudinal, covering annual reports from 2016 to 2024 (Denzin & Lincoln, 2018).

4.2 DATA COLLECTION

The research strategy was a case study, as it was based on a retail organisation. The data collection was secondary as it was based from 2016 to 2024. Also, like in previous similar international studies, the data were from the annual reports, which play a salient role in organisations being transparent about salaries and other financial metrics (Lucey, Urquhart & Zhang, 2022). Within the South African context, King IV states that organisations should display their executive salaries (Maleka et al., 2024). In this study, only companies that included low-income earners were used for comparison, hence excluding companies not satisfying this condition.

4.3 DATA INTEGRITY

Since the data had already been audited, it can be argued that it had integrity and was valid. In addition, the researchers did not have to apply for permission to analyse the data since these were in the public domain. However, the researchers ensured that the data were analysed with precision. To analyse the data, prompts were used in ChatGPT—an Artificial Intelligence, human-like chatbot created by a company called OpenAI, which is used to create essays and Excel sheets (Chen, 2023). Chat is a language program, while GPT stands for generative pretrained transformers. In this study, ChatGPT was used to create business acumen matrices and to generate a step-by-step guideline on how to create them in Excel (Anker & Anker, 2017). Since ChatGPT is based on pre-trained data and does not have a 100% accuracy rate (Al-Ashwal, Zawiah, Gharaibeh, Abu-Farha & Bitar, 2023), the researchers gave the annual report and the calculations to a financial czar to authenticate the calculations.

4.4 STATISTICAL ANALYSIS

Descriptive statistics, such as histograms, were measured to determine the distribution of the study variables (Refer to Figure 1). All the statistical analyses were conducted in Python. Also, the percentages of the fixed and variable pay were calculated from 2016 to 2024. The correlation heatmap was calculated to determine how the predictors related to the CEO's total salary. Correlation is a statistical technique that is used to measure the relationship between the predictor and the outcome variable. It ranges from 0 to 1, and according to Cohen (1998), 0 to 0.29 means a small correlation, 0.30 to 0.49 means a medium correlation, and 0.5 to 1 means a large correlation.

Moreover, a bootstrap sample of 1000 was calculated since the data points were limited. Next, a regression was calculated to determine whether the relationship was significant. Confidence intervals were used, and the confidence level was set at 95%. Maree (2016) opined that a regression is a statistical technique used to determine how independent variables predict the outcome or dependent variable. Regarding confidence intervals, Salkind (2014) claims they are the best estimates of the range of a population value given by a sample. To measure the salary structure, the stacked bar chart was used to determine the future CEO's salary. As suggested by James and Tripathi (2021), Holt-Winters was used in this study as it is capable of analysing the size used in this study to calculate historical data and projections.

5. RESULTS

The descriptive statistics and histograms (Table 1 and Figure 2) indicate that several variables, particularly CEO fixed pay, variable pay, and total salary, exhibited right-skewed distributions. The means of these variables were higher than their medians, and their large standard deviations suggested substantial variability and the presence of outliers. Also, low-income earners' pay displayed a pronounced right-skew with a high standard deviation, implying unequal income distribution. Conversely, EBITDA demonstrated a relatively close mean and median but with an irregular, possibly bimodal distribution. Both ROA and ROE showed moderate variability, with means and medians that were

relatively close, inferring more balanced distributions. Finally, the CEO-to-low-income ratio revealed significant right-skewness and dispersion. Thus, the findings highlight a marked variability and right-skewness in compensation-related metrics, reflecting notable disparities in pay structures across the dataset.

TABLE 1: DESCRIPTIVE STATISTICS

Year	Fixed	Variable	Total CEO Salary	Fixed Pay %	Variable Pay
2016-12-31	49656	50000	99656	49.83	50.17
2017-12-31	9713	20330	30043	32.33	67.67
2018-12-31	16130	6999	23129	69.74	30.26
2019-12-31	16130	6999	23129	69.74	30.26
2020-12-31	16871	11836	28707	58.77	41.23
2021-12-31	16815	11984	28799	58.39	41.61
2022-12-31	17141	43865	61006	28.10	71.90
2023-12-31	18751	45914	64665	29.00	71.00
2024-12-31	18863	17082	35945	52.48	47.52

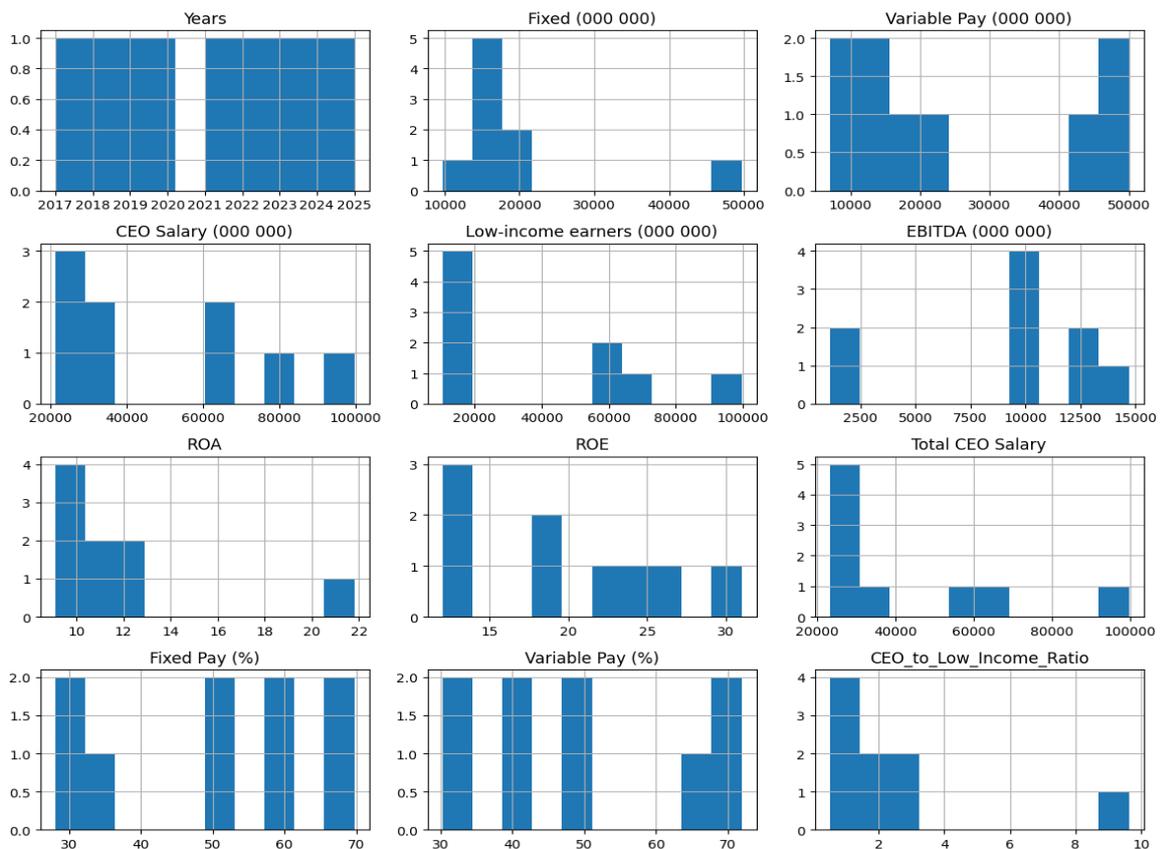


FIGURE 2: DISTRIBUTION OF BUSINESS ACUMEN METRICS AND CEO SALARY

5.1 INFERENTIAL STATISTICAL ANALYSIS

To determine how the CEO's salary is influenced by other features, a correlation heatmap was calculated. The data are shown in Figure 3. The features that influenced the CEO's salary the most were fixed ($r = 0.73$) and variable pay ($r = 0.83$).

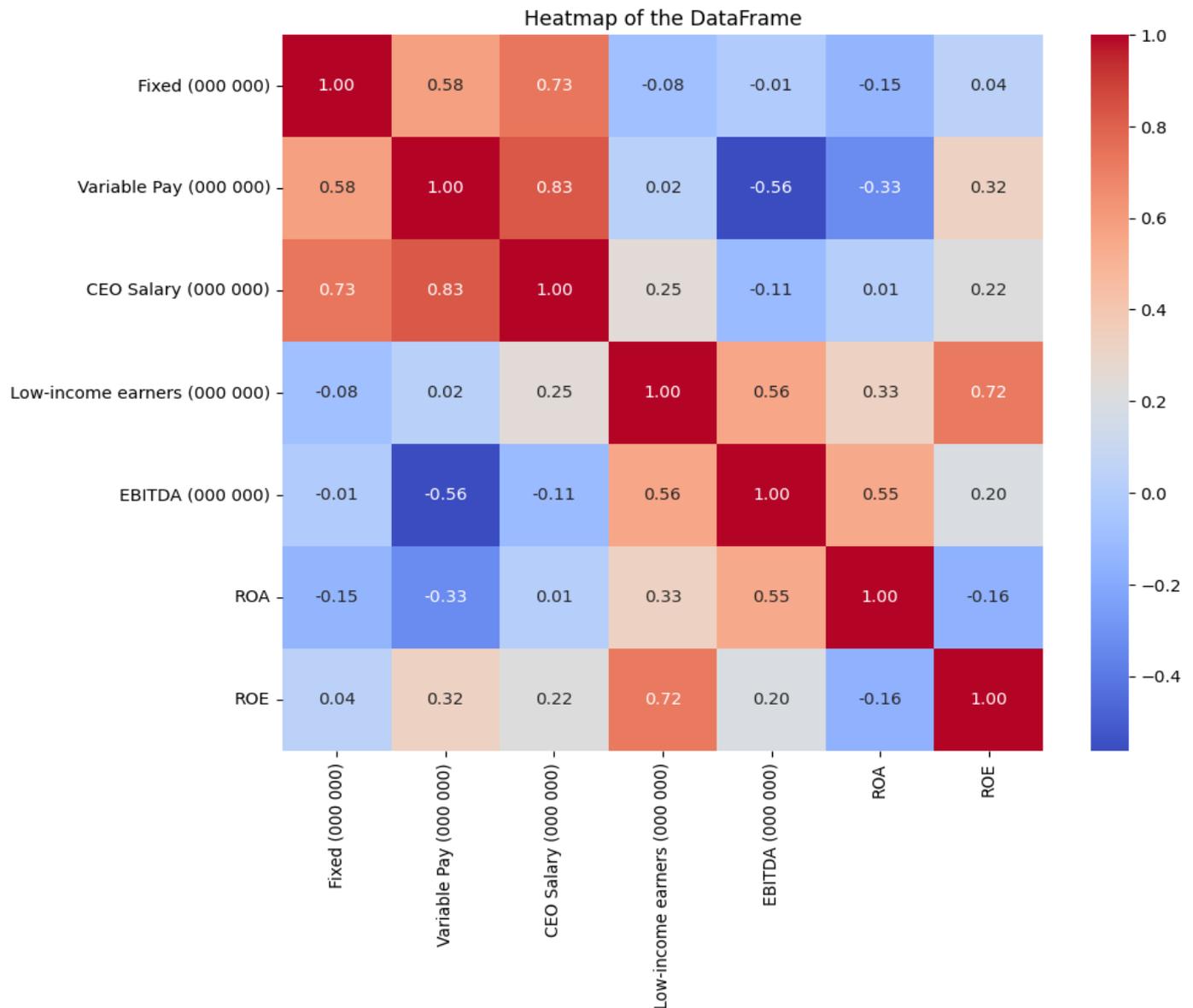


FIGURE 3: RELATIONSHIP AMONG THE STUDY FEATURES

Since Python's heatmap does not show the significance value, regression was conducted. Due to the low level of data points ($n=10$), bootstrapping was done on 1000 samples. The multi-linear regression, and not the features, significantly influenced CEO salary. The 95% bootstrapping confidence intervals for the coefficients all included zero, suggesting that the results were not significant. Based on the study results, H_1 is partially accepted since the EBITDA relationship with CEO salary is negative ($r=-0.11$)

TABLE 2: CONFIDENCE INTERVALS

Features	Confidence intervals
constant	(-450711.3773, 120831.7527)
Fixed (000 000)	(-5.9626, 25.9285)
Variable Pay	(-4.5021, 2.4915)
ROA	(-3333.1360, 7387.3003)
ROE	(-3566.0508, 6101.6900)
EBITDA	(-6.3465, 15.1847)

5.2 CEO SALARY STRUCTURE AND TREND

The CEO salary structure proportion is shown in Figure 4. Given the right-skewed distribution of CEO variable pay and its high variability, the median serves as the most appropriate measure of central tendency, as it minimises the effect of extreme outliers. However, the mean may also be reported to illustrate the extent of disparity in variable compensation across CEOs. Over the years, the proportion of variable pay has fluctuated considerably, ranging from approximately 30.26% in 2018 and 2019 to 71.90% in 2022, highlighting notable shifts in the compensation structure within the dataset. The median variable pay proportion for CEOs between 2016 and 2024 was 47.52%, indicating that in a typical year, nearly half of the total CEO compensation was performance-based. The mean fixed pay proportion for CEOs from 2016 to 2024 was 49.82%, suggesting that, on average, approximately half of the total CEO compensation consisted of fixed components, making the mean a suitable representation of the typical value due to moderate variability and a lack of extreme skewness. The next figure shows the stacked chart of the CEOs’ fixed and variable pay from 2016 to 2024.

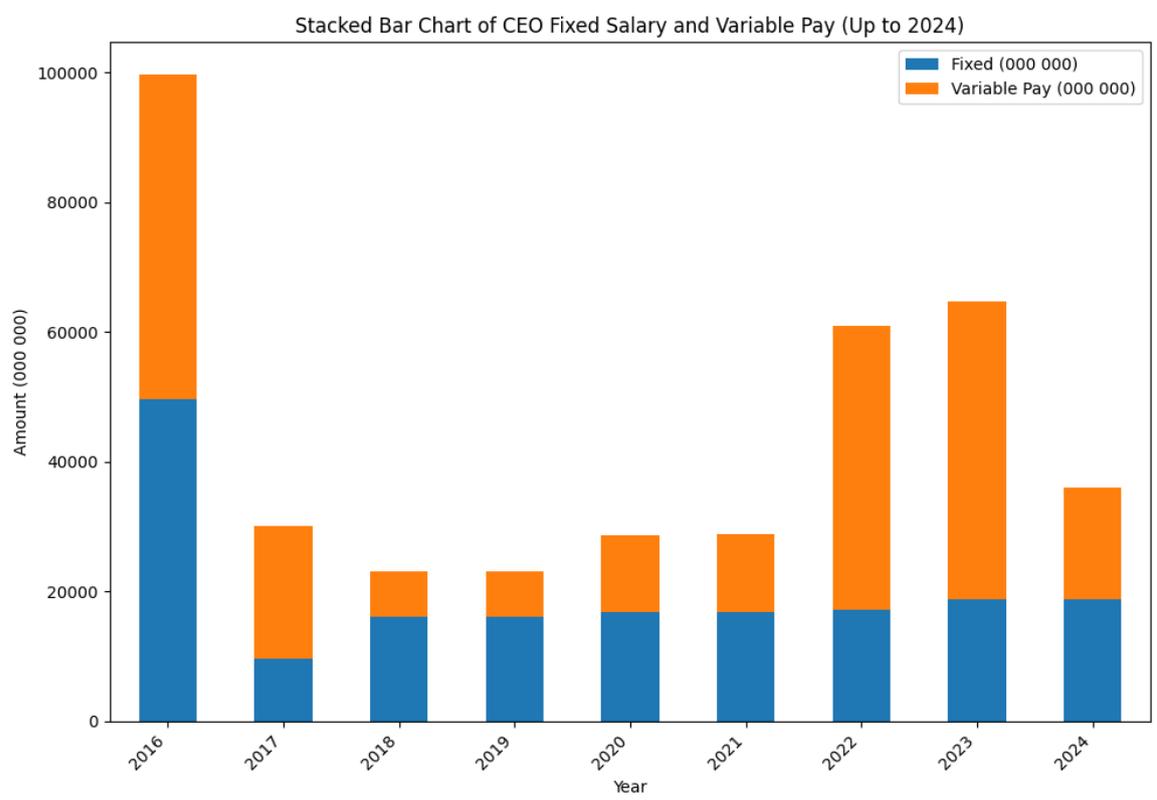


FIGURE 4: CEO SALARY STRUCTURE

The trend analysis of the total CEO salary from 2016 to 2024 was also conducted (refer to Figure 5). Based on the results, H_2 is partially accepted, since the fixed salaries from 2018 to 2021 were higher than the variable pay.

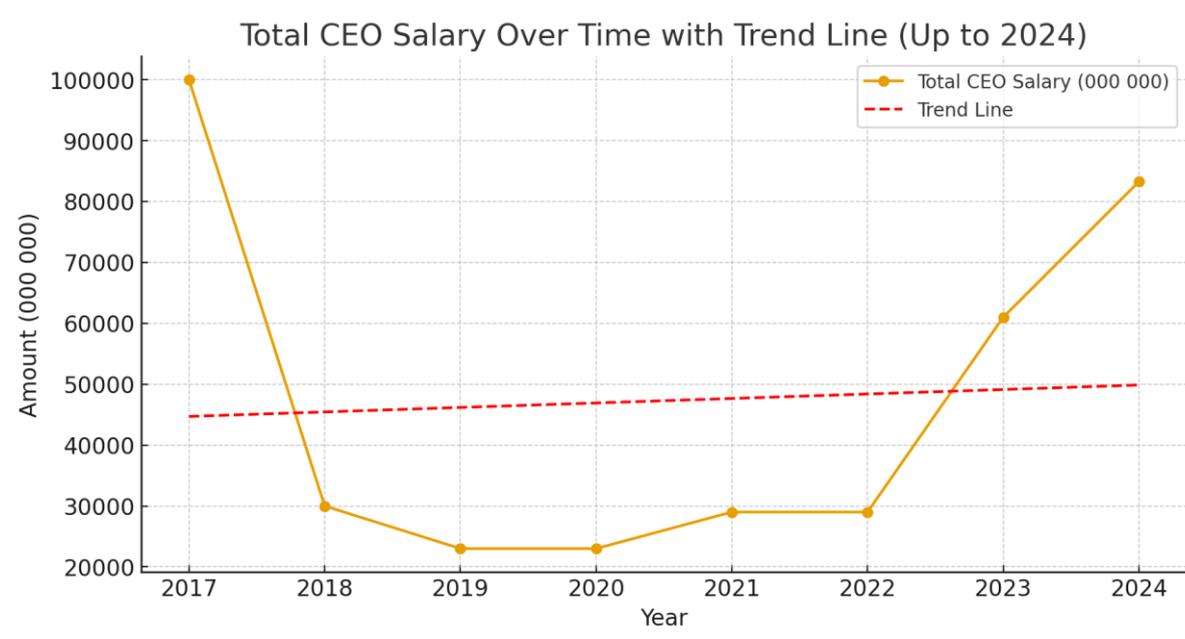


FIGURE 5: CEO SALARY TREND

Figure 5 shows the total CEO salaries from 2017 to 2024. The data show a considerable decline in salary from 2017 to 2019, from approximately R100 million to roughly R23 million. The downwards trend continues through to 2022, showing a turbulent period for CEO remuneration, probably due to economic challenges or organisational salary reviews. However, from 2021, the results show a steady recovery and an upward trajectory until 2024 when the salary hits R83, 270 million. The results further show a trendline with a positive slope, showing a gradual increase in CEO compensation. The U-shaped pattern is characterised by a contraction before having a sustained recovery, denoting that executive pay levels moved upwards despite the earlier declines. The findings demonstrate that CEO remuneration fluctuated in the short term due to economic dynamics, which may have been caused by a sluggish GDP, COVID-19 (2020-2021), or depressed company incomes. This may have prompted the organisation to suspend or reduce performance-based bonuses. Additionally, the shortage of electricity supplies, where load-shedding was rampant and curtailed retail and manufacturing industry operations, could also have contributed.

5.3 WAGE GAP ANALYSIS

The wage formula is the Wage Gap Ratio: CEO Pay/Lowest Earner Pay (Bussin & Swart-Opperman, 2022). The wage gap was not only limited to the case study; it included other CEO salaries and low-income earners' pay from other major retailers in South Africa, meaning the finding is generalisable. According to Table 3, Shoprite's wage gap has appeared to widen from ~992x to ~1,161x, driven by a large CEO pay increase, yet a modest increase in minimum pay. Concerning Woolworths, the gap appeared to narrow significantly (~1,309x → ~657x), mainly because CEO pay dropped while minimum pay rose. SPAR's ratio decreased (~421x → ~155x), again due to a CEO pay drop and better-reported worker pay. The data for Mr Price and Pick n Pay are incomplete for the lowest-paid worker (especially for FY24), so trends are unclear. Overall, across the board, the ratios remain extremely large (hundreds to over a thousand times), indicating very large CEO-to-worker pay gaps in this sector. Hence, H_3 is accepted.

TABLE 3: WAGE GAP IN THE RETAIL SECTOR

Company	CEO remuneration FY23	CEO remuneration FY24	Lowest paid / internal minimum FY23	Lowest paid / internal minimum FY24	Wage gaps
Shoprite Holdings (including Checkers)	R 64.67 m	~ R 83.27 m	R 65,263	R 71,674	992 (2023) to ~1,161 (2024) ^x
Woolworths Holdings Limited	R 122.47 m	R 65.29 m	R 93,600	R 99,450	1,309 (2023 to 657 (2024)
SPAR Group Ltd	R 25.043 m	R 16.045 m	R 59,483	R 103,583	421 (2023) to 155)
Mr Price Group	R 45.91 m	R 60 m	R 64,537	—	71
Pick 'n Pay	R 10 m	R 24.9	R 64,537	—	15 (2023)

Note: M stands for millions

5.4 CEO'S AND LOW-INCOME EARNERS' HISTORICAL AND FUTURE PROJECTIONS

The mean forecast for variable pay in Figure 6 indicates a potential increasing trend over the subsequent three periods, with projected values of approximately R25,078,000, R26,451,000, and R27,824,000. There is substantial uncertainty in the forecasts, as indicated by the very wide 95% confidence intervals. For the third forecast period, the interval ranges from a lower bound of approximately R14,792,000 to an upper bound of approximately R93,740,000. The standard deviation of the forecasts increases over time, from approximately R17,822,000 for the first period to R28,216,000 for the third period, reflecting growing forecast uncertainty. The high variability observed in the historical variable pay data and the small dataset size (10 data points) are significant contributors to the observed uncertainty.

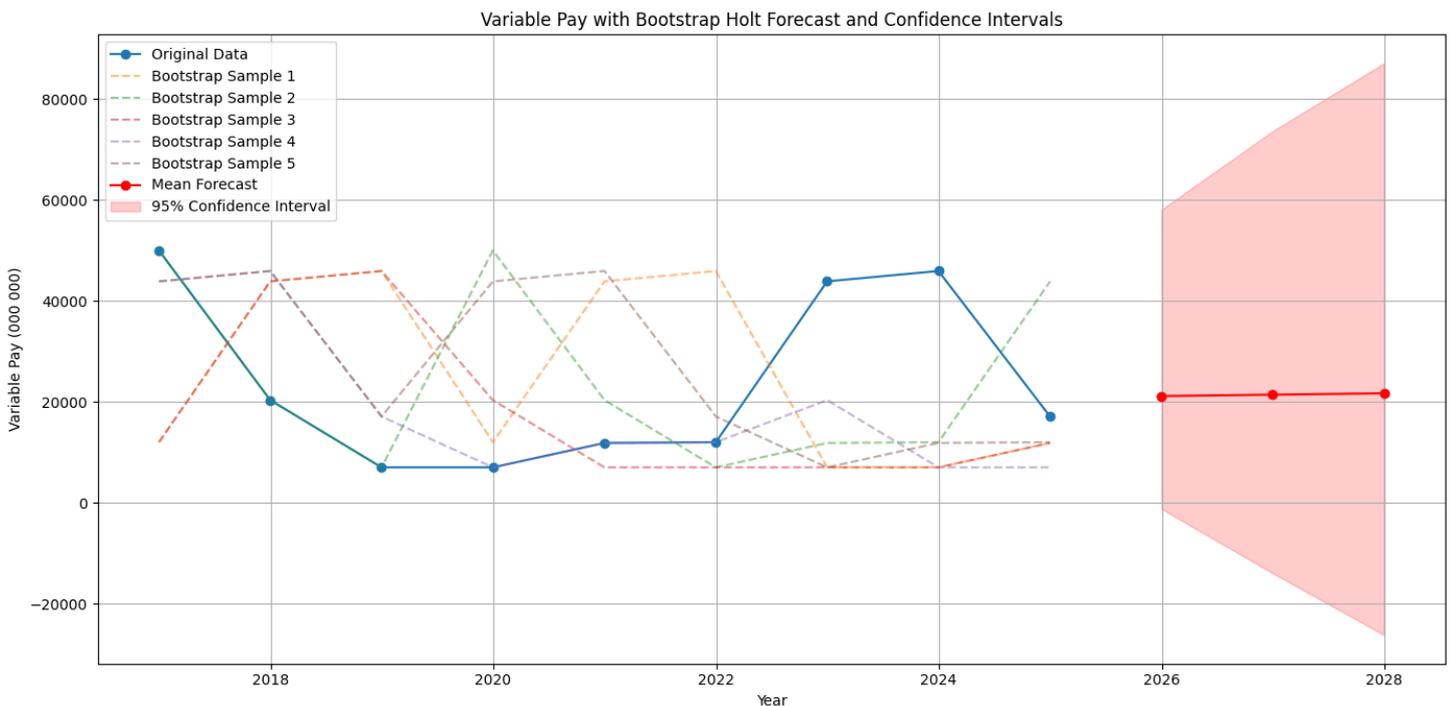


FIGURE 6: CEO'S VARIABLE PAY

Figure 6 above shows the results of the CEO's variable pay with bootstrapping using the Holt Forecast and confidence intervals. The results for the variable pay show a downward trend from 2018 to 2019. Variable pay moved steadily from 2019 to 2022 before it exponentially moved upwards in 2023 and slightly in 2024. However, the predicted

forecast from 2024 shows variable pay going downwards; yet, a major decline was forecasted for 2025 before steadying from 2026 to 2028. Figure 7 shows CEO salary bootstrapping using the Holt forecast and confidence intervals.

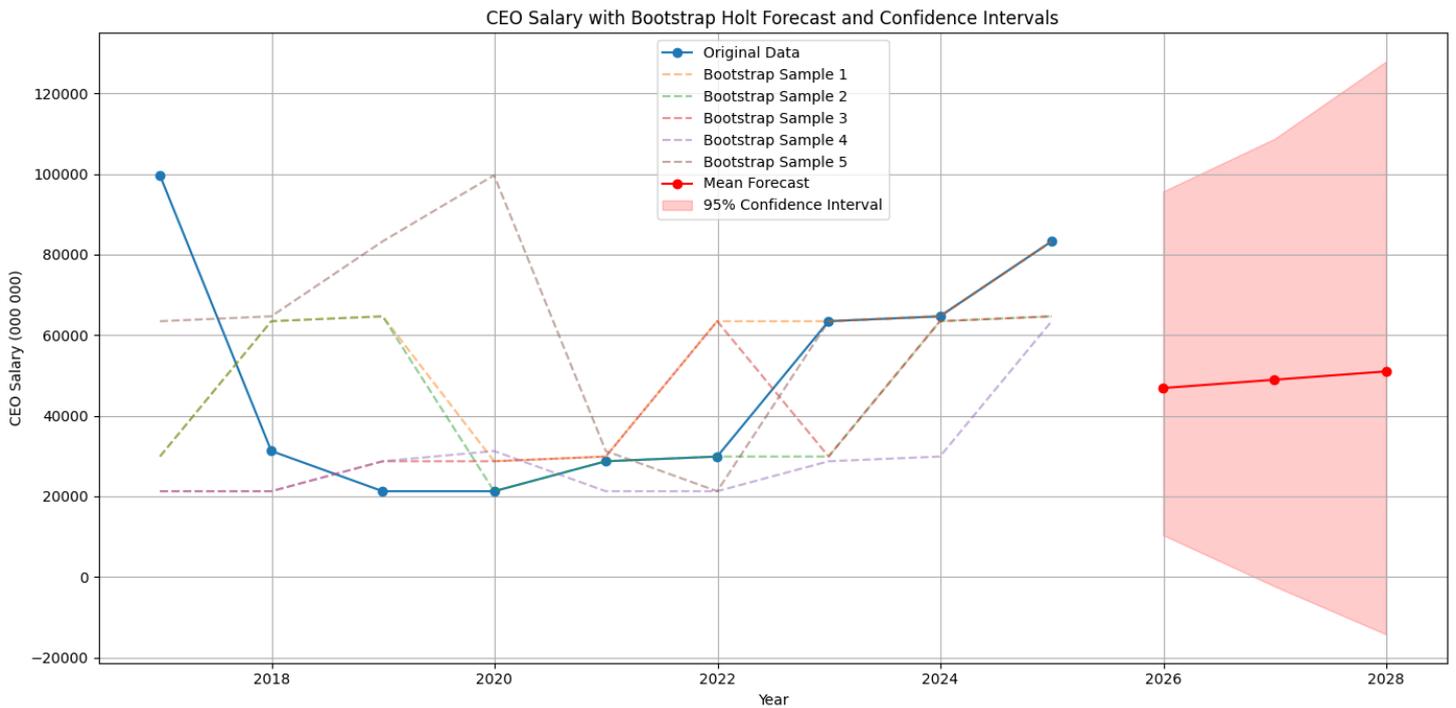


FIGURE 7: CEO SALARY

The results in Figure 7 show a decline from over R100 million before 2018 to just below 40 million and slightly to around R20 million in 2019, steadying until 2020. It started to move on an upward trend in 2023, where it moved to above R60 million. The CEO's pay by 2024 shifted to R83 million. However, the forecasted results show that the CEO's pay will continue to move upwards until 2028.

5.5 Low-income earners

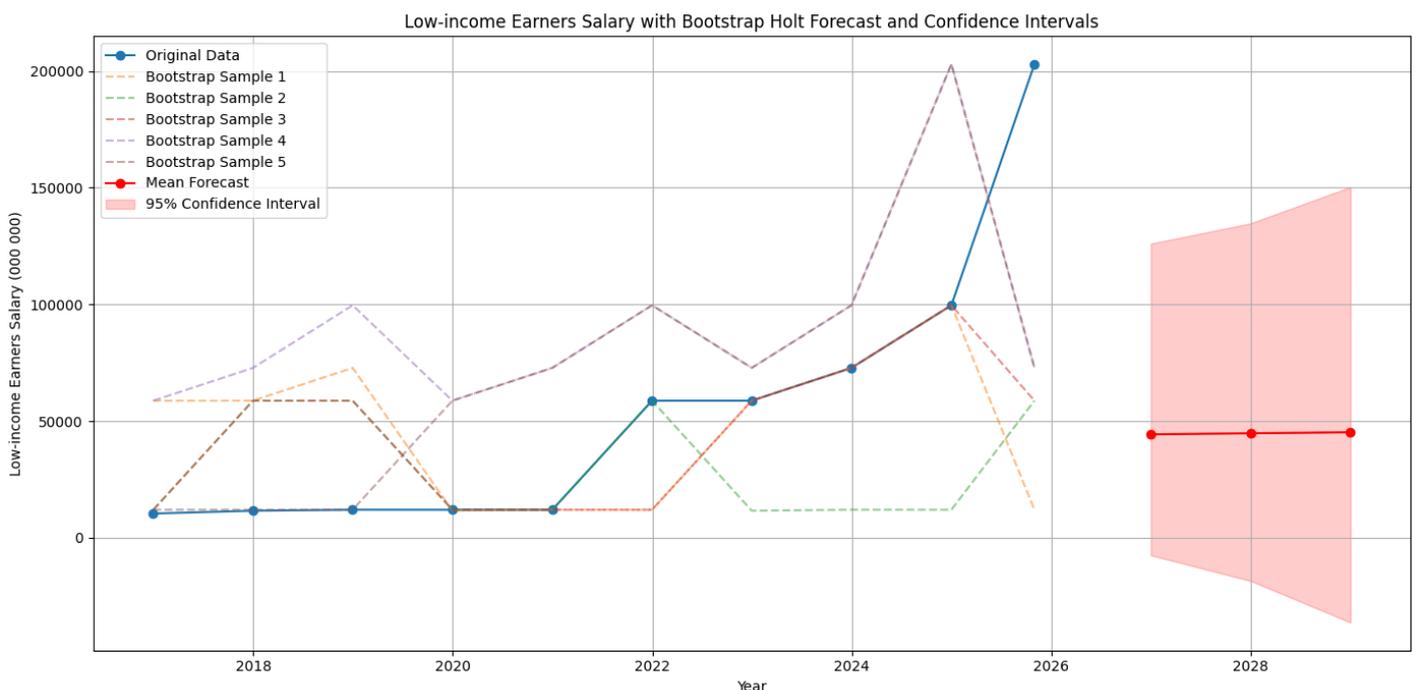


FIGURE 8: LOW-INCOME EARNERS

The results of Figure 8 above show that from 2017, the low-income earners' salaries remained steady until 2021 and then moved upwards to over R50 million in 2022. Then in 2023, the salaries remained stagnant and moved upward slightly in 2024, probably due to the review of minimum wages. The forecasted results indicate a continuous upward trajectory until 2028.

6. DISCUSSION

The purpose of this study was to measure and explore business acumen matrices in a South African retail organisation. This study provides valuable insights and contributes to the body of knowledge involving business acumen, as similar studies are scarce in the South African context. Previous South African research—focusing on business acumen matrices (ROA, EBITDA and ROE)—used traditional statistics (Busin & Ncube, 2017), instead of machine learning, like the current study. Traditional statistics often focus on hypothesis testing and assume linearity, normality, and homoscedasticity. Machine learning algorithms are more flexible and can handle non-linear relationships, interactions, and high-dimensional data without strict assumptions. In addition, machine learning is particularly suitable for handling skewed distributions and outliers, as in this study (James, Witten, Hastie & Tibshirani, 2021). As can be observed in Figure 4, the stacked bar in 2016 showed an outlier. This was because in 2016, the then CEO of the retail organisation received a payment of R100 million, and most of the payment was variable pay, which included shares and a performance bonus.

To explore how to create new knowledge and theory development, the first question focused on the relationship between the business acumen metrics and the CEO's salary. From a human capital theory perspective, the organisation as a retailer should treat the CEO as an asset. This is due to the CEO's strategic decision-making and productivity capabilities having a positive impact on ROE, ROA, and EBITDA. Hence, the retail organisation's remuneration structure is designed to retain and reward this human capital (Becker, 1962). To address the first research question, both correlation and regression were conducted. Other business acumen matrices were lower than 0.2, and it was only ROE that had a 0.22 relationship with the CEO's salary. It was also found that fixed pay ($r=0.83$) and variable pay ($r=0.73$) correlated the highest with the CEO's total salary. However, when regression was conducted, the results were non-significant. The likely explanation for obtaining non-significant results is the execution of multiple regression on a small sample size. This result is therefore inconclusive and does not provide empirical support for a statistically significant association between business acumen metrics (ROA, ROE, and EBITDA) and CEO total remuneration within the study period. Coetzee and Hall (2020) found a positive relationship between EBITDA and CEO salary, which contrasts with the finding of the current study (refer to Figure 3). Coetzee and Hall (2020) found the relationship between ROA and CEO was negative, and in this study, it was positive ($r = 0.01$) and not significant.

The second exploratory question that this study sought to address was to find the proportion of fixed and variable pay to the total CEO's salary. The rationale for developing and addressing this question was that previous research, conducted outside the retail sector, established that variable pay (e.g., bonuses and stock/shares) contributed the highest proportion of CEOs' salaries in the South African private sector (Bussin & Modau, 2015). The study findings contradict this view, as there was no clear pattern of the years analysed in this study (refer to Figure 4).

One of the business acumen matrices that causes dissatisfaction and an outcry is the wage gap (Rasmussen et al., 2024). Hence, in this study, the wage gap was measured at prominent retail organisations. From the perspective of equity theory (Adams, 1963), the wage gap between the CEO and the lowest-paid employee reflects a potential imbalance between employee inputs and outcomes. According to this theory, employees assess fairness by comparing their contributions—such as effort, experience, and skill—to the rewards they receive relative to others in the

organisation. In this study, the largest wage gap was between 2023 and 2024 at Woolworths, and in 2024 it was at Shoprite. Additionally, the annual statements showed that there were no female CEOs at the retail organisations analysed, suggesting there is no diversity.

Lastly, this study analyses historical remuneration trends among CEOs and low-income earners and produces an exploratory time-series projection, which is presented for illustrative purposes rather than as a predictive or generalisable forecast. The forecast from 2026 to 2028 shows a steady increase in CEO's salaries from R47 million to R52 million. The shaded area was measured with a 95% confidence interval, and the gap is notably wide in 2028. However, the model is not very confident about the exact values. By 2028, the salary could be much higher or much lower than the mean prediction. A plausible reason is that the CEO's salary ranged from R20 million to R100 million, which complicated long-term predictions. Similar to the CEO's prediction, the low-income earners' results should be treated cautiously. The forecast for low-income earners between 2026 and 2028 shows a modest upward trend in the expected mean salary, with predicted values clustering around R45 million. This indicates that, on average, the model anticipates only slight annual increases in low-income wages over the three-year forecast.

7. MANAGERIAL IMPLICATIONS

The results of the study have implications for managers, for example, the data showed that the organisation is currently performing well in terms of the profitability pertaining to the business acumen measures (ROA, ROE and EBITDA). A profitable organisation tends to foster sustainability, expansion, and create more jobs. In terms of the latter, it was shown that the organisation was able to hire 6490 individuals when the South African economy was shedding jobs in 2024. The data (2023 and 2024) indicated a competitive salary, which can contribute to the organisation retaining and fostering satisfied and motivated CEOs.

On the other hand, the wage pay gap between the CEOs and other employees can be examined through an equity lens. Unions tend to bargain hard for their members, push for higher wage increases, and use the consumer price index as the base for salary adjustments, so that their members' purchasing power is not diminished. Hence, it is recommended that the retail organisation review its compensation strategy for lower-paid employees. Rather than paying a minimum wage, it should consider implementing a living wage. A South African study established that a living wage of around R12 000 per month keeps employees engaged, committed, and satisfied (Maleka et al., 2019).

Since the human capital theory adumbrates that a high ROA, ROE, and EBITDA indicate strong operational and profitability performance, it is recommended that the organisation invest in human capital development, which includes digital training to enhance productivity. Digitising processes, which include automation, should be considered if these do not lead to job losses, as the unemployment rate in South Africa is already very high. Overall, investing in employees' career development could lead to the career progression of females and non-white male employees. Lastly, the organisation should align managerial rewards with broader organisational value creation, rather than solely focusing on shareholder returns, as this fosters trust and mitigates negative perceptions associated with high wage disparities, even amid strong financial performance.

8. STUDY LIMITATIONS AND FUTURE RECOMMENDATIONS

Despite this study making theoretical and managerial contributions, it had limitations. A key limitation of this study is that the forward-looking analysis was exploratory and illustrative rather than predictive. This limitation constrains the interpretive scope of the findings and further limits their generalisability beyond the study period and sampled retail organisation. While historical remuneration data for CEOs and low-income earners were analysed rigorously, the

projected trends are based on simple time-series extrapolation and are not intended to forecast future pay outcomes. The inclusion criteria led to the study having a small data set. Therefore, it is recommended that researchers approach companies that sell their data to access a bigger dataset. In addition, with such datasets, scholars will be able to employ more robust longitudinal designs to test whether observed remuneration patterns persist over time and to assess the stability of pay-performance relationships across diverse economic conditions.

9. CONCLUSION

This article created insight into business acumen metrics and used an organisation as a case study. The motivation for conducting this study was mentioned in the introduction, while the contributions have been mentioned in the discussion section. Based on the background information, three research questions were developed. In order to provide the study with a solid theoretical foundation, human capital and equity theory were deemed appropriate. The study followed a positivist paradigm, and the data were analysed in Python. Based on the study results, it can be concluded that fixed and variable pay are highly associated with the total CEO's salary. ROE is slightly associated with it; however, the relationship is not significant. It can also be concluded that the CEO's salary mostly consists of variable pay, even though the proportion was inconsistent from 2016 to 2024. Lastly, the forecast for CEOs and low-income earners from 2026 to 2028 shows a steady increase at a 95% confidence interval; however, the forecast is uncertain.

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CONFLICT OF INTEREST

The authors declare no conflict of interest.

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