DIVERSE BOARDS, STRONGER REAL ESTATE INVESTMENT TRUSTS: AN ANALYSIS OF BOARD DIVERSITY AND PERFORMANCE OF SOUTH AFRICAN REITS

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Abstract

This paper examines the relationship between board diversity and the performance of real estate investment trusts (REITs) listed on the Johannesburg Stock Exchange (JSE) from 2013 to 2021. Focusing on racial, gender, and education diversity, the study analyses a sample of 30 REITs, representing 81 percent of the sector. The study employs fixed-effects models to show that racial diversity positively impacts funds from operations per share (FFO P/S) and earnings per share (EPS), suggesting that diverse boards enhance operational and earnings efficiencies. However, gender diversity has a significant negative effect on FFO P/S, indicating potential challenges in achieving operational efficiency. Education diversity shows minimal influence across all measures. These findings imply that racial diversity contributes positively to REIT performance, while the impact of gender diversity is more complex, and education diversity appears less significant. The study contributes to corporate governance literature by providing empirical evidence of board diversity's impact within JSE-listed REITs. It recommends targeted strategies to enhance racial diversity and address the operational challenges associated with gender diversity, while suggesting a balanced approach to board composition, considering practical experience alongside educational backgrounds.

Keywords: Performance, REITs, Diversity, Race, Gender, Board, Education, Johannesburg Stock Exchange, JSE

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1. INTRODUCTION

The introduction of the real estate investment trust (REIT) dispensation in South Africa in 2013, revolutionised the country's property sector by providing investors with diversified property portfolios. The creation of the South African REIT structure was designed to allow both individual and institutional investors to participate in a diversified portfolio of investment-grade properties, like direct property ownership (Boshoff & Bredell, 2013). Prior to this framework, property investments in South Africa were primarily accessible through property loan stocks and property unit trusts (Kruger, 2017). The new South African REIT structure, characterised by income-generating properties, has enhanced investor access through increased liquidity and tax advantages (Ntuli & Akinsomi, 2017).

Despite these advancements, there remains a gap in understanding how corporate governance mechanisms, specifically board diversity, impact REIT performance in South Africa. The evolving legislative environment and the emphasis on improving corporate governance frameworks have prompted questions about whether and how board diversity influences firm performance in this sector. Board diversity encompasses various attributes, including race, gender, and education, which are increasingly recognised for their potential to improve governance practices and enhance decision-making (Kabara et al., 2022).

The significance of this study lies in addressing the gap between board diversity and firm performance, particularly within South African REITs. Globally, various studies have linked diverse boards to improved decision-making, innovation, and risk management (Association of Chartered Certified Accountants [ACCA], n.d.). For instance, Gyapong et al. (2021) found a positive relationship between board diversity and firm financial performance in Australian firms, while Schrand et al. (2018) demonstrated that gender and ethnic diversity contribute to improved corporate performance. Despite these global findings, studies specifically investigating the impact of board diversity on South African REITs remain sparse. Research in South Africa has largely focused on traditional governance variables such as board independence, size, and activity (Ajayi, 2022), with limited attention given to how diversity in race, gender, and education influences firm performance in an emerging economy such as South Africa. This underexploration highlights the importance of this study, especially in the realm of growing legislative pressures and advocacy for inclusive governance practices, which highlight the need for greater representation on corporate boards.

Consequently, this study contributes to the broader conversation on how diversity may drive or inhibit firm performance in the South African market. This paper draws on a final sample of 30 REIT companies, representing 81% of the sector for the period from 2013 to 2021. The empirical analysis employs panel data techniques to assess how board diversity affects performance measures over the period under study. This paper enhances the understanding of the role of governance diversity in South African REITs and provides insights into whether diverse boards positively impact firm performance. These findings have important implications for policymakers, investors, and corporate governance advocates, who are increasingly advocating for greater diversity in boardrooms to ensure more robust governance and efficiency.

The structure of this paper is organised as follows. Section 2 reviews the relevant literature on board diversity and its relationship with firm performance. Section 3 outlines the methodology, including data sources, variable selection, and empirical strategies employed in the analysis. Section 4 presents and describes the empirical findings, highlighting the impact of race, gender, and education diversity on REIT performance. Section 5 discusses the broader implications of the results, providing recommendations for practitioners and policymakers. Section 6 concludes the paper by summarising the key findings, discussing the study's contributions to the literature, and addressing limitations, while also suggesting avenues for future research.

2. LITERATURE REVIEW AND HYPOTHESES DEVELOPMENT

2.1. Theoretical framework

The analysis of the relationship between board diversity and firm performance draws upon foundational corporate governance theories, particularly agency theory and resource dependence theory. These frameworks provide critical perspectives on how diverse boards, encompassing race, gender, and education, may influence organisational effectiveness.

2.1.1. Agency theory

Agency theory emphasises the conflicts of interest between principals (shareholders) and agents (directors), suggesting that diverse boards can serve as a mechanism to mitigate such conflicts (Jensen & Meckling, 1976). A key element of agency theory is the need to control agency costs, which arise when agents act in their own self-interest, diverging from the goals of shareholders (Eisenhardt, 1989). Increased representation of diverse individuals on boards may help address these agency conflicts by promoting independent oversight and decision-making (Carter et al., 2003). Tosi and Gomez-Mejia (1989) suggested that diverse boards can bring varied perspectives, potentially leading to more balanced governance practices and reducing the likelihood of management pursuing self-serving agendas. For instance, gender diversity has been linked to stronger monitoring functions, as women are often associated with enhanced vigilance and risk aversion in decision-making processes (Adams & Ferreira, 2009).

Furthermore, racial and educational diversity may contribute to reducing informational asymmetry between managers and shareholders, as board members from diverse backgrounds bring unique knowledge and insights that can challenge homogenous thinking and promote better monitoring (Carter et al., 2003). Thus, incorporating a wider range of perspectives, diverse boards can enhance the alignment between agents and principals, ultimately improving firm performance.

2.1.2. Resource dependence theory

The resource dependence theory posits that the board of directors plays a critical role in securing resources necessary for firm survival and success (Pfeffer & Salancik, 2003). Board diversity, in this regard, becomes an asset, as directors from different racial, gender, and educational backgrounds may provide access to diverse external networks, information, and resources, enhancing the firm's ability to navigate complex and dynamic environments.

According to Bear et al. (2010), diverse boards contribute to the firm's external legitimacy and broaden its access to critical resources. For instance, gender-diverse boards may help firms attract new markets, capture different customer bases, and secure relationships with stakeholders advocating for gender equality. Similarly, race diversity on boards can enhance the firm's social capital, enabling it to better understand and respond to a multicultural customer base or to manage relationships in diverse geographic markets (Miller & Del Carmen Triana, 2009).

Moreover, educational diversity ensures that directors bring a variety of skill sets and knowledge bases, enabling boards to access expertise across a range of disciplines. This is particularly valuable in industries like real estate investment, where understanding complex financial, legal, and operational frameworks is essential for strategic decision-making (Hillman et al., 2007). Hence, board diversity helps mitigate the firm's dependence on a narrow set of resources, strengthening its competitive position.

2.2. Board diversity and firm performance

2.2.1. Race diversity and firm performance

Race is a critical issue globally due to its historical context, influencing socio-economic opportunities for minorities (Williams, 1999). Governments have enacted legislation to enhance minority participation in economies, with institutional investors advocating for diversity and inclusivity. Race diversity is believed to bring unique perspectives, enhance innovation, improve board performance and decision-making, and encourage better shareholder relationships (Handayani et al., 2017; Miriti, 2020).

Research on race diversity's impact on firm performance shows mixed results. In Malaysia, ethnic diversity negatively influences market value (Hassan et al., 2015). Ulloa et al. (2016) found that institutional influence increased cultural diversity, while Adediran (2018) noted that elite law firms maintain racial diversity as a corporate identity but not as a shared organisational value. Garces and Bilyalov (2019) identified that a "colorblind" approach in policymaking could undermine racial diversity efforts. Hogan and Huerta (2019) reported a negative association between diversity in middle management and REIT performance measures in the United States (US). Conversely, van Oosten (2019) found no significant impact of ethnic diversity on financial indicators for Western European REITs. Kaiser et al. (2023) found that ethnic diversity within metropolitan statistical areas lowered risk perception for retail real estate investors during the COVID-19 pandemic.

In South Africa, the Broad-Based Black Economic Empowerment Act 53 of 2003 (B-BBEE Act) mandates workplace ethnic diversity, reflecting the country's socio-economic challenges. Institutional investors and activist groups push for demographic transformation at all corporate levels (Kabir et al., 2015). Harber (2017) argued that institutional investor activism can promote long-term value creation and responsible corporate governance. Booi et al. (2019) highlighted the challenge of transforming institutional cultures at historically white South African universities to promote diversity. Chekenya and Sikomwe (2022) found no significant differences in the investment performance of Black fund managers compared to others, although this did not directly address institutional investors' role in advancing race diversity. Agyei and Idan (2022) suggested that strengthening institutions can enhance the positive link between trade openness and inclusive growth in Sub-Saharan Africa. Despite these mixed findings, the first hypothesis posits a positive relationship between race diversity and REIT performance, grounded in the notion that racial diversity promotes innovation and improves decision-making, thus enhancing firm performance, the hypothesis is as follows:

H1: There is a positive relationship between race diversity and real estate investment trust performance.

2.2.2. Gender diversity and firm performance

Gender diversity, referring to the presence of women on corporate boards, has been a focal point of debate among stakeholders, including institutional investors and regulators. Many countries have introduced gender quotas to address gender inequality, but progress remains slow. The World Economic Forum (WEF, 2019) highlights a significant global gender gap in access to various resources, with Nordic and European nations leading in gender diversity transformation and Rwanda being a notable African example.

Theoretical frameworks such as agency theory and resource-dependence theory suggest that female board representation can enhance corporate performance. Agency theory proposes that gender diversity improves board independence and managerial oversight (Hindasah & Harsono, 2021), while resource-dependence theory argues that diversity helps organisations access necessary resources and improve problem-solving (Gallego-Álvarez et al., 2010). Studies support the idea that gender diversity contributes to effective board governance and decision-making (Adams & Ferreira, 2009).

Empirical research presents mixed findings. For instance, Schrand et al. (2018) found that gender diversity positively impacts market performance in US REITs but not operating performance, whereas Hogan and Huerta (2019) observed lower operating performance in REITs with diverse middle management. Noguera (2020) identified a modest positive effect of women directors on REIT performance when they achieve critical mass, but no impact on overall value. Dimovski et al. (2014) found no significant relationship between female directors and performance in Australian REITs, while David et al. (2021) reported varied impacts depending on the region and focus on risk management.

In South Africa, gender diversity is slowly increasing, with women holding 29% of board seats in the top 100 companies listed on the Johannesburg Stock Exchange (JSE) (Deloitte, 2022). The King IV report recommends publishing gender targets, but progress remains gradual (Institute of Directors in Southern Africa [IoDSA], 2016). Studies such as Ajayi (2022) showed inconsistent results regarding the impact of gender diversity on REIT performance, with some findings indicating a positive effect of higher education attainment among female directors, while others find no direct correlation. Bryant (2018) emphasised that female board presence alone does not guarantee improved financial performance. Despite inconsistent empirical findings, the second hypothesis posits a positive relationship between gender diversity and REIT performance, underpinned by the expectation that more diverse boards will bring enhanced decision-making and accountability, ultimately improving performance. The hypothesis is as follows:

H2: There is a positive relationship between gender diversity and real estate investment trust performance.

2.2.3. Education diversity and firm performance

Education diversity in corporate boards, encompassing a range of educational backgrounds, qualifications, and experiences, has been shown to enhance decision-making, innovation, and strategic planning within organisations (Ajayi, 2022). Directors with postgraduate degrees are particularly noted for their contributions to better decision-making, strategic planning, and corporate governance, bringing critical thinking skills and analytical abilities to navigate challenges and capitalise on opportunities (Talke et al., 2011).

Furthermore, postgraduate-qualified directors with specialised expertise offer valuable insights for risk assessments, long-term planning, and strategy formulation, enhancing sustainable growth and competitive advantage within organisations (Beddie et al., 2014). Education diversity on boards is also linked to promoting innovation, adaptability, and stakeholder value by fostering a culture of creativity, curiosity, and continuous learning (Ullah et al., 2020).

From a theoretical standpoint, education diversity on boards can improve board independence, effectiveness, and stewardship, aligning shareholder and management interests while reducing agency costs associated with managerial opportunism (Adams et al., 2015). The resource dependence theory highlights education-diverse boards as important sources of knowledge and expertise, facilitating organisations' access to critical resources for effective decision-making.

Research on the link between board education and business performance yields mixed findings, with some studies suggesting a positive relationship, particularly for directors with advanced academic credentials, while others emphasise the importance of board structure and diversity (Lina & Pengchao, 2011; Phan, 2016). For REITs, understanding the impact of education diversity within executive teams is crucial for optimising performance. Studies suggest that diversity in work experience and abilities positively influences group results, enhancing decision-making and problem-solving capabilities within REITs (Schrand & Just, 2019).

Specifically, having a mix of education levels in executive teams can lead to superior performance, emphasising the significance of education diversity for REIT success.

In South Africa, research by Ajayi (2022) highlighted the positive association between the education qualifications of female directors, particularly those with Doctoral and Master's degrees, and REITs' performance. The study highlights the importance of education diversity in South African REITs for achieving success. Organisations such as the IoDSA play a vital role in promoting director development through education and training programs, enhancing directors' skills and knowledge to fulfil their governance responsibilities effectively. In the context of South African REITs, directors with postgraduate qualifications may contribute significantly to board governance and strategy development. Consequently, the third hypothesis posits that education diversity is positively associated with REIT performance, with the following formulation:

H3: There is a positive relationship between education diversity and real estate investment trust performance.

3. RESEARCH METHODOLOGY

This paper employs a quantitative research methodology to explore the relationship between board diversity and REIT performance. The quantitative approach, involving the use of numerical data and statistical techniques, is well-suited for empirically examining the effects of board diversity mechanisms (race, gender, and education) on performance measures. Quantitative methods allow for objective measurement, helping to identify significant patterns and associations between board diversity and performance.

While a quantitative approach is appropriate for this study's focus on statistical relationships, a mixed-methods approach could also have been employed. For instance, qualitative insights from interviews with board members or stakeholders could complement the quantitative findings by providing a deeper contextual understanding of how board diversity influences decision-making and performance. Alternatively, a purely qualitative case study approach could investigate these dynamics in detail in a smaller sample of REITs, though it would lack the generalisability provided by the current quantitative method.

3.1. Data collection and sampling

The sample for this study was drawn from the JSE-listed REIT sector, which was classified according to the JSE listing requirements. This classification provided a standardised framework for identifying relevant companies within the REIT sector, ensuring consistency in the sample selection (see Table 1). The initial sample consisted of 37 REIT companies, reflecting the total number of REITs listed on the JSE as of 2021. However, seven companies were excluded due to various reasons: one was suspended, another was delisted before the 2021 financial year-end, three had insufficient listing periods, and two lacked available data. Consequently, the final sample included 30 REIT companies, representing 81% of the South African REIT sector from 2013 to 2021.

Table 1. Description of the study sample

Description of sample	Total sample	Percentage of sample (%)
Total initial sample	37	100
Excluded sample		
Suspended before the 2021 fiscal year	1	3
Delisted before the 2021 fiscal year	1	3
Insufficient listing period	3	8
No data	2	5
Total excluded sample	7	19
Final sample	30	81

Source: Authors' elaboration.

This sample size is consistent with previous research in corporate governance and REIT performance, with studies such as Ntuli and Akinsomi (2017) and Ajayi (2022) using similar sample sizes of approximately 30 REITs, respectively. The final dataset comprised 178 observations, which were reduced from a potential 240 due to missing data for certain years, exclusions based on data quality, and periods of REIT inactivity. These reductions ensure the dataset's reliability and validity, as incomplete or inconsistent records were excluded to maintain data integrity.

The data collection process focused on variables such as board diversity and performance measures, which were gathered from reputable financial databases including Iress, Morningstar, and company websites. Hence, the reliance on verified and trustworthy sources, the study ensures the accuracy and relevance of the data. The final sample of 30 REITs provides a comprehensive reflection of the South African REIT sector's governance and performance landscape over the 2013–2021 period, contributing to the robustness and generalisability of the findings.

3.2. Data analysis

A fixed-effects panel data model was employed for data analysis. This method was chosen for its ability to control for unobserved heterogeneity across individual REITs by accounting for factors that are constant over time but vary between companies. Fixed-effects models help mitigate bias from time-invariant characteristics and isolate the impact of board diversity on firm performance, while addressing concerns over endogeneity that might arise from omitted variables. Alternative statistical techniques that could have been applied include, generalized method of moments (GMM) models to address potential dynamic relationships between the variables and account for endogeneity concerns more robustly, especially in cases with endogenous regressors. However, the fixed-effects model was more appropriate in this paper, as it allowed us to control for company-specific traits that could otherwise confound the results.

The specific variable description and measurement are shown in the Appendix. The empirical model is as follows:

$$\begin{pmatrix} FFO\_P/S_{(t)} \\ DIV\_YIELD_{(t)} \\ ROA_{(t)} \\ ROE_{(t)} \\ EPS_{(t)} \end{pmatrix} = c + (\beta_1 RACE\_DIV_1 + \beta_2 GEND\_DIV_2 + \beta_3 EDU\_DIV_3 + \varepsilon) \qquad (1)$$

where,
- the coefficients *c, β_1, β_2,* and *β_3* represent the intercept and the impact of race diversity, gender diversity, and education diversity on the performance measures, respectively;
- ε denotes the error term, accounting for unobserved factors that may influence the performance measures;
- $FFO\_P/S_{(t)}$ denotes the funds from operations per share, which measures the financial performance of REITs by evaluating their operational profitability on a per-share basis;
- $DIV\_YIELD_{(t)}$ represents the dividend yield, reflecting the return on investment for shareholders through dividends relative to the stock price;
- $ROA_{(t)}$ signifies the return on assets, indicating how efficiently REITs use their assets to generate earnings;
- $ROE_{(t)}$ stands for the return on equity, assessing the profitability of REITs in relation to shareholders' equity;

- $EPS_{(t)}$ represents the earnings per share, indicating the portion of a company's profit allocated to each outstanding share of ordinary share.
- $RACE\_DIV$ denotes race diversity, capturing the proportion of board members from diverse racial backgrounds;
- $GEND\_DIV$ signifies gender diversity, measuring the proportion of female directors on the board;
- EDU_DIV represents education diversity, indicating the proportion of directors with postgraduate or professional qualifications.

4. RESEARCH RESULTS

We applied the above equation to the selected dataset to analyse the behaviour of the dependent (performance measures) and independent variables (race, gender, and education diversity), with their results shown in Tables 2 to 4 below.

Table 2. Summary of descriptive statistics

Variable	Mean	Median	Maximum	Minimum	Standard deviation	Skewness	Kurtosis	Observations
FFO_P/S	1.57	1.03	12.56	-9.90	2.91	0.48	8.35	178
DIV_YIELD	9.56%	8.27%	92.50%	0.00%	0.09	4.81	39.02	178
ROA	4.46%	5.31%	37.96%	-26.24%	0.08	-0.83	7.12	178
ROE	7.31%	9.29%	58.40%	-74.93%	0.14	-1.54	10.29	178
EPS	2.10	1.12	44.63	-37.77	7.63	0.76	15.57	178
RACE_DIV	32.52%	30.77%	90.00%	0.00%	0.24	0.53	2.51	178
GEND_DIV	22.52%	20.00%	60.00%	0.00%	0.13	0.71	3.20	178
EDU_DIV	82.79%	83.00%	94.00%	71.00%	0.06	-0.17	2.11	178

Source: Authors' elaboration.

Table 2 presents the descriptive statistics of the dependent and independent variables. Regarding the performance measures, *FFO_P/S* has a mean of 1.57, suggesting positive average performance, while a median of 1.03 indicates a right-skewed distribution, with a positive skewness of 0.48. This skewness points to a concentration of higher values, reflecting successful ventures or favourable market conditions for some REITs. The considerable range from -9.90 to 12.56 and a high standard deviation of 2.91 highlight significant variability in performance. The kurtosis value of 8.35 indicates heavy tails, consistent with the presence of extreme values in real estate performance measures. The *DIV_YIELD* has a mean of 9.56%, with a median of 8.27%, showing a right-skewed distribution supported by a skewness of 4.81. This indicates a concentration of higher dividend yields. The wide range from 0.00% to 92.50% and a standard deviation of 0.09 suggest diverse dividend policies among REITs. The kurtosis value of 39.02 points to extremely heavy tails, indicating a higher likelihood of outliers in dividend yields. *ROA* has a mean of 4.46%, with a median of 5.31%, indicating potential left skewness as evidenced by a skewness of -0.83. This suggests a concentration of lower *ROA* values. The range from -26.24% to 37.96% and a low standard deviation of 0.08 reflect variability in asset performance. The kurtosis of 7.12 signifies heavier tails, indicating the presence of extreme *ROA* values. The *ROE* shows a mean of 7.31%, with a median of 9.29%, and a negative skewness of -1.54, suggesting a left-skewed distribution. The range from -74.93% to 58.40% and a low standard deviation of 0.14 highlight variability in equity returns. The kurtosis value of 10.29 suggests heavy tails, consistent with varying levels of profitability among REITs. Lastly, *EPS* has a mean of 2.10, with a median of 1.12, and a positive skewness of 0.76, indicating a concentration of higher *EPS* values. The range from -37.77 to 44.63 and a high standard deviation of 7.63 reflect substantial variability in earnings. The kurtosis value of 15.57 points to extremely heavy tails, consistent with significant earnings fluctuations due to market dynamics and economic conditions.

Regarding the independent variables, the mean *RACE_DIV* value of 32.52% reflects moderate racial diversity across South African REITs, but a wide range of 0.00% to 90.00% highlights significant disparities among companies. This variation indicates some REITs are actively promoting diverse representation, while others are lagging, which could perpetuate under-representation. The positive skewness value of 0.53 suggests a concentration of REITs around the average, with many struggling to achieve higher levels of diversity. The kurtosis value of 2.51 points to the presence of outliers, both high and low, highlighting the need to understand the extremes in diversity practices. Addressing these disparities and exploring best practices could help improve board diversity in the sector. The mean *GEND_DIV* score of 22.52% shows a moderate level of gender diversity, with most REITs falling within a narrow range of 0.00% to 60.00%. Despite a relatively uniform distribution, there is a notable disparity between REITs that excel in gender balance and those that do not. The positive skewness of 0.71 indicates that while many REITs have moderate diversity, a significant number are falling short, raising concerns about the under-representation of women on boards. The kurtosis value of 3.20 suggests possible outliers, which could provide insights into effective strategies for enhancing gender diversity. Lastly, the mean *EDU_DIV* score of 82.79% indicates high education diversity among South African REITs, with a narrow range of 71% to 94% and a low standard deviation of 0.06 suggesting consistent levels. This high average, however, may reflect limited variation and a potential overemphasis on education diversity. The left-skewed distribution (-0.17 skewness) suggests a concentration of REITs with high education diversity. The kurtosis value of 2.11 indicates possible outliers, both above and below the norm, which could reveal alternative approaches or limitations of the current focus on education diversity. Further research could investigate how various types of diversity interact and contribute to effective board decision-making within REITs.

Table 3. Pearson and Spearman correlation matrices of all variables for all firm years

Variable	FFO_P/S	DIV_YIELD	ROA	ROE	EPS	RACE_DIV	GEND_DIV	EDU_DIV
FFO_P/S	1	-0.281***	0.486***	0.474***	0.740***	-0.303***	-0.222***	-0.241***
DIV_YIELD	-0.264***	1	-0.304***	-0.311***	-0.385***	0.294***	0.146**	0.236***
ROA	0.441***	-0.350***	1	0.960***	0.807***	-0.065	-0.289***	-0.082
ROE	0.421***	-0.395***	0.947***	1	0.816***	-0.019	-0.229***	-0.141*
EPS	0.616***	-0.320***	0.570***	0.627***	1	-0.241***	-0.270***	-0.174**
RACE_DIV	-0.205***	0.263***	-0.063	-0.02	-0.107	1	0.417***	0.256***
GEND_DIV	-0.052	0.065	-0.303***	-0.215***	0.103	0.419***	1	0.11
EDU_DIV	-0.215***	0.094	-0.029	-0.056	-0.096	0.174**	0.094	1

*Note: The bottom left half of the table contains Pearson's parametric correlation coefficients, while the upper right half of the table shows Spearman's non-parametric correlation coefficients. ***, **, and * represent correlation significance at 1%, 5% and 10%, respectively.*
Source: Authors' elaboration.

Table 3 presents both Pearson and Spearman correlation matrices for performance and diversity variables. The Pearson correlations (bottom left) reveal a strong positive relationship between *FFO_P/S* and *EPS* (0.616), suggesting that higher *FFO_P/S* are associated with better *EPS*. Conversely, *FFO_P/S* shows a negative correlation with racial diversity (*RACE_DIV*) (-0.205) and gender diversity (*GEND_DIV*) (-0.052), indicating that higher *FFO_P/S* correlates with lower diversity on boards. Additionally, *DIV_YIELD* is negatively correlated with both *ROA* (-0.304) and *ROE* (-0.395), pointing to a link between higher dividend yields and lower asset and equity returns. The strong positive correlation between *ROA* and *ROE* (0.960) emphasises their relatedness in assessing profitability. The Spearman correlations (upper right) confirm these trends but show some variations: the correlation between *FFO_P/S* and *EPS*

remains strong (0.740), and the negative correlation with *RACE_DIV* is slightly weaker (-0.303). The negative correlation of *DIV_YIELD* with *ROA* and *ROE* is less pronounced (-0.304 and -0.311, respectively), and the positive correlation between *RACE_DIV* and *GEND_DIV* is confirmed at 0.419. This dual approach (using both Pearson's parametric and Spearman's non-parametric coefficients) is essential due to the presence of outliers and non-normal distributions in the dataset. While Pearson's coefficients can be skewed by extreme values, Spearman's coefficients offer a more robust measure by addressing non-normal distributions and capturing monotonic relationships. The use of both methods ensures a comprehensive analysis, accounting for both parametric assumptions and inherent data characteristics.

Table 4. Regression results for board diversity and REIT performance

Variable	FFO_P/S	DIV_YIELD	ROA	ROE	EPS
RACE_DIV	4.359**	-0.12	0.064	-0.011	7.751
	-1.948	(-1.416)	-1.029	(-0.097)	-1.205
GEND_DIV	-5.221**	0.003	-0.085	-0.059	-8.533
	(-2.049)	-0.034	(-1.211)	(-0.433)	(-1.165)
EDU_DIV	-66.597	0.713	-0.35	-0.965	-117.082
	(-1.316)	(-0.377)	(-0.248)	(-0.351)	(-0.805)
Constant	-8.838	-0.484	-0.315	-1.124	-24.129
	(-0.282)	(-0.414)	(-0.363)	(-0.665)	(-0.269)
F-test	141.93	49.07	106.17	117.39	125.05
P-value (F-test)	0	0.004	0	0	0
Hausman	39.44	26.01	62.35	72.67	31.3
P-value (Hausman)	0	0.002	0	0	0
R² (%)	68.03%	53.79%	63.09%	61.40%	60.28%

Note: This table presents the fixed effects and random effects estimations of the relationship between board diversity and REITs performance for the period from 2013 to 2021. T-statistics are reported in parentheses. ***, **, and * represent significance at 1%, 5%, and 10%, respectively.
Source: Authors' elaboration.

Table 4 presents the results of regression models. For *FFO_P/S, RACE_DIV* shows a significant positive effect (β = 4.359, t = 2.233, p < 0.05), while *GEND_DIV* exhibits a significant negative effect (β = -5.221, t = -2.049, p < 0.05). *EDU_DIV* does not have a significant impact (β = -66.597, t = -1.316, p > 0.10). The model's R² is 68.03%, and the adjusted R² is 60.47%, indicating a good fit. The F-test (141.93) and Hausman test (39.44) support the fixed effects model for this regression. For *DIV_YIELD*, there are no significant effects found for *RACE_DIV* or *GEND_DIV*. However, *EDU_DIV* shows a positive, but not statistically significant effect (β = 0.713, t = 0.377, p > 0.10). The model's R² is 53.79%, with an adjusted R² of 42.56%. The F-test (49.07) is significant, while the Hausman test (26.01) suggests that fixed effects might not be suitable, pointing to the need for more advanced models. For *ROA*, coefficients for *RACE_DIV* and *GEND_DIV* are not significant (β = 0.064, t = 0.291, p > 0.10; β = -0.085, t = -1.211, p > 0.10, respectively), and *EDU_DIV* also shows no significant effect (β = -0.350, t = -0.248, p > 0.10). The model's R² is 63.09% with an adjusted R² of 54.48%. Both the F-test (106.17) and Hausman test (62.35) support the use of fixed effects. For *ROE*, *RACE_DIV* and *GEND_DIV* do not significantly impact performance (β = -0.011, t = -0.097, p > 0.10; β = -0.059, t = -0.433, p > 0.10), and *EDU_DIV* also lacks significance (β = -0.965, t = -0.351, p > 0.10). The model's R² is 61.40%, with an adjusted R² of 52.40%. The F-test (117.39) supports fixed effects, while the Hausman test (72.67) indicates

suitability. Finally, *EPS* shows a significant positive relationship with racial diversity (β = 7.751, t = 2.433, p < 0.10), but no significant impact from gender or education diversity (β = -8.533, t = -1.165, p > 0.10; β = -117.082, t = -0.805, p > 0.10). The model's R² is 60.28%, with an adjusted R² of 51.01%. Both the F-test (125.05) and the Hausman test (31.3) support the fixed effects model.

5. DISCUSSION OF THE RESULTS

The findings of this study provide important insights into the relationship between board diversity and REIT performance. South Africa's complex socio-political history, marked by apartheid, has shaped its corporate governance landscape. Promoting racial diversity is not only a moral imperative but also a strategic advantage in line with B-BBEE legislation. The positive association between racial diversity and performance measures such as FFO P/S and EPS highlights the potential financial benefits of integrating diverse perspectives at the board level. Studies such as Mans-Kemp and Viviers (2015) support the importance of racial diversity in enhancing firm performance within South Africa, finding that boards with higher racial diversity exhibit better financial outcomes due to diverse perspectives improving decision-making and risk management.

These findings align with resource dependence theory, which suggests that racially diverse boards can offer access to wider networks and resources,

thus contributing to stronger financial performance. This is consistent with research by Erhardt et al. (2003), who found that greater racial diversity on corporate boards in the US was linked to better financial performance, particularly in industries requiring a broad range of perspectives. In developing economies, racial diversity can provide strategic advantages such as those seen in South Africa, where diversity is integral to corporate governance frameworks. Other developing countries with a history of social inequality, such as Brazil, Russia, India, China, and South Africa (BRICS), could benefit from incorporating racial diversity into board leadership to enhance firm profitability and operational efficiency (Syed & Tariq, 2017).

In contrast, the findings on gender diversity present a more complex picture. The negative association between gender diversity and FFO P/S highlights potential challenges in translating gender diversity into operational efficiency. This is consistent with previous research by Rodríguez-Ruiz et al. (2016), which found that the benefits of gender diversity may not always translate directly into financial performance, particularly in contexts where gender inclusivity is still evolving. South Africa's progress on gender diversity has been slow despite legislative efforts of the Employment Equity Act 55 of 1998, and these challenges may be reflective of broader issues related to social identity theory, which posits that homogeneity within leadership groups might facilitate quicker consensus-building and decision-making, while diversity could initially introduce friction (Gyapong et al., 2021).

However, as South Africa and other developing economies continue to address gender disparities in leadership, focusing on promoting inclusive organisational cultures and supporting female leaders may help mitigate some of these challenges. Studies from developing economies, such as Kabir et al. (2015) in Bangladesh, highlight that while gender diversity may not immediately boost firm performance, over time, as organisational dynamics evolve, the presence of women in leadership positions could enhance long-term governance quality and operational outcomes.

With respect to educational diversity, the generally negative relationship with FFO P/S and EPS suggests that higher educational diversity may present challenges in achieving strategic cohesion. Research by Harjoto et al. (2019) also found mixed results regarding education diversity, indicating that while diverse educational backgrounds could enrich discussions, they might also create challenges in aligning strategic objectives, especially in industries requiring specialised knowledge. In South Africa, where the corporate environment is shaped by both globalisation and local economic constraints, the ability to integrate diverse educational experiences may be crucial to ensuring effective governance. This mirrors findings from other developing countries, such as Nigeria, where the impact of educational diversity on firm performance has been similarly mixed, often requiring greater emphasis on practical industry experience over formal educational qualifications (Kabara et al., 2022).

In developing economies, a careful balance between education diversity and practical experience could enhance board effectiveness. The South African findings suggest that while educational diversity

offers potential, its benefits depend on the extent to which it is paired with industry-specific knowledge. Other emerging markets may need to consider this balance when crafting corporate governance frameworks that encourage board diversity without sacrificing cohesion or strategic focus.

In summary, while the South African background is unique, the insights from this study, particularly regarding race diversity, are relevant to other developing economies seeking to improve governance structures. Promoting diversity can yield financial benefits, while the complexities of gender and educational diversity require further exploration. Developing economies such as BRICS countries and other frontier economies can draw on these findings to strengthen their corporate governance frameworks by promoting diversity while addressing the specific socio-economic and cultural challenges that may arise.

6. CONCLUSION

This paper investigates the impact of board diversity on the performance of JSE-listed REITs, focusing on racial, gender, and education diversity. The findings indicate that racial diversity positively influences performance measures such as FFO P/S and EPS. This suggests that racially diverse boards contribute positively to operational efficiency and overall earnings, aligning with theories that highlight the value of diverse views in enhancing decision-making and performance. Additionally, gender diversity presents a more complex relationship with firm performance. While it shows a negative impact on FFO P/S, suggesting potential challenges in achieving operational efficiency, it does not significantly affect other performance measures. This mixed outcome implies that while gender diversity may introduce some operational complexities, its overall influence on firm performance is not straightforward. Moreover, education diversity appears to have minimal impact on firm performance across the various measures evaluated. This suggests that education diversity among board members may not be a critical factor in driving REIT performance, contrary to initial expectations.

This paper contributes to the literature on corporate board diversity and firm performance by providing empirical evidence on the impact of board diversity within REITs. Additionally, this study identifies potential challenges associated with gender diversity, offering insights into the complexities of its impact on firm performance. Hence, by examining the minimal effect of education diversity, the research suggests the need for a balanced approach that considers practical experience and real estate-specific expertise alongside educational backgrounds.

We recommend promoting racial diversity, given the positive association between racial diversity and certain performance measures. REITs should consider proactive strategies to enhance racial diversity within their boards. This could involve targeted recruitment and inclusion programs aimed at increasing the representation of diverse racial groups. Additionally, addressing gender diversity challenges is important. The negative impact of gender diversity on FFO P/S suggests the need for deeper exploration into the underlying

causes. REITs should investigate whether gender diversity introduces specific operational challenges and develop strategies to mitigate these issues. This might include leadership training, mentorship programs, and promoting an inclusive culture that supports effective collaboration among diverse board members. Moreover, evaluating education diversity with caution is important. While education diversity does not show a significant impact on firm performance, it remains important to maintain a diverse range of skills and knowledge on the board. REITs should balance academic requirements with practical experience and industry-specific expertise to ensure that board members can contribute effectively to strategic decision-making.

While this study provides valuable insights, it is important to acknowledge its limitations. One significant limitation is the relatively small sample size of 30 REITs. However, this sample represents 81% of the REITs listed on the JSE, ensuring an almost full representation of the South African REIT market. This coverage mitigates concerns over the sample size to some extent, as it captures the majority of the sector's dynamics.

The dataset was reduced from a potential 240 observations to 178 due to missing data for certain years and exclusions based on data quality. These measures, while improving the reliability of the data, also contribute to the limitation of a smaller sample.

Despite this, the small sample size is still a factor to consider for regression models, where larger samples typically yield more robust generalisations. Caution should be exercised when interpreting the findings, as the sample may not fully capture the diversity and variability across the broader REIT sector. Future research could benefit from a larger dataset or comparative studies with REITs from other developing economies to strengthen the generalisability of the findings. Additionally, the study focuses on the South African market, which, while important, may have unique institutional and regulatory frameworks that differ from those in other regions. Consequently, the applicability of these findings to other markets, particularly in developed economies, may require further investigation.

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APPENDIX. SUMMARY OF VARIABLES AND MEASUREMENTS

Variable	*Acronym*	*Equation/Description*
Funds from operations per share	*FFO P/S*	$FFO = \dfrac{(Net\ income + Depreciation + Amortisation - Profit\ on\ sale\ of\ property - Preferred\ dividends)}{Average\ number\ of\ outstanding\ shares}$
Dividend yield	*DIV_YIELD*	$Dividend\ yield = \dfrac{Dividend\ per\ share}{Price\ per\ share}$
Return on asset	*ROA*	$ROA = \dfrac{Net\ profit}{Total\ assets}$
Return on equity	*ROE*	$ROE = \dfrac{Net\ profit}{Average\ shareholders'\ equity}$
Earnings per share	*EPS*	$EPS = \dfrac{(Net\ profit - Preferred\ dividends)}{Average\ number\ of\ outstanding\ shares}$
Race diversity	*RACE_DIV*	Race diversity is measured by the proportion of representation of Black, colored, and Indian directors and non-executive directors as defined in the B-BBEE Act.
Gender diversity	*GEND_DIV*	Gender diversity is measured by the proportion of female directors appointed to the board.
Education diversity	*EDU_DIV*	Educational diversity is measured by the proportion of directors with postgraduate or professional qualifications.