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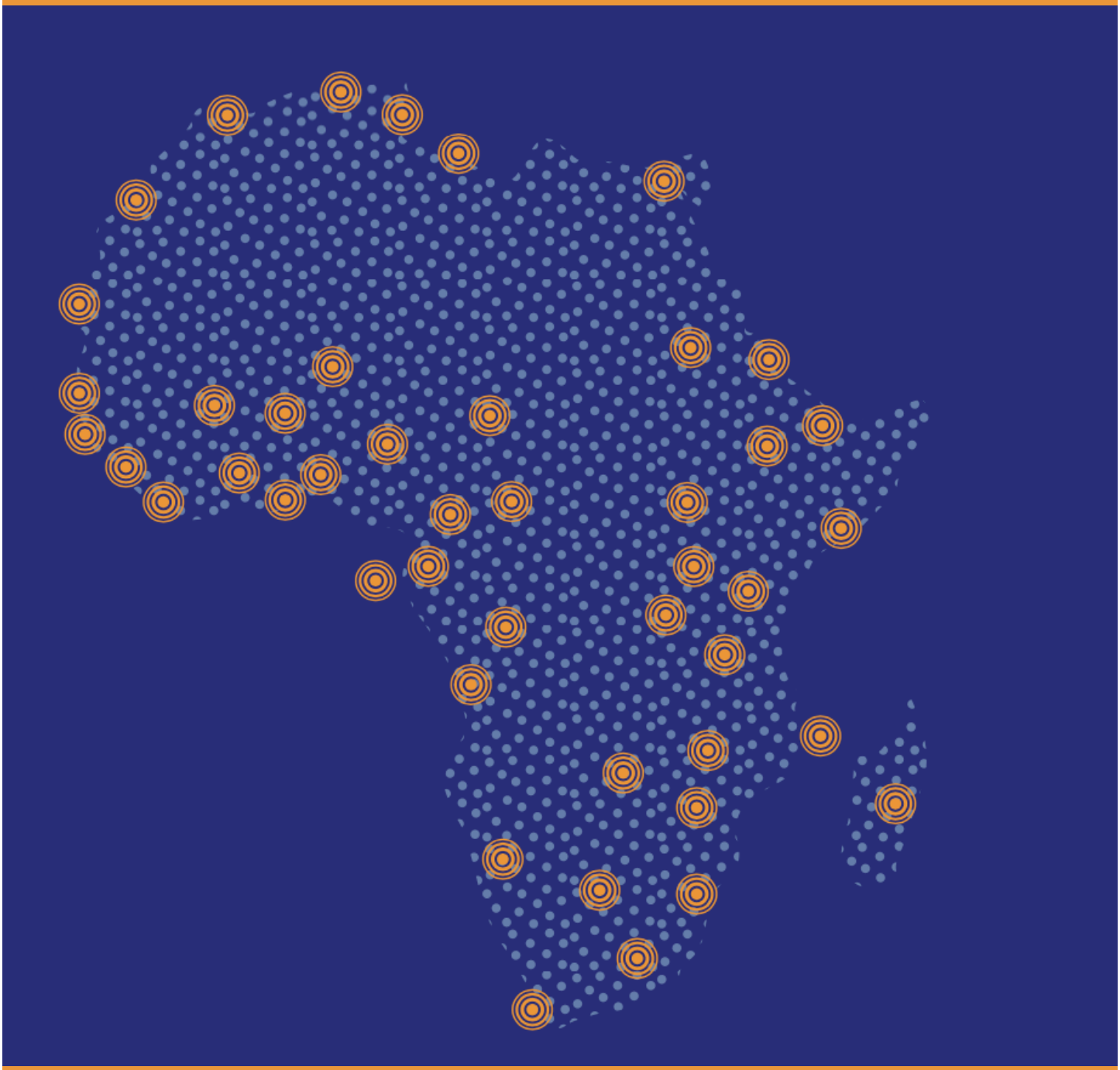

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Editorial for JARER Vol. 9 Issue 1, 2024

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Welcome to Volume 9, Issue 1 of the *Journal of African Real Estate Research* (JARER). The current issue comprises inspiring and educative articles, which provide the opportunity for readers to have a deeper understanding of African real estate markets and the nature and impacts of research and efforts that seek to improve the markets.

The first paper by Daniel Thuo Ndung'u and Samuel Onyuma investigates investor confidence and its influence on the growth and development of REITs in Kenya. A predictive correlational research design was employed, with the target population comprised of fund managers, stockbrokers, investment bankers and property developers. Structural Equation Modelling, which incorporated factor analysis, regression analysis and path diagrams, was used to test the relationships between investor confidence and the growth of Kenya RETs at a 5% significance level. The study concludes that investor confidence, about risk and return, influences the growth of the REITs market in Kenya, leading to the slow development of REITs.

In a similar vein, Dumisani Ndumo and Chioma Okoro evaluate the relationship between value components and determinants of value in South Africa. A questionnaire was used to collect data from 82 participants experienced in valuing property within mixed-income housing developments. Using multiple regression analysis, the results showed that neighbourhood determinants significantly influenced monetary value and non-monetary value, while environmental determinants had a significant influence on social benefits accruing to other stakeholders in mixed-income housing. The authors expect the findings to serve as development guidelines on critical determinants of value and the extent of their influence on property value in mixed-income housing.

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The third paper by Bello, Adeogun, Alimi, Agava, Alao and Olabisi compares the level of competency of Real Estate Graduates (REG) of University and Polytechnic with the level of satisfaction of the Real Estate Graduate Employers (REGE) in Nigeria. Data were collected using questionnaires to 339 heads of real estate firms, as employers. The data was analysed using frequency, percentages and Likert summation scaling/ranking. The findings indicate a mismatch between the level of competency of REG and the expected level of satisfaction of REGE.

Emmanuel Bassey and Daramola Olapade's paper provides a cross-country comparison of the factors affecting investment in purpose-built student accommodation (PBSA) in studentified neighbourhoods of tertiary institutions. The paper employed a desktop review of the views and perspectives of past authors in the area of the paper. Thematic analysis was used to identify the main factors driving and hindering investment in purpose-built student accommodation. The paper highlighted demand-related, return-on-investment related, investment-related, and institutional-related factors as the main drivers of investment in PBSA, while e-learning facilities and potential oversupply of PBSA were identified as potential limitations affecting investment made in this real estate sub-market. The paper concludes that real estate investors need to consider these factors while investing in this asset class.

The fifth paper written by Fateye, Ajayi and Peiser assesses the source and dynamic nature of sentiment news in the Nigerian REIT market, with a view to providing information on the prominent source of sentiment news and its dynamic effects on the market condition. The study adopted a direct survey method with 65 Nigerian stockbrokers participating. Using a weighted mean score and a stepwise regression model, the result showed that sentiment news significantly explains the dynamic behaviour of investors during the optimistic market condition. In a similar vein, media report significantly explains investor behaviour towards REITs in the pessimism market condition. The paper concludes with the need to examine irrational behaviour attributed to sentiment news when thinking of investment in the REIT market.

We hereby appreciate the efforts and support of our anonymous reviewers, the journal editorial board members, and other stakeholders, without which the growth witnessed by JARER would not have been possible. The continued support we receive from the board members of the African Real Estate Society, the Library services at the University of Cape Town and the Urban Real Estate Research Unit at the university is also cherished. Our gratitude also goes to the Journal Manager, Ms Dayni Sanderson, for her diligent efforts in ensuring the publication of this issue. We appreciate the support from Prof. Karl-Werner Schulte and his team from the IREBS at Regensburg University.

We invite you to read these papers and consider their research-based recommendations for reforms in private and public policy decisions.

Happy Reading!

Professor Abel Olaleye
Editor-in-Chief

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Investor Confidence and the Growth of Reits in Kenya

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Abstract

The introduction of REITs to the securities market was intended to broaden capital markets, allowing them to be used to raise funds for affordable housing while also serving as an alternative investment choice. However, since its introduction, Kenya's REITs market has experienced slow development, and information is scant on how investor confidence may influence the development of REITs. This study investigates how investor confidence influences the growth and development of REITs in Kenya. A predictive correlational research design was employed, while the target population comprised fund managers, stockbrokers investment bankers and property developers. A representative sample size was chosen using stratified random sampling. Primary data was collected using a structured questionnaire. To summarise the findings, descriptive and inferential statistics were employed. Structural Equation Modelling, which incorporated factor analysis, regression analysis and path diagrams, was used to test the hypothesised relationships at a 5% significance level. The results demonstrate that investor confidence has a positive and significant influence on the growth and development of REITs in Kenya. The study concludes that investor confidence about risk and return influences the growth of the REITs market in Kenya, leading to REITs slow development. Continuous engagement sessions between the securities market regulatory authority, REITs Association of Kenya, and investors will enhance market confidence. The study recommends that the Capital Market Authority review the existing market legislation that governs the listing of REITs especially policies on taxation for the issuance of REITs.

Key Words: *Investor Confidence, REITs Development and Growth, Kenya*

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1. Introduction

Property investments have grown in popularity over the past two decades, making them an essential asset class in the investment realm. Pham (2013) claims that since the 2000s, the property market has surpassed the money market and shares to become the second-largest investment option, behind fixed-income securities. The three most common categories of listed property products are property firms, property securities funds, and real estate investment funds (Jakpar, 2018). Real Estate Investment Trusts (REITs), one of the listed property assets, have become the primary investment choice for both individual and institutional investors. Thus, REITs have become a significant asset class of investment options for investors who may be searching for alternative investments (Ndung'u & Onyuma, 2020). When REITs were introduced in Kenya in 2015, this idea was welcomed and was seen as a game-changer in the real estate market. However, dissimilar to expectations, REITs have failed to gather pace; hence the focus on REITs in this study.

A REIT is a corporation that owns and operates revenue-generating real estate assets and whose shares are traded publicly like any other stock (Oreagba, 2010). A REIT qualifies for special tax status where profits are taxed at the level of the investor and not at the level of the entity. Like stocks on stock exchanges, REITs sell and invest directly in real estate, via mortgage or property. REITs allow investors an opportunity to have a stake in already existing properties or properties that are being developed (Ndung'u & Onyuma, 2020). First, REITs trade like stocks, thus giving investors exposure to real estate without having to buy and sell physical buildings. Through REITs, small and medium investors are accorded an opportunity to own real estate properties. This could not have been possible if they were to purchase properties directly since they would require a huge sum of money (Cytonn Investments, 2019).
Second, property developers can sell units or shares in a commercial or residential building to investors through the capital market. Third, through REITs, individual investors can own the property market (Africa Business Communities, 2015). Fourth, income REITs (I-REITs) dividends are predictable since most rents paid by occupants are agreed upon prior to a lease agreement. Income REITS give investors an opportunity to invest in diversified properties such as shopping malls, warehouses, office blocks, and hostels, among others. REITs offer competitive returns to investors for the risks they assume (Cytonn Investments, 2019). Fifth, since REITs are listed on the Stock Exchange, they can easily be converted into cash and hence enjoy a feature of high liquidity just as other financial securities traded on the security exchange, but at the same time, their performance is subject to investors' confidence in the market.

Overconfident investors tend to trade in REIT stocks with high levels of firm-specific risk following market gains (Lin, Rahman, & Yung, 2010). Additionally, the overconfidence literature postulates that biased self-attribution causes the degree of overconfidence to vary with realised returns, and overconfident investors tend to trade more than purely rational investors. Confidence is one of the most robust behavioural anomalies in financial markets. By attributing investment gains to their abilities, investors become overconfident and trade aggressively in subsequent periods. Evidence from stock markets shows that overconfidence leads to excessive trading and, subsequently, investment performance (Bao & Li, 2020). Consequently, investor underconfidence in the growth and development of REITs can also aggravate a downward trend in REITs stocks leading to a low appetite for such securities among investors (Ndung'u & Onyuma, 2022).

On the performance of REITs in Kenya, especially since Stanlib Fahari Income REIT was issued, the growth has been very low. The uptake was Ksh 3.6 billion, as opposed to Ksh 12.5 billion that was anticipated. The Income-REIT shed almost 50 percent of its value since the listing, while the share price remained in the range of Ksh 9 and Ksh 14. In the year 2016, Fusion Capital, a property developer, attempted to list a Ksh 2.3 billion Development REIT (D-REIT); however, the listing was unsuccessful. Fusion Capital only achieved a 38 percent subscription with only four investors, against the requirements of seven (Crested Capital, 2016). Fusion Capital quit the D-REIT and opted to raise the money privately. The failure of Stalib Income-REIT and Fusion Capital D-REIT to meet the minimum subscription and investor requirements is a clear indication that there is low performance of REITs in terms of growth and development. This was a focal aspect that the current study sought to examine.
Furthermore, in February 2021, Acorn Holdings, a student hostel developer, targeted raising Ksh 7.5 billion through REITs. The property developer was only able to raise Ksh 2.1 billion (Khusoko, 2020; Accorn Holdings, 2021). Also, the most recent undersubscribed REIT in Kenya is Acorn Holdings REIT, which is noteworthy for the current study because it indicates a disinterest in the new investment vehicles among investors. This prompted the question as to whether the unexpected growth of REITs in Kenya has been a result of investor confidence, which is an external factor outside market control. The current study examined REITs performance in terms of growth and development as opposed to looking at performance in terms of market data fundamentals, which has been the focus of most authors.

2. Literature review

2.1. Global perspective of the REITs market

Historically, the development of REITs markets began in the 1960s, when the United States of America Congress initiated the process of creating Real Estate Investment Trusts meant to provide access to affordable investments in commercial real estate properties (Olanrele, 2014). REITs were introduced to help prospective investors who did not have huge amounts of money required to purchase real estate property but were willing and could buy REITs shares (Naidoo, 2014). Before the REIT regime was introduced in the US, individuals who had a high net worth, as well as institutional investors, dominated the commercial property market (Pham, 2013).
Ernst and Young Global (2019) reported that the concept of REIT across the globe was still gathering pace, with over 37 economies having an active REITs market with an approximate market value of over 1.7 trillion US dollars. According to Statista (2019), by the year 2019, the top ten REITs in the world were all based in the United States. American Tower, situated in Boston, was the largest REIT in the world as of the end of 2019, with a total market value of US$19.11 billion (Macro Trends, 2020).

The major participants in the Asia-Pacific REITs market include Japan, Hong Kong, Australia, and Singapore, as well as smaller economies like Taiwan, Malaysia, and Thailand. The launch of REITs in Japan in 2001 sparked the growth of the REIT industry in Asia-Pacific. Despite global economic uncertainty, Asian REITs have become the most popular among investors. With 63 reported REITs and a market capitalization of 147.2 billion dollars, Japan's REIT market is the largest in Asia-Pacific (Savills Research, 2019).

By the year 2019, Asia-Pacific (APAC) REITs had grown to over 250, and combined market capitalisation had swelled to reach over 330 billion US dollars (Vreeker, 2020). While new REIT markets were also expected to lead to further growth following approved legislation in India, the Philippines- and Thailand, China is still in progress. PWC (2019) observed that the eventuation of REITs in China would be relatively unique in having a strong showing of

residential REIT products in addition to the usual office building and shopping mall-themed ones. In late April 2020, China launched a REIT trial to finance capital-intensive infrastructure projects. According to Bloomberg (2020), the success of the program exposed individual investors to a market potentially worth as much as $3 trillion in the future. Such successes provide positive lessons for other economies, such as Kenya.

In the Gulf region, the first economy to allow the introduction of REITs was Dubai. When the REITs law came into place in 2006, REITs were allowed by the law to manage and own real estate property portfolios. Abu Dhabi, Saudi Arabia, Oman, and Bahrain followed suit with the introduction of REITs markets in 2015. Overall, the United Arab Emirates has a REIT market capitalisation of more than 800 million dollars, which represents only 3% of the total value of the listed real estate firms (Global Ethical Banking, 2019).

2.2. Development of REITs Markets in Africa

In recent years, the African REIT market has emerged. Several countries (South Africa, Ghana, Nigeria, Kenya, and Tanzania) have adapted to global REIT regimes (Ndung'u & Kung'u, 2022). The REIT regime in South Africa was enacted in May 2013. The specifications and rules for the Johannesburg Stock Exchange listings govern the SA-REITs in line with global standards. In their REITs structure, rental income must account for at least 75 percent of the annual earnings, while shareholders receive at least 75% of taxable income. South Africa's real estate market is considered mature in comparison to other African countries (EPRA, 2013). There are about 23 active REITs in South Africa, with a total market capitalisation of around 26.1 billion US dollars (Cytonn Investments, 2019).

The Nigerian Stock Exchange (NSE) (now Nigerian Exchange Group (NGXGROUP) adopted the REITs regulations in 2007. Nigerian REITs (N-REITs), structured as either closed-end or open-end trusts, are asset-backed securities. To qualify for tax-exempt status, N-REITs must have at least 100unit holders. Seventy percent of open-end REITs must consist of real estate asset groups. Closed-end REITs' real estate properties, on the other hand, must account for at least 75% of the total asset value. Both are limited to holding domestic real estate asset groups. At least 75% of annual revenue must come from mortgage rentals and property sales. Only three REITs are listed in Nigeria, with a total market capitalisation of about 151 million US dollars (Press Reader, 2019).

The REIT law was adopted in 1994 by the Ghanaian Stock Exchange Commission. The first company to implement the REIT system was Housing Finance Company Bank in 1995. Since then, Ghana's REIT market has remained relatively undeveloped. According to the Oxford Business Group (2019), Ghana, the oldest REIT market in the African region, has one listed REIT with a market capitalisation of an estimated 11 million US dollars.

In 2011, Tanzania enacted regulations on collective investment schemes and REITs. According to the Collective Investment Schemes, only closed-ended structured funds are authorised by the Capital Markets and Securities Authority (CMSA). Under Rule 51 of the Tanzania Collective Investment Schemes, REIT investments in real estate must surpass the value of the total assets (CMSA, 2011). Watumishi Housing Company (WHC-REIT) established in 2014, is the only residential REIT in Tanzania (Watumishi Housing Company, 2019). According to Oxford Business Group (2019), WHC-REIT had an industry value of approximately 40 million US dollars. Despite the introduction of REITs regulation in the Republic of Rwanda, no REIT

has been registered in that jurisdiction to date. Similarly, in Uganda, the establishment of REITs regulations was done in 2017, but to date, no REIT has been registered (NAREIT, 2019).

2.3. Development of REITs Markets in Kenya

In Kenya, the cost of financing for the growth of the property industry has remained high due to the undersupply of houses for the lowest segment of the economy. The significant costs associated with the development or financing of housing units for the lower segment of the market have made the attainment of this goal extremely difficult. REITs can enhance liquidity in the capital markets and also help raise money to finance affordable housing projects (Ndung'u & Onyuma, 2020). The Nairobi Securities Exchange has introduced innovative products to boost its market capitalisation and grow its number of listed securities. Among the products that have been introduced are SMEs listed in a segment known as the Growth Enterprise Market Segment (GEMS). An incubation and acceleration programme for firms with growth prospects, known as Ibuka, has also been established. In addition, REITs and derivatives—financial vehicles that derive value from underlying assets—have been established.

The introduction of REITs was one of the initiatives intended to grow the NSE listings. The Capital Markets Authority established REITs regulations in 2013. Stanlib Fahari Income-REIT (FAHR) was the first real estate security to be listed on the Nairobi Securities Exchange through a public offering in 2015. The launching of REIT structures was meant to bolster financial inclusion in the capital market. The platform was set up to offer prospective investors a chance to make investments in real estate properties without requiring a huge amount of capital. In return, the investors would enjoy distributable income or dividends from the issuing firm. The objective of establishing a REIT market was to ensure that investors benefited from the income and capital appreciation of the diversified portfolio invested with the pooled funds. The REITs market was also to create a liquid of immovable properties. In Kenya, REITs are structured as trusts as opposed to companies (CMA, 2019).

2.4. Investor Confidence and Development /Performance of REITs

Investor confidence refers to the overall sentiment, opinions, and attitudes that investors have about the financial markets, specific assets, or the economy as a whole. It reflects their belief in the stability and potential for growth within the investment environment. Investor confidence has a big impact on the stock market. Additionally, the investor confidence index is indeed a measure of investor sentiment. It is a metric used to gauge the sentiment or confidence that institutional investors have in the stock market (Ndung'u & Onyuma, 2022).

Demand for stocks and purchasing activity often increases when investor confidence is high. This could encourage an optimistic outlook for the market and raise stock prices. Conversely, when investor confidence is low, there is a decrease in demand and an increase in pressure to sell, resulting in a decline in stock prices. As a psychological factor, investor confidence impacts market trends and overall performance (Gao, Zhao, Sun, & Zhao, 2022).

Freybote and Seagraves (2016) examined whether real estate investors' sentiments influence investment decision-making among investors with a multi-asset focus in the USA. The study focused on pension funds and used bivariate vector autoregression (VAR) in the analysis of the data. To measure investor sentiments, the investor confidence index (Buy-Sell Imbalance) (BSI) measure was constructed. Their study found that institutional investors tend to rely on

their peers in terms of trading decisions, thus displaying herd behaviour. These investors hope and believe that their peers hold significant information that might be important in guiding their investment in the securities market. Further, only institutional investors, such as pension funds holding multi-asset investments, were given focus. Besides pension funds, this study focused on property developers, stockbrokers, and fund managers. Similarly, this study extended their work by evaluating whether investors rely on peers trading with the hope that their peers hold information which could be significant to achieve a positive return in the nascent REITs market in a developing country like Kenya.

Lin, Rahman, and Yung (2010) examined investor confidence in REITs stock trading. Monthly returns were computed for the market from 1990 to 2006. The Vector Autoregression (VAR) model was used in the analysis of the data. The study revealed an increase in investors' overconfidence, which the facts do not support. Compared to rational investors, overconfident investors trade more and are more likely to underestimate risk and retain more risky assets. The study relied on quantitative historical market data (1990-2006) which may not reflect current market conditions or investor behaviour. The current study sought to examine investor confidence using primary qualitative data.

Chan, Erickson, and Wang (2003) observed institutional investors willingness to make investment decisions in REITs. The study revealed that institutional investors tend to outperform individual investors in REIT stocks. Further, the study found that REIT's stock price setting is influenced by institutional investors because of their superior market knowledge. The study focused on investors' confidence by constructing an investor confidence index on the floor of the exchange. Constructing a confidence index might not reflect the opinion of all investors since confidence indexes require a long period to observe trading behaviour. Thus, this study used the attitudinal scale to measure investor confidence in terms of opinions and perceptions in the REITs' nascent industry in Kenya. This study examined investor confidence relating to REITs trading and whether the real estate securities were correctly valued or whether prices could be influenced by either of the two classes of investors. Chen, Chou, and Lin (2019) assessed the relationship between investor sentiments and the performance of stock prices in the US, where the confidence index was used to measure sentiments. A data period from 1970 to 2010 was used. The study selected firms for the sample size from the Centre for Research on Security Prices. The findings indicated that there was a significant link between investor sentiments and the performance of stock prices. The study was inclined towards those firms that were conducting Seasoned Equity Offerings (SEO) and thus this could have limited the generalisation of the results. Whereas the study focused on SEO, the current study focused on REITs.

Huerta, Jackson, and Ngo (2015) examined the impact of investor confidence on real estate investment trust returns in the USA. The study used direct a survey-based measure to categorise sentiments among individual and institutional investors. The study covered the period from the first quarter of 1992 to the third quarter of 2013 and employed panel regression analysis. Daily REITs returns data were obtained and then compounded into quarterly returns. The study found that individual and institutional investors' sentiments are significantly and positively related to REITs returns. The focus of the study was more on REITs sample in terms of size, while the current study focused more on the operational performance of the REITs. Further, the study constructed an investors' sentiment index or proxy, which might not be able to make a distinction between individual and institutional investors' expectations. The present study employed investor sentiment indicators on an attitudinal scale to assess the expectations of both

institutional and individual investors regarding several parameters, including changes in preferences and risk expectations.

Ciochetti, Craft, and Shilling (2002) investigated the influence of institutional investor preferences on portfolio construction in the USA. The study used a multivariate tobit regression approach. REIT-level data was collected from SNL REIT quarterly for the second quarter of the period of 1993 to 1998. The study found that institutional investors tend to invest more in REITs shares and less in private real estate due to the liquidity constraint. Thus, institutional investors' liquidity enhances REIT share uptake. The findings indicate that institutional investors hold varying preferences for REIT stocks compared to retail investors. However, the study was limited to the liquidity constraint aspect of REIT shares in attracting institutional investors. Less focus was given to the expected return of REITs in the long term. Further, the study targeted mutual funds, insurance companies, pension plans, and endowment funds only. Property developers were not included in the study, yet they are key investors in real estate investments. The current study, however, evaluates investor preference with reference to investment in competing securities like equities and fixed-income securities. The current study also evaluates whether investors prefer competing securities based on their potential to offer more attractive returns than REITs.

Further, Cao, Wang, and Zhang (2005) assessed the link between market participation and asset price uncertainty in the USA. The study examined whether uncertainty dispersion in stock pay-offs affects market participation among investors. Using the Knightian approach, the study found that the returns of stocks in the future can be predicted by measuring investors' sentiments. The study also found that, in the presence of model uncertainty, there can be a rise in limited participation. The study focused more on uncertainty dispersion, market participation of stocks in general, and individual investors. Further, the study assumed that investment decisions are made at the beginning of the investment period, a scenario that may not be universally applicable. On the other hand, the current study focuses on REITs by assessing whether investor sentiments relating to the avoidance of uncertainty are relevant in determining the REIT portfolio allocation decision.

Chi, Zhuang, and Song (2012) evaluated the relationship between investors' sentiments and stock performance on the Chinese securities exchange for the period 2004-2008. The study conducted an empirical analysis of individual listed stocks at a quarterly frequency. The study found that inventors' sentiments have a positive relationship with stock returns. Further, the study found that higher investors' sentiments lead to more returns as compared to lower investors' sentiments, which lead to lower returns. In their conclusion, the authors admitted that some of their results were inconsistent with previous findings. However, while Chi et al (2012) concentrated on equity stocks, the current study focused on REIT stocks. Further, the study examined investors' sentiments on the clarity of the exact returns from the REITs underlying assets and scrutinised whether this influences REITs performance.

Johnk and Soydermir (2015) examined the relationship between investors' sentiments and stock performance in the USA. The study, which used capital asset pricing, established that investor sentiments were a significant determinant of stock performance. The study focused on the Global Industry Classification Standards (GICS) sector for the S&P 500 but did not look at the REIT sector, which was the focus of the current study. The study assumed that investor sentiments are not completely irrational, a notion that may not always be correct. This is because sentiments are behavioural aspects whose judgement varies from one investor to the other, a phenomenon that has the potential to affect asset pricing models or parameters.

Devos, Ong, Spieler, and Tsang (2012) carried out a study to examine the link between institutional ownership in REIT and the financial crisis from 2004 to 2010 using multiple regression analysis. The study found that the 2008 global financial crisis made institutional investors move towards REITs, which had lower risks, and this led to an increase in shareholding in older and larger REITs post-GFC. The study was based on numerous REIT companies as the study population with risk control being a key aspect. However, the current study assessed investors' opinions on their perceptions of REITs as a risky investment option with economic conditions in the property market constant.

Freybote (2016) investigated the relationship between real estate investor sentiments and the pricing decisions of US REIT bonds. The study was restricted to REITs that traded in the stock and bond market. Secondary data relating to REIT bond yields and trades were obtained from the TRACE-enhanced database at Wharton Research Data Services (WRDS). The data covered the period between 2010 and 2013, while Prais-Winstern regression was used to correct serial correlation. The study found that investor sentiment was a significant factor in predicting the bond yields of REIT-issuing firms, irrespective of their inclusion in the S&P index or even credit rating. However, while Freybote (2016) utilised secondary data and focused on a developed REIT market, the present study covered a nascent REIT market and used primary data. In addition, while Freybote used bond yield as a dependent variable and constructed a sentiment index from the trading behaviour of investors, the study majorly used an attitudinal scale to measure investor sentiments and the performance of REITs.

Eichholtz and Yönder (2015) examined CEO overconfidence, REIT investment activity and performance. The dataset consisted of U.S. REITs tracked by SNL Financial Real Estate in the period between 2002 and 2010. The study found that REITs led by overconfident CEOs invest significantly more than their non-overconfident counterparts if they have enough discretionary cash. This study focused on CEOs and the performance of REITs while the current study focused on investors' confidence and the development of REITs.

Empirical studies reviewed showed a relationship between investors' confidence and the performance of REITs in the context of developed REITs markets. Furthermore, the reviewed studies measured investors' sentiments by constructing confidence level indexes through observation of trading behaviour or trends in the stock exchanges. The current study examined investors' opinions and attitudes rather than constructing an institutional or retail investors' confidence level index, which might not have been appropriate in this study. This is because it would not have been possible to observe the live trading behaviour of investors on the securities exchange.

In addition, from the reviewed literature, mutual funds flows have been used as a substitute for confidence. The argument from the studies was that, since individual investors re-allocate their funds across various mutual funds, individual confidence can be measured by observing which mutual funds have inflows and outflows and relating these confidence levels to different securities by observing the holding of mutual funds. Although individual customer CDS accounts are a reliable source for investors' confidence, it would not have been possible to observe the customers' accounts in the context of this study. Due to privacy regulations and ethical considerations, accessing and observing live trading of investors' customer CDS accounts would have raised significant legal and ethical barriers. In measuring investors' confidence, the current study used an attitudinal scale to analyse how investors' opinions, views, and perceptions influence the growth and development of REITs.

3. Methodology

The sampling frame for this study comprised twenty-seven fund managers, twenty-five stockbrokers and investment bankers, seventy-nine property developers, four corporate members of the REITs Association of Kenya, and one listed REIT at the Nairobi Securities Exchange. Table 1 presents the target population distribution.

Table 1: Target Population Distribution for Units of Observation

Category	Target Population
Fund Managers	27
Stock Brokers and Investment Banks	25
Property Developers	79
MMC Africa	1
Viva Africa Consulting	1
Mboya Wangong'u & Waiyaki Advocates	1
Novare Equity Partners	1
Listed Income-REIT (STANLIB Fahari)	1
Total	**136**

Source: (REITs Association of Kenya, 2022; Capital Markets Authority, 2022)

A representative sample size was established using stratified random sampling. The key stakeholders in the REITs industry were divided into sub-groups based on their homogeneity. The sample size was calculated using Isreal (1992) formula. In using this formula, the study considered the variances of the subpopulation and strata before an estimate of the variability in the units of observation as a whole was made. Further, the formula is the most ideal to use when the only thing known about the sampling population is its size. The formula is as follows:

$$n = \frac{N}{1 + N(e)^2}$$

Where n is the sample size, N is the target population, and e is the margin error (0.05 for a 95 percent confidence level). By substituting these values into the formula, the sample size was calculated as follows:

$$n = \frac{136}{1 + 136(0.05)^2} = 101$$

Strata were formed based on individual categories and the allocation of sample size proportional to the size of each stratum, was then made. Further, purposive sampling was used to select two respondents from each of the 101 entities. This made the final number of respondents (units of analysis) to be 202. According to Hair, Black, Babin, and Anderson (2010), factor analysis is suitable when the sample size is over 100. This study thus employed factor analysis. Experience in REITs matters was used as a criterion for the respondents to be included in the sample size. The more experienced the respondents were with REITs matters, the higher the chances of being included in the sample size. Primary data, such as opinions on investor confidence and the growth of REITs, was collected using a structured questionnaire. A total of 166 questionnaires, out of the 202 distributed, were filled and returned by respondents. This amounted to about 82 percent response rate. The response rate was enhanced

by following up on booked appointments via phone calls and the physical administration of the research instrument. The reliability and validity of the data instrument were ascertained through pretesting, Cronbach alpha and factor analysis. Cronbach alpha test was used to ascertain internal reliability. According to Sekeran (2003), an alpha value of 0.8 is favourable, 0.7 is acceptable, and 0.6 is weak. The variables returned Cronbach alpha values greater than 0.8, indicating that the instrument had good internal consistency. Table 2 presents the reliability test results.

Table 2: Research Instrument Reliability Results

Constructs	Cronbach Alpha
Investor Confidence	0.892
Growth and Development of REITs	0.823

Furthermore, convergence and discriminant validity were ascertained through confirmatory factor analysis. Convergence validity measures how much the indicators are coming together to determine the latent variable. Measurement scales exhibit convergent validity if the Average Variance Extracts (AVEs) loadings are above 0.5 (Hair et al., 2010). The constructs in the model had AVEs above 0.5, indicating convergent validity, as shown in Table 3.

Table 3: Average Variance Extracts

Construct	Average Variance Extracted
Investor Confidence	0.530
Growth and Development of REITs	0.581

Discriminant validity measures how far much a latent variable or construct discriminates against or differs from the other construct. The square root of AVEs was compared with the correlation between two constructs to determine discriminant validity. The square root of AVE, according to Hair et al. (2010), should be greater than the correlation between two latent constructs. From the results, all the discriminant values (Investor Confidence = 0.728 and Growth and Development of REITs = 0.693, respectively) were greater than the correlation of a pair of latent constructs. This was a confirmation that discriminant validity was exhibited in the variables. Table 4 presents the results.

Table 4. Latent Variable Correlations Against Discriminant Validity

Variable	Investor Confidence	Growth and Development of REITs
Investor Confidence	**0.728**	
Growth and Development of REITs	0.537	**0.693**

3.1. Data analysis

Exploratory Factor Analysis (EFA) was used to assess the convergence and independence of the constructs in their contribution to the study. Pallant (2011) suggests eliminating indicators

with a commonality value of less than 0.3 from the study due to their incompatibility with other indicators. Also, Kaiser-Meyer-Olkin (KMO) and Bartlett's test of sphericity were used to determine the appropriateness of factor analysis before proceeding. Factor analysis should be performed when the KMO value is larger than 0.5 and the value of Bartlett's test is less than 0.05 (Shrestha, 2021). Moreover, Confirmatory Factor Analysis (CFA) was employed in evaluating whether the measurement items accurately measured the specified constructs, with indicators that contributed successfully to the study being retained for further Structural Equation Modelling. To evaluate the fit of the data model, the study utilised the adjusted Chi-Square (CMIN), Goodness of Fit Index (GFI), Comparative Fit Index (CFI), Normed Fit Index (NFI) and Root Mean Square Error (RMSEA). The opinions of the respondents on statements relating to the variables under study were analysed using percentages and Likert mean values.

4. Results and discussion

This section presents the results and discussion relating to investor confidence, the growth and the development of REITs.

4.1. Investor Confidence Descriptive Results

Respondents were asked to indicate their level of agreement on a scale of 1-5 on statements relating to investor confidence. Table 5 shows the results.

Table 5: Investor Confidence Descriptive Results

Statements N=166	Strongly Agree-5 %	Agree-4 %	Moderate-3 %	Disagree-2 %	Strongly Disagree-1 %	Mean
There has been REITs volatility which has been a result of investor's confidence in the market	28.9	33.7	21.1	8.4	7.8	3.674
Avoidance of uncertainty is relevant in determining REIT portfolio allocation decision	24.1	34.7	32.7	3.6	4.8	3.686
REITs are perceived as risky investment options by investors	30.1	30.7	21.7	10.2	7.2	3.662
REITs stocks are trading at a sound value (that's they are correctly valued)	29.5	39.8	21.7	6.6	2.4	3.873
There is clarity on the exact returns from the underlying assets	28.3	39.2	24.7	6.0	1.8	3.861
Uptake of REITs has remained low over poor dividend yields	28.3	38.0	19.3	10.2	4.2	3.759

Prices of REITs have remained low over poor dividend yields	23.5	28.3	25.3	14.5	8.4	3.439
REITs have a promising durable stream of growing dividends which will reward investors over time	22.5	29.5	25.9	16.3	5.4	3.481
Government securities (Treasury bills and bonds) are preferred because they offer relatively attractive returns than REITs	15.7	25.9	34.3	13.9	10.2	3.228
Investing in companies' equities (stocks) offer relatively attractive returns than REITs	20.5	33.1	29.5	12.7	4.2	3.530
As capital allocation signals, investors rely on peer trading under the perception that peers may hold superior knowledge	33.1	40.4	15.7	7.8	3	3.927
REITs underlying assets (Residential and commercial real properties) are correctly valued	8.4	19.3	44.0	12.7	15.7	2.921
REITs Investors require an understanding of the operations of the Stock Market to trade in REITs	9.0	18.7	41.0	12.0	19.3	2.861
Despite the rise in property prices, people's personal income has not kept pace. As a result, there is a good chance that property prices in Kenya will fall as potential investors find it difficult to engage in the market	6.0	19.3	33.7	10.8	30.1	2.602
Investors have sufficient confidence in the capital markets which has boosted the capital markets' product uptake	7.8	9.0	34.3	20.5	28.3	2.475
Average mean score						3.59

Table 5 shows that the majority of respondents (62.6%) were in agreement that REIT volatility has been caused by investors' under-confidence. Further, 21.1% of the respondents held a neutral opinion regarding this statement (mean = 3.67). The results agree with those of Chakraborty and Subramanian (2020), who examined the link between market volatility and investor sentiments in India. Furthermore, there was agreement among respondents (58.8%) that the avoidance of uncertainty is relevant in determining REIT portfolio allocation decisions, while 32.7% of the respondents held a neutral opinion on this statement (mean = 3.68). These

results agree with those of Lin, Yung, Marsh, and Chen (2018), who examined the link between securities returns and market uncertainty in the USA and found that uncertainty in stock markets influences investors' asset portfolio formation.
Most respondents (60.8%) agreed that REITs are perceived as risky investment options by investors, while 21.7% held a neutral opinion (mean = 3.66). Most respondents (69.3%) agreed that REIT stocks are correctly valued, while 21.7% held a neutral opinion on this statement (mean = 3.87). The findings are consistent with those of Amiri, Ravanpaknodezh, and Jelodari (2016), who examined the relationship between valuation methods and the intrinsic value of listed firms in Iran. The study found that the stock valuation models employed have a significant influence on the prices of the listed stocks.

Furthermore, most respondents (67.5%) agreed that there was clarity on the exact returns from the underlying assets, while 24.7% had a moderate opinion (mean = 3.86). Additionally, 66.3% of the respondents agreed that uptake of REITs has remained low over poor dividend yields, while 19.3% showed neutrality (mean = 3.75). The results are consistent with those of Kulab (2017), who found that there is a positive relationship between expected returns from REITs and the actual returns from the underlying property in Thailand.

Moreover, a fair majority of respondents (51.8%) agreed that prices of REITs have remained low over poor dividend yields, while 25.3% showed neutrality (mean = 3.43). The results are consistent with those of Jalil, Sheauting, Sapri, Fadzli, and Chai (2017), who examined property-type allocation in Malaysia and found that REITs have the potential for significant growth and a trend of decreasing dividend yields. Most respondents (52%) agreed that REITs have a promising durable stream of growing dividends that will reward investors' time, while 25.9% showed neutrality on this statement (mean =,3.48). The results agree with those of Clayton and Mackinnon (2001) who found that REIT stocks that are dominated by institutional investors have superior performance than those dominated by individual investors in the USA. Many of the respondents (41.6%) agreed that treasury bills and treasury bonds are preferred because they offer relatively more attractive returns than REITs, while 34.3% held a neutral opinion on this statement (mean=3.22). Most respondents (53.6%) agreed that investing in companies' equities offers relatively more attractive returns than REITs, with 29.5% holding a neutral opinion (mean = 3.53). Similarly, Ntuli and Akinsomi (2017) examined the performance of REITs in South Africa vis-a-vis other securities. The results indicated that treasury bills and bonds offered more attractive returns than REITs and were therefore preferred by investors. Further, Freybote (2016) found that investor sentiments were a significant factor in predicting the bond yields of REIT-issuing firms in the USA. Most respondents (73.6%) agreed that investors rely on peer trading as capital allocation signals, under the perception that peers may hold superior information (mean = 3.92). The results are consistent with those of Freybote and Seagraves (2016), who reported that in the USA, investors tend to rely on their peers in making trading decisions, thus displaying herd behaviour. These investors hope and believe that their peers hold significant information that might be important in guiding their choice of investment in the securities market.

Most respondents (44%) were undecided about the statement that REITs' underlying assets are correctly valued (mean = 2.92). There was neutrality in opinion among most respondents (41%) on the statement that REITs investors require an understanding of the operations of the stock market to trade in REITs, 31.3% of the respondents disagreed, while 27.7% agreed (mean = 2.86). There was disagreement among most respondents (40.9%) that, despite the rise in property prices, people's income has not kept pace. As a result, there is a good chance that property prices in Kenya will fall as potential investors find it difficult to engage in the market.

Additionally, 33.7% of the respondents showed a neutral opinion on this statement, while 25.3% agreed (mean = 2.60). Moreover, there was disagreement among 48% of the respondents on the statement that investors have sufficient confidence in the capital markets, which has boosted capital market product uptake. Further, 34.3% of the respondents showed neutrality in this statement (mean = 2.47). The findings agree with those of Nurick, Boyle, Morris, Potgieter, and Allen (2018) who examined the uptake of residential stocks with South African REITs and found that there was low uptake of residential stocks due to inadequate confidence by investors in the financial markets. On average, most respondents agreed with the investor confidence statements (mean = 3.59).

4.2. Growth and Development of REITs Descriptive Results

Respondents were asked to indicate their level of agreement on a scale of 1-5, on statements relating to the growth and development of REITs as shown in Table 6.

Table 6: Growth and Development of REITs - Descriptive Results

Statements N=166	**Strongly Agree-5 %**	**Agree-4 %**	**Moderate - 3 %**	**Disagree-2 %**	**Strongly Disagree-1 %**	**Mean**
There has been an increase in the number of investors subscribing to REITs due to adequate investor awareness	26.5	39.2	25.3	7.2	1.8	3.814
REITs have continually offered easy access to the real estate property market at relatively low transaction costs	25.9	47.6	22.3	3.0	1.2	3.94
There is growth in residential projects (students' hostels) being funded through REITs	28.3	36.7	30.1	4.2	0.6	3.876
There is a growing demand among property developers and investment managers (Promoters of REITs) to issue Development REITs meant to diversify real estate funding	22.3	34.3	26.5	13.3	3.6	4.192
Appetite for REITs has grown since the value of real estate properties keeps on appreciating, thus minimising the risks of capital loss	33.1	37.3	20.5	7.2	1.8	3.924
REITs uptake has attained a critical mass necessary to create liquidity in the capital market	25.9	22.3	31.3	15.7	4.8	3.488
Real estate indices in Kenya are quite high	15.1	26.5	35.5	13.9	9.0	3.248

Investments in REITs have delivered strong long-term total returns to investors	25.9	37.3	22.9	10.8	3.0	3.72
There has been increased competitive price discovery for residential properties (apartments) occasioned by REITs-backed real estate projects	24.1	39.2	27.1	9.0	0.6	3.772
There has been increased competitive price discovery for commercial properties (warehouses, offices, malls, shops) occasioned by REITs-backed real estate projects	28.3	33.7	28.3	9.6	0	3.804
Due to rental defaults and low occupancy rates, REIT returns have declined, resulting in low earnings	20.5	44.6	25.3	8.4	1.2	3.748
REITs have delivered competitive returns, thus attracting more institutional investors	17.5	28.9	31.9	15.7	6.0	3.362
REITs have delivered competitive returns, thus attracting more retail investors	19.3	27.7	24.1	19.3	9.6	3.278
REITs have provided investors with portfolio diversification since investors can now invest in diverse portfolios containing residential buildings, office blocks, industrial facilities, and shopping malls	14.5	25.9	33.1	19.3	7.2	3.212
REITs have been recording increased dividend yields	16.9	19.3	36.1	18.1	9.6	3.158
Average Mean Score						3.82

The findings in Table 6 show that most respondents (65.7%) agreed that there has been an increase in the number of investors subscribing to REITs due to adequate investor awareness (mean=3.81). Most respondents (73.5%) agreed that REITs have continually offered easy access to the real estate property market at relatively low transaction costs (mean = 3.94). Most respondents (65%) agreed that there was growth in residential projects (students' hostels) being funded through REITs (mean = 3.87). The majority (56.6%) of respondents agreed that there was a growing demand among property developers and investment managers (promoters of REITs) to issue development REITs meant to diversify real estate funding (mean = 4.19). Most respondents (70.4%) agreed that the appetite for REITs has grown since the value of real estate properties keeps on appreciating, thus minimising the risks of capital loss (mean = 3.92).

A fair majority of the respondents (48.2%) agreed that REITs uptake had attained the critical mass necessary to create liquidity in the capital market (mean = 3.48). Most respondents (41.6%) agreed that real estate indices in Kenya were quite high (mean = 3.24). There was agreement among most respondents (63.2%) that investment in REITs has delivered strong

long-term total returns to investors (mean = 3.72). Additionally, 63.3% of the respondents agreed that there has been increasingly competitive price discovery for residential properties occasioned by REITs-backed real estate projects (mean = 3.77). Most respondents (62%) agreed that there has been increasingly competitive price discovery for commercial properties occasioned by REITs-backed real estate projects (mean = 3.80). Most of the respondents (65.1%) agreed that due to rental defaults and low occupancy rates, REIT returns have declined, resulting in low earnings (mean = 3.74).

Further, while some respondents (46.4%) agreed that REITs have delivered competitive returns, thus attracting more institutional investors (mean = 3.36), others (47%) agreed that REITs have delivered competitive returns, thus attracting more retail investors (mean = 3.27). Additionally, 40.4% of the respondents agreed that REITs have provided investors with portfolio diversification since investors can now invest in a diverse portfolio containing residential buildings, office blocks, industrial facilities, and shopping malls (mean = 3.21). Further, 36.2% of the respondents agreed that REITs have been recording increased dividend yields while 36.1 % of the respondents held a neutral opinion (mean = 3.15). On average, most respondents agreed with the growth and development of REITs statements (mean = 3.82).

4.3. Exploratory Factor Analysis

4.3.1. Sample Adequacy Results for Investor Confidence

The Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy was used to determine whether the data was eligible for factor analysis.

Table 7: KMO and Bartlett's Test for Investor Confidence

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.882
Bartlett's Test of Sphericity	Approx. Chi-Square	610.351
	Df	21
	Sig.	.000

The KMO index ranges from 0 to 1, with an optimal value for factor analysis being 0.5 (Byrne, 2006). Further, factor analysis is only appropriate when Bartlett's Test of Sphericity is significant at a 95% confidence level. The KMO for investor confidence was 0.882. A factor analysis was also possible because Bartlett's test of sphericity was statistically significant ($p<0.05$). The study therefore proceeded with factor analysis. Table 7 presents the results.

4.3.2. Total Variance Explained for Investor Confidence

Table 8: Total Variance Explained for Investor Confidence

	Initial Eigenvalues			Extraction Sums of Squared Loadings		
Component	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	4.251	60.727	60.727	4.251	60.727	60.727
2	.875	12.500	73.227			
3	.530	7.579	80.806			
4	.442	6.319	87.125			
5	.358	5.108	92.233			
6	.284	4.058	96.291			
7	.260	3.709	100.000			

As indicated in Table 8, the number of factors that needed to be extracted was limited to one (1). The extracted component explained 60.727 percent of the variation in the construct. From the findings, sums of squared loadings for other components ranged from 4.251 to 0.260. Their contribution to the explanation of the variance was also considered significant.

Table 9: Component Matrix for Investor Confidence

Measurement Items	Component 1
IS1-REITs stocks are trading at a sound value (that is, they are correctly valued)	.724
IS2-There is clarity on the exact returns from the underlying assets	.709
IS3-Uptake of REITs has remained low over poor dividend yields	.762
IS4-Prices of REITs have remained low over poor dividend yields	.845
IS5-REITs has a promising durable stream of growing dividends which will reward investors over time	.858
IS6-Government securities (treasury bills and bonds) are preferred because they offer relatively attractive returns than REITs	.789
IS7-Investing in companies' equities (stocks) offer relatively attractive returns than REITs	.755

Investor confidence was measured using opinion measurement items on a Likert scale. The measurement items were skilfully structured to ensure the content validity of the construct. This is because the measurement items were assumed to be related, thus measuring one variable, which is investor confidence. Thus, the literature review generally discusses investor confidence as a single variable as opposed to sub-variables or indicators.
Since the measurement items converged validly to their respective components (constructs), through their factor loadings, they were given names. They were confirmed to be measurable observed indicators for the constructs. Investor confidence measures included risk-return sentiments.

The coefficients or loadings used to express the item in terms of the components are found in the matrix in Table 9. Pattern matrix loading indices range from 0 to 1.0, with 0 indicating no relationship between variables and 1.0 showing a perfect relationship between variables and a factor pattern. According to Byrne (2006), the average factor loading should be more than 0.7. According to the analysis, the factor loadings range from 0.709 to 0.858. According to the results, only seven elements met the loading threshold of 0.7 and were thus preserved for further analysis.

4.3.3. Sample Adequacy Results for Growth and Development of REITs

Table 10: KMO and Bartlett's Test for Growth and Development of REITs

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.818
Bartlett's Test of Sphericity	Approx. Chi-Square	273.056
	Df	10
	Sig.	.000

As shown in Table 10, the KMO value of 0.818 and Bartlett's Test of Sphericity significance level revealed that the sample from the population was appropriate, and that factor analysis was acceptable.

4.3.4. Total Variance Explained for Growth and Development of REITs

Table 11: Total Variance Explained for Growth and Development of REITs

	Initial Eigenvalues			Extraction Sums of Squared Loadings		
Component	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	2.932	58.649	58.649	2.932	58.649	58.649
2	.690	13.793	72.442			
3	.559	11.173	83.615			
4	.463	9.266	92.882			
5	.356	7.118	100.000			

Table 11 demonstrates that the factor loadings were evaluated using the principal component analysis extraction method. The fixed number of factors extracted was selected to be 1. With an Eigenvalue greater than 1 and extraction sums of squared loadings greater than 1, a maximum of one component was extracted. For this factor, the extraction sums of squared loadings were 2.932. The factor explained 58.649 percent of the variance in the construct. The other components' sums of squared loadings ranged from 2.932 to 0.356. The capacity of these other variables to explain the variance in the variables was rated highly significant.

Table 12: Component Matrix for Growth and Development of REITs

Measurement Items	**Component 1**
RP1-There is growth in residential projects (students' hostels) being funded through REITs	.728
RP2-Appetite for REITs has grown since the value of real estate properties keeps on appreciating, thus minimising the risks of capital loss	.798
RP3-There has been increased competitive price discovery for residential properties (apartments) occasioned by REITs backed real estate projects	.746
RP4-There has been increased competitive price discovery for commercial properties (warehouses, offices, malls, shops) occasioned by REITs backed real estate projects	.817
RP5-REITs returns have decreased due to rental defaults and low occupancy rates which have yielded low income	.737
Extraction Method: Principal Component Analysis.	

Growth and development of REITs were measured using opinion measurement items on a Likert scale. The measurement items were skillfully structured to ensure the content validity of the construct. The assumption was made that the measurement elements were interrelated, thereby assessing a single variable, namely the performance of REITs in terms of their growth and development. Thus, the literature review generally discusses the performance of REITs as a single variable as opposed to sub-variables or indicators.

Since the measurement items converged validly to their respective components (constructs), through their factor loadings, they were given names. They were confirmed to be measurable, empirically observed indicators for the constructs. Thus, performance measures of REITs included uptake and return of REITs. As presented in Table 12, the component matrix factor loadings for the performance of REITs are shown, ranging from 0.728 to 0.817. The results show that five items passed the 0.7 loading threshold and were thus retained for study.

4.4. Confirmatory Structural Modelling and Hypothesis Testing

Studies have utilised both absolute and incremental fit indices to determine if the model was a good fit for the data (Hair et al., 2010). Therefore, before hypothesis testing, CMIN, CM/DF, GFI, CFI, NFI, and RMSEA were used as techniques for measuring model fit. Regression weights were used to assess each indicator's contribution to its individual component. Furthermore, the critical value of 1.96 was used to determine whether the models were significant at a significance level of 0.05.

4.4.1. Model Test Fit Results for Investor Confidence

The study utilised both absolute and incremental fit indices to determine if the model was a good fit for the data. The study utilised both absolute and incremental fit indices to determine if the model was a good fit for the data. The model fit statistics in Table 13 reveal that the model fit was generally satisfactory.

Table 13: Model Fit Statistics Results for Investor Confidence

Model	CMIN	CMIN/DF	P value	GFI	CFI	NFI	RMSEA
Statistic	137.241	2.589	0.000	0.874	0.910	0.863	0.098
Cut-off	P<0.05, cmin/df ratio range 1 to 3			≥0.8	≥0.8	≥0.8	≤0.05 good ≤0.08 excellent ≤0.1 acceptable

The basic test used was the chi-square goodness of fit test (CMIN). The acceptable chi-square index degree of freedom ratio (CMIN/DF) should be between 1.0 and 3.0. The chi-square p-value should be less than 0.05. Table 13 shows a chi-square statistic of 137.241 with a probability value of 0.000, which was less than the conventional probability value of 0.05, and a CMIN to DF ratio of 2.589, which was within the acceptable range of 1 and 3. This indicated that the model significantly fitted the data.

According to Schumacker and Lomax (2004), chi-square goodness-of-fit values are particularly sensitive to sample size. Hence, other fit statistics should be used to test the model fit for the data, such as absolute and incremental fit indices. This was the case in the current study. The current study employed RMSEA and GFI for absolute fit indices, and NFI and CFI for incremental fit indices. The model's fit indices were used to determine whether it was adequate (Browne & Cudeck, 1992).

RMSEA is a statistic that assesses how well a model fits the data while accounting for the error of approximation. The RMSEA values range from 0 to 1, with a lower RMSEA value indicating a better model fit. An RMSEA of less than 0.05 is considered good, 0.05 to 0.08 is excellent, and 0.08 to 0.10 is acceptable (Hu & Bentler, 1999). In Table 13, the RMSEA score was 0.098, suggesting that the model fitted the data significantly because the value was less than the permissible threshold. GFI is a statistic that assesses how well the hypothesised model suits the covariance matrix observed. The fit indexes of the GFI vary from 0 to 1. The coefficients must be greater than or equal to 0.8 (McDonald & Ho, 2002). According to the results in Table 13, the GFI value was 0.874, which was within the specified threshold of 0.8. This proved that the model was valid and fit for analysis. CFI is one of the most extensively used fit indices because it is not affected by the sample size. CFI fit indexes range from 0 to 1, with values of 0.8 or higher considered acceptable (Tabachnick & Fidell, 2013). According to Table 13, the CFI value was 0.910. This suggested that the model fitted the data fairly well.

The Normed Fit Index (NFI) compares the sample covariance matrix to a distinct model in which all latent variables are assumed to be uncorrelated. The values of this statistic range from 0 to 1, with values closer to 1 indicating a good fit. An NFI score of 0.8 or higher is regarded as indicative of a perfect fit (Hu & Bentler, 1999). From the results in Table 13, the NFI value was 0.863, a sign that the model fitted the data. The overall findings of the model fit statistics show that the model fit was typically adequate.

4.4.2. Influence of Investor Confidence on the Growth and Development of Real Estate Investment Trusts in Kenya

The study's major objective was to evaluate how investor confidence affected the growth and development of real estate investment trusts in Kenya.

Table 14: Factor Loadings for Investor Confidence

Measurement Items	Component/ Loadings
IS1-REITs stocks are trading at a sound value (that is, they are correctly valued)	.705
IS2-There is clarity on the exact returns from the underlying assets	.674
IS3-Uptake of REITs has remained low over poor dividend yields	.748
IS4-Prices of REITs have remained low over poor dividend yields	.792
IS5-REITs has a promising, durable stream of growing dividends which will reward investors over time	.829
IS6-Government securities (treasury bills and bonds) are preferred because they offer relatively attractive returns than REITs	.734
IS7-Investing in companies' equities (stocks) offers relatively more attractive returns than REITs	.730

Exploratory factor analysis was conducted before utilising structural models to examine if the retrieved indicators expressing investor confidence had significant loadings on the latent construct. Table 14 shows that factor loadings range from 0.674 to 0.829, showing high convergence because they were all greater than 0.7 and so perfectly matched to a factor pattern

(Byrne, 2006). As a result, the indicators were employed in the analysis of the structural model fit that followed.

Table 15: Regression Weights and Critical Ratio (CR)Values for Investor Confidence and Growth and Development of REITs

			Estimate	S.E.	C.R.	P
Performance	<---	Sentiments	.396	.078	5.107	***
IS7	<---	Sentiments	1.000			
IS6	<---	Sentiments	1.174	.127	9.220	***
IS5	<---	Sentiments	1.287	.127	10.134	***
IS4	<---	Sentiments	1.343	.134	10.035	***
IS3	<---	Sentiments	1.003	.119	8.454	***
IS2	<---	Sentiments	.791	.103	7.675	***
IS1	<---	Sentiments	.855	.107	8.015	***

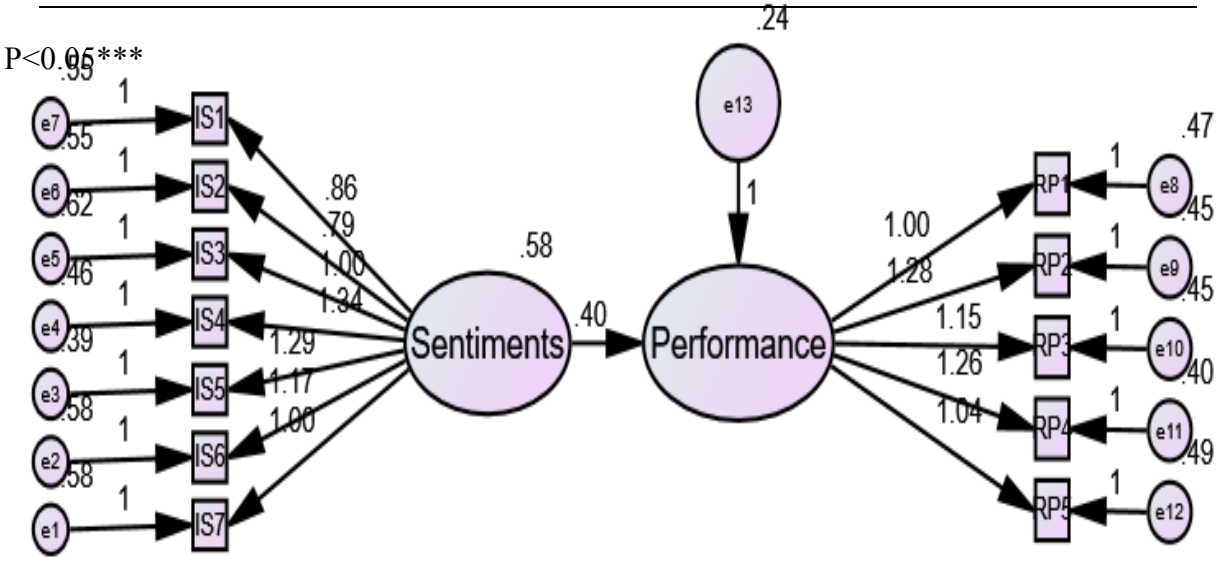

Figure 1: Path Coefficients for Investor Confidence (market--risk sentiments) and the Growth and Development of REITs in Kenya

There is a significant connection between investor confidence and the growth and development of REITs in Kenya, as indicated in Figure 1's path diagram and Table 15. The standard path coefficient on the influence of investor confidence on the growth and development of REITs in Kenya was found to be significant ($\beta = 0.40$, calculated t-value = 5.107, $P<0.05$). The C.R. of the coefficient of investor confidence was found to be greater than 1.96. This suggests that an additional decrease in the growth and development of REITs was linked to a 0.40 unit increase in negative risk-return sentiments. Thus, the study concluded that there is a statistically significant influence of investor confidence on the growth and development of REITs in Kenya.

The results agree with those of Chen, Chou, and Lin (2019), who assessed the relationship between investor sentiments and the performance of stock prices in the USA. The results showed that there was a significant positive connection between investor sentiments and the performance of stock prices. These results are also consistent with those of Hiriyappa (2008), who found that investor sentiments have an impact on the performance of financial securities. Further, they also support Chan, Erickson, and Wang's (2003) findings that institutional investors' sentiments have a significant effect on the performance of REITs.

Further, the results also agree with those of Das, Freybote, and Marcato (2014), who investigated sentiment-induced institutional trading behaviour and asset pricing in the REIT market in the USA and found that institutional investors' sentiment in the un-securitised commercial real estate market affects their trading behaviour in the securitized market. Additionally, the results agree with those of Huerta, Jackson, and Ngo (2015), who examined the impact of investor sentiments on real estate investment trust returns in the USA and reported that individual and institutional investors' sentiments are significantly and positively related to REITs returns. San, Heng, and Pong (2011) evaluated the performance of Malaysian REITs from 2005-2010 and found that poor perception among institutional investors was the cause of the slow growth of Malaysian REITs.

The contribution of each of the investor sentiment indicators to the latent construct was tested using regression weights (investor sentiments). According to the regression weights results in Table 15, each unit rise in investor sentiment was related to an increase in IS1 of 0.855 units, indicating that REITs are correctly valued. Since the calculated t-value of 8.015 was greater than 1.96, there is a significant positive link between IS1 and investor sentiments. This implies that there is a positive link between the statement that REITs are correctly valued and investor sentiments. The results are in agreement with those of Amiri, Ravanpaknodezh, and Jelodari (2016), who examined the relationship between valuation methods and the intrinsic value of listed firms in Iran and found that the stock valuation models employed have a significant influence on the prices of the listed stocks.

IS2 shows that for a single unit rise in investor sentiments, there was a 0.791 rise in clarity on the exact returns from the underlying assets. The corresponding calculated t-value was 7.675, which was higher than 1.96, this showed that there existed a significant association between IS2 and investor sentiments. The results show consistency with those of Kulab (2017), who found that there is a positive relationship between expected returns from REITs and the actual returns from the underlying property in Thailand.

IS3 indicates that for every unit rise in investor sentiment, there was a 1.003 increase in REIT uptake over poor dividend yields. The calculated t-value was 8.454, and since it was more than 1.96, it indicated that IS3 and investor sentiments had a substantial positive association. For IS4, a unit increase in investor sentiment was linked to 1.343 and a calculated t-value of 10.035, indicating that low prices of REITs remain over poor dividend yields. Because the calculated t-value is more than 1.96, this indicates that there is a considerable positive relationship between IS4 and investor sentiments. In addition, the findings show that a unit increase in investor sentiment is linked to a 1.287 increase in IS5 (REITs have a promising, durable stream of growing dividends which will reward investors over time. The calculated t-value of 10.134 for the IS5 estimate was greater than 1.96, indicating a strong positive association between IS5 and investor sentiments. The results are consistent with those of Jalil, Sheauting, Sapri, Fadzli, and Chai (2017), who examined property-type allocation in Malaysia and found that REITs

had potential for significant growth, although there was a trend towards decreasing dividend yields.

Government securities (treasury bills and bonds) are chosen because they give comparatively favourable returns compared to REITs, and a unit increase in investor sentiments is associated with a 1.174 increase in IS6. Since the calculated t-value of the IS6 estimate was greater than 1.96, there was a significant positive link between IS6 and investor sentiments. Furthermore, a unit increase in IS7, indicating that investing in company equities offers relatively better returns than REITs, was connected with a unit increase in investor sentiment. The regression weight was set to 1 and not estimated, indicating that IS7 and investor sentiment had a perfect relationship. The results agree with those of Ntuli and Akinsomi (2017), who examined the performance of REITs in South Africa against stocks, Treasury bills, bonds and other listed property in a mixed asset portfolio. The results indicated that treasury bills and bonds offer more attractive returns than REITs, thereby being preferred by most investors.

At the 0.05 significance level, all of the investor sentiment indicators regression weights had estimated calculated t-values greater than the threshold t- t-value of + or -1.96. As a result, the indicators were shown to be highly associated with investor sentiments, indicating their convergent validity.

5. Conclusion

Investor confidence has a considerable influence on the growth and development of Real Estate Investment Trusts in Kenya, according to the findings. Furthermore, investors have sufficient confidence in the capital markets, but this has not boosted the capital markets product uptake. It can be concluded that investor sentiments, majorly risk and return, are influencing the growth and development of the REITs market in Kenya, leading to REITs unexpected development. Risk and return sentiments have made REITs issuers shy away from issuing new securities in the market. Continuous engagement sessions between the security market regulatory authority, REITs Association of Kenya, and investors will enhance market confidence, thus lowering risk-return sentiments.

The findings of this study make a significant contribution to knowledge about REITs performance. The study found that there exists a significant positive causal relationship between risk-return sentiments and the growth and development of REITs in Kenya. These findings form a fundamental basis for existing scholars who may wish to study the influence of risk-return sentiments and the performance of REITs. Further, the study bridges the knowledge gap on the influence of investor confidence and the growth and development of REITs, an area with inadequate empirical literature.

The findings also make a significant contribution to Behavioural Portfolio Theory. According to this theory, investors' behavioural aspects play a significant role when they make investment decisions. Such decisions include portfolio construction and the selection of assets. The theory opines that investors are inclined to various psychological behaviours that lead them to cognitive errors in portfolio formation. From the current study findings, it can be implied that risk-return sentiments, which are behavioural perception characteristics, play a significant role in portfolio formation.

One limitation is the exclusive focus on fund managers, stockbrokers, investment bankers, and property developers as the primary respondents. Future studies could expand this scope to include a broader range of stakeholders, such as individual investors and regulatory bodies, providing a more comprehensive understanding of investor sentiment. Additionally, the study relied on Likert scale data and employed Structural Equation Modelling (SEM), which, while robust, may benefit from further validation using alternative methodologies. Exploring the influence of external factors, such as government policies, on investor confidence and REIT growth could also enhance the depth of the analysis, contributing to a better understanding of the REIT market in Kenya.

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Value Determinants in Mixed-Income Housing Developments

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Abstract
While some recent studies have focused on the effect of mixed-income housing on property values in surrounding neighbourhoods, there is limited research on the influence of value determinants on different components of value. Understanding the relationship between value components and determinants of value is imperative to attaining sustainable housing in South Africa. The determinants and value components were established from the literature. The relationship between the two variables was evaluated in this study. A questionnaire was used to collect data from 82 participants experienced in valuing property within mixed-income housing developments. Multiple regression analysis showed that neighbourhood determinants significantly influenced monetary value and non-monetary value while environmental determinants had a significant influence on social benefits accruing to other stakeholders in mixed-income housing. As mixed-income housing gains traction in South Africa, the results of this study will serve as development guidelines on critical determinants of value and the extent of their influence on property value in mixed-income housing.

Keywords: *mixed-income housing, property value, South Africa, value determinants, value components.*

1. Introduction

Mixed-income housing developments are borne out of the government's efforts to provide adequate, subsided low-cost housing, reduce economic inequality and promote social integration (Klug et al., 2013; Onatu & Baloyi, 2020). However, objections exist regarding developments for

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income-diverse groups as it may lead to the erosion of property values in surrounding areas (Simbanegavi & Ijasan, 2017). While studies have examined value concepts in mixed-income housing developments, most have viewed value in terms of market value, forgetting value is broad (de Vries & Vob, 2018; Read & Sanderford, 2017). For instance, low-income earners being integrated into an income-diverse neighbourhood with amenities not ordinarily available to them is a value of its own. Conversely, for high-income earners, factors such as the right resident mix, security, enforcement of rules and efficient waste management systems are benefits sought in the housing market (Vale & Shamsuddin, 2017).

Recent studies have focused on the impact of mixed-income housing developments on the values of properties within the receiving communities (Simbanegavi & Ijasan, 2017). Sturtevant and McClain (2010) found the emergence of mixed-income housing in the Richmond region had a positive social effect on the neighbourhood and property prices. On the other hand, Simbanegavi and Ijasan (2017) found negative impacts on property prices in six neighbourhoods in Cosmo City mixed-income development. In their study, De and Vupru (2017) indicated that value components are as imperative as the value determinants, which may be locational, neighbourhood, structural, socio-economic and environmental.

Although research has been conducted on mixed-income housing, there are limited studies on the relationship between value and mixed-income housing developments. In the performance of the valuation exercise, valuers are faced with an exhaustive list of factors and components. The focus of this study is therefore to establish the relationship between the components of value and factors which influence these components in mixed-income housing developments in South Africa. This study attempts to extend knowledge, from the valuer's perspective, on value components, and factors of value and to evaluate the relationship between the two variables using mixed-income housing developments. Understanding the important value determinants will help to provide sustainable housing and contribute towards achieving Sustainable Development Goal 11. This is critical, as demonstrated by Warren-Myers (2012) and Glover et al. (2017).

1.1 Mixed-income housing development

A mixed-income development combines low-income and higher-income households in the same development. It is designed to deconcentrate poverty in historically poor neighbourhoods and promote social integration (Onatu & Baloyi, 2020). This is different from social housing, which is accessible to individuals who earn between R1500 and R15 000, and the amount of rent paid must not exceed 30% of the gross income of the tenant (Ludick et al., 2021). One of the aims of mixed-income housing is to integrate low-income earners into more affluent social environments and mainstream economics (Leonard, 2018). However, there are some objections to housing developments for income-diverse groups and there is a perception that they lead to erosion of property values in surrounding areas (Simbanegavi & Ijasan, 2017).

The United States re-organised its efforts towards mixed-income housing in the last two decades of the twentieth century to respond to social problems associated with spatial inequality and concentrated poverty (Schwartz & Tajbakhsh, 1997). Despite the geographic differences, history, economic and population sizes, the United Kingdom (UK) and Australia have followed a similar approach to inclusive housing (Darcy, 2010). Achten and Lessman (2020) add that spatial and economic inequality pose a threat to social order in communities. To rectify spatial and economic

inequality, many countries such as South Africa have introduced inclusionary housing policies (Mkuzo et al., 2019; Sinxadi et al., 2020).

Mixed-income housing programmes and rules have varied across cities and states, based on a range of options and characteristics (migration to the location, development size and types, neighbourhood attributes, race and economic class), the aim of attracting partnerships between developers and the state (Vale & Shamsuddin, 2017; Scheba et al., 2024). Such developments in South Africa include Cosmo City, Lufhereng, Fleurhof and Pennyville in Johannesburg, and Thorntree View in Pretoria. These developments are concentrated in two Gauteng cities due to the relative newness of mixed-income housing in South Africa. The launch of a mixed-use and mixed-income housing development in Cape Town in January 2020 indicates the Western Cape is building more mixed-income housing developments (Scheba et al., 2024). Civil society including legal activists and non-governmental organisations advocates inclusionary housing as a way to mitigate high house prices, burgeoning private investment in upmarket apartments and exclusionary property markets (Scheba et al., 2024). To attract developers, incentives such as rebates and bulk services provision are normally offered to developers in exchange for a defined percentage of housing in the development being reserved for low to middle-income earners (Ellickson, 2009).

Through mixed-income housing, governments can attempt to foster social integration, decentralise poverty and integrate low-income earners into the mainstream economy (Levy et al., 2013; Morare & Sikota, 2014). The urban structure affects the welfare, human interaction and social integration among the citizenry, and the productivity, long-term viability and resources flow through the city, and thus the ecological footprint (SA Cities, 2011). Progress and sustainability in cities and the built environment are actually assured in physical terms, such as the number of new houses built, and the number of households provided with essential infrastructure and services and enjoyed by income-diverse groups. The built form of cities with a mix of people earning different incomes is particularly relevant to South African cities given the distortions inherited from apartheid.

1.2 Related Research

Studies have focused on the impact of mixed-income housing developments on the values of properties within the receiving communities (Sturtevant & McClain, 2010; Simbanegavi & Ijasan, 2017). Sturtevant and McClain (2010) found the emergence of mixed-income housing in the Richmond region had a positive social effect on the neighbourhood and property prices. However, Simbanegavi and Ijasan (2017) found that mixed-income housing developments had a negative impact on the selling prices in six out of seven neighbourhoods surrounding Cosmo City. According to Simbanegavi and Ijasan (2017), the closer the property is to the mixed-income housing development, the greater the negative impact on the selling price. In their study, De and Vupru (2017) indicated that value indicators are as imperative as the value determinants, which may be locational, neighbourhood, structural, socio-economic, and environmental.

The benefits of mixed-income housing have also been studied and theories have been conceptualised on what would ensure these developments are a success (Levy et al., 2013). Researchers have highlighted that a few benefits will be realised across developments (Joseph & Feldman, 2009). These benefits may be monetary or non-monetary depending on the value ascribed to them by different groups of people (developers, property valuers, mixed-income and

culturally diverse users) (Chaskin & Joseph, 2011; Lazano & Escrich, 2017). As the notion of value is extensive it should not be limited to market value (de Vries & Vob, 2018). While property value is a direct benefit to the property owner, the value derived from mixed-income housing is as significant as a quantifiable figure (Read & Sanderford, 2017). For example, low-income earners' integration into an income-diverse neighbourhood with amenities not ordinarily available to them is a value on its own. Conversely, for high-income earners factors such as the right resident mix, security, enforcement of rules and efficient waste management systems are key benefits sought in the housing market (Vale & Shamsuddin, 2017). Also, in the long term mixed-income developments may experience an increase in value because of safety, enforcement of rules, good amenities and services associated with a rejuvenated neighbourhood (Chaskin & Joseph, 2011).

In Ludick et al. (2021), transactional data of residential sales for two areas in South Africa were used to measure the value change from the development of medium-density to high-density affordable housing in greenfield areas located adjacent to higher-income neighbourhoods. According to the authors residential property is valued as a heterogeneous product which comprises a bundle of related inherent attributes or characteristics (structural, physical in terms of bedrooms, bathrooms, size, age neighbourhood and locational features) making up the property's price (Woo, 2014). The implicit market price of a property is thus expressed as a function of attributes where buyers and sellers are willing to transact (Ludick et al., 2021). Therefore, for mixed-income developments, the attributes and benefits accruing to users as well as the monetary value ascribable from the buyers' and sellers' viewpoints form the basis of this study. Funderburg and MacDonald (2010) supported this finding in their examination of the valuation effects of the new construction of low-income housing tax credit projects on neighbouring single-family homes in the US. The study used a 1999-2007 panel of neighbours and their matches while controlling for unobserved heterogeneity. They found that concentrating low-income renters in subsidised housing projects has negative consequences for neighbouring property values that might be avoided with tenant income mixing and improved site planning and design. Thus, mixed-income developments have benefits other than monetary, and in performing valuation exercises, valuers are faced with an exhaustive list of indicators of value owing to various components and derivable benefits. Therefore, the sustainability of such developments is important and warrants research.

Although research has been conducted on mixed-income housing, there are limited empirical studies on the relationships between value components and influencing factors in mixed-income housing developments. The focus of this study is therefore to establish the value components and factors which influence these value concepts in mixed-income housing developments, and the extent of this influence.

2. Theories of Value

The valuation theory underpins this study (Warren-Myers, 2012). Value is not inherent in a thing or article by virtue of its creation or existence, instead, value manifests in the minds of participants in the property markets (Abidoye & Chan, 2016). Value can be attached to different types of items and the perceptions of it vary from one market participant to the next (Cha & Borchgrevink, 2019). Other stakeholders have divergent perceptions of what constitutes value in an office building. The developer, as an owner, primarily perceives the value of an office building as a commercial phenomenon. This is because the commercial benefit from the business venture is the leading priority. The office worker who occupies the building on weekdays derives utility value from occupying the building. The state as a non-user of the asset benefits from property taxes derived

from the building. This demonstrates the complexity of value (Turkeli & Schophuizen, 2019; Cherrier et al., 2018).

The theory of value is nonlinear and complex. Value theory aims to explain how exchange value is determined (Pirgmaier, 2021). The theory is fundamental as its understanding is synonymous with economic dynamics. Value may be viewed as an economic expression of belief (Petri, 2017). The belief in what an item is worth. This expression of value based on the beliefs of market participants is called market value (Mooya, 2016). Market value is a monetary expression of value. However, value extends beyond statistical computations to socio-economic value, which is qualitative in nature (Singh et al., 2017). The social value theory establishes that property does not merely affect the users and developers (International Valuation Standards Council (IVSC), 2020), but it also affects the community (Givati, 2014). The effect on a wider group of stakeholders is also complex because stakeholders have divergent perceptions of value. Since the advent of financial reporting, social value has been less reported as opposed to commercial value used for accountability purposes (IVSC, 2020). This creates an impression that asset owners and users are only accountable to stakeholders with direct connection to the asset. However, socio-economic theory has proven that the impact is more widely felt. Countries like the UK have introduced legislation that makes it mandatory to report on 'social value' (Government of the United Kingdom, 2012). This is done to amplify the focus on socio-economic value as an integral branch of value. Further, the IVSC has recognised the absence of an internationally recognised valuation framework for social value, which could potentially result in continued uncertainty, inconsistencies, different approaches and lack of comparability across borders and jurisdictions (IVSC, 2020).

The theorisation on value in this study is based on the view that value is not merely restricted to commercial value (the price at which a product can be sold). This is because an asset in use affects more than its owners and users and has other connotations of value. While the consumer's perception of value is an important determinant, this study aims to expand on the neo-classical definition of value. Value is crystallised into monetary value, non-monetary value and benefits accruing to other stakeholders in the property market.

2.1 Value Indicators

2.1.1 Monetary value

Mixed-income housing developments have an impact on the value of properties within the receiving community (Sinxadi et al., 2020). This value can be monetary. From a developer's perspective, the primary goal of real estate development is to provide economic benefits for stakeholders (Tripathi & Jha, 2018). Measurement of the economic benefit is through determining the value that the development creates for the owners and the users (Morri & Jostov, 2018). However, in contemporary business reporting, reporting on value extends beyond the economic value focus. The development affects the environment and society in which it is erected. This makes it imperative to report on and appraise the impact of the development on the environment and society. When social and environmental value is created by development, it must be reported upon. Similarly, when it is eroded, reporting must be done as an accountability measure (Buallay, 2019). Reporting on a development's performance is also fundamental to its sustainability (Buallay, 2019).

Sustainability is linked to development's coexistence with the environment and the society it serves (Moore-O'Leary et al., 2017). Governments devise policies and offer incentives to developers to ensure that there is compliance with sustainability measures. (Purvis et al., 2019). Sustainability is threatened when economic objectives are not realised (Taliento et al., 2019). However, projects like mixed-income housing have various objectives ranging from economic to social. The measurement of these developments must be multi-layered to ensure that a comprehensive assessment of performance is achieved (Gupta & Racherla, 2018).

A development which provides a section of housing to low-income earning families has multi-layered objectives. The stakeholders also possess diverse views on what constitutes value in such a development (IVSC, 2020). This approach is appropriate due to its multifaceted approach to value, which is an indicator of sustainability (Freudenreich et al., 2020). According to the IVSC (2020), a comprehensive value definition that expands beyond monetary value comprises three elements: monetary benefit to the asset owner, social benefit to the asset users and social benefit to non-asset users. While mixed-income housing benefits users, who may be high- or low-income earning families, it also benefits the developer as the investor or creator of the asset. The developer's benefit is economic in nature. In South Africa, mixed-income housing developments are products of public-private partnerships. The developer normally benefits from the provided bulk services, and sometimes, with the land upon which to erect the development. This prevents the developer from incurring costs for bulk services which may be in the hundreds of millions. In addition, the developer derives a monetary benefit when the project is complete. Un-subsided properties get sold for monetary value and partially subsidised rental properties are rented for commercial value in return.

The above value impacts on communities beyond the monetary sense. Other stakeholders such as neighbourhood businesses and local governments are also affected (Thurber et al., 2018). This amplifies the view that there is a socio-economic value inherent in mixed-income housing developments. This will be discussed in the next section.

2.1.2 Non-monetary value

The non-monetary value could be derived by asset users and non-users. This is in line with the view that non-monetary benefits derived from property accrue to property owners and other stakeholders. These benefits are a representation of the socio-economic value associated with mixed-income housing developments. Socioeconomics is a broad phenomenon, making it difficult to quantify (Raidén et al., 2019). While the commercial value of the property may be easier to determine, socio-economic value is more challenging (IVSC, 2020). The perception of value is non-linear across various stakeholders. This enforces the view that determining value is a task anchored in assessing the opinions of the e of different groups of stakeholders (Mooya, 2016).

Socioeconomic value is not regulated by the IVSC (IVSC, 2020). There are valuation methods, both traditional and advanced, that determine the value of property, but there is no conventional standard for determining socioeconomic value (Caldwell et al., 2017). However, accountability standards of practice have evolved. There is a requirement for reporting to transcend commercial value and tap into socio-economic value (Mangialardo & Micelli, 2016). As such financial returns are just as important as the benefits derived by the community and all other stakeholders from a

property project (de Vries & Vob, 2018). Socio-economic theory establishes the concept of social value and its impact on stakeholders (Watson et al., 2016).

2.1.3 Non-monetary value accruing to asset owners

Asset users derive a social benefit from the use of the asset. Higher-earning families buy property in a development with better services and amenities. They may benefit from quality hoa use, a healthy environment with reduced pollution and waste management plans, and proximity to economic centres (Vale & Shamsuddin, 2017). In addition, social order which may be enforced by the property manager, may be a benefit. Low-income earning families may derive similar benefits to high-income earning families may benefit from moving into an area they ordinarily would not afford (SA Cities, 2011). The development may provide proximity to opportunities, which may encourage economic participation. Socially, low-income earning families may benefit from socialising with high-earning neighbours who have access to capital for investments. This could potentially lead to the achievement of social integration and upward economic mobility. Therefore, while households choose neighbourhoods based on their sociocultural background or identity, they may also benefit from areas with mixed-income households (Ludick et al., 2021).

2.1.4 Social benefits accruing to other stakeholders

In mixed-income housing developments, stakeholders including the local government, investors, non-profit staff, businesses and community residents benefit from the development as citizens are provided with housing in affluent neighbourhoods. The receiver of the subsidised home is positioned in geometric proximity to areas with better economies, positive social patterns and integration (Msweli, 2019). Acting potential solution to unemployment and lack of economic participation.

Similarly, businesses may potentially benefit from a higher number of customers and increased human resource capital supply due to the families moving into the neighbourhood. According to Harper (2017), companies, including non-profit organisations are increasingly creating financing solutions and innovative models to attract investors with a long-term hold philosophy, thus availing projects to renters and owners with a range of income. Therefore, mixed-income housing as an asset presents a social benefit to non-users and a long-term feasible and sustainable form of housing provision.

3. Factors influencing the value of mixed-income housing developments

Value represents the performance of an asset. Therefore, a property's value is a measurement of its performance. However, there is limited recent literature on the relationship between value and mixed-income housing. Mixed-income housing developments have an impact on the value of properties within the receiving community (Sinxadi et al., 2020). The social nature of these developments means the value impact extends to other stakeholders. Families who move into the new development are also affected (McCormick et al., 2012). Previous studies have demonstrated the significance of this effect.

Using multiple linear regression, Chin and Husaini (2013) tested a hypothesis which indicated that proximity to a transportation hub created a price premium and indicated the significance of an integrated transport hub for urban planning purposes. In addition, Simbanegavi and Ijasan (2017)

found that Cosmo-City mixed-income housing development had a negative impact on the property values of houses in the surrounding neighbourhoods in the Randburg area, in the City of Johannesburg, Gauteng province.

While studies have investigated the factors of value and residential property (Guan & Peiser, 2018; Sigit et al., 2020and on mixed-income housing (Vale & Shamsuddin, 2017), there is a gap in the knowledge on the relationship between value components and factors of value. In addition, other aspects of value accruing from such developments are not clear in the existing literature. Therefore, these relationships were investigated in this study with a view to identifying which factors have the most significance.

The broad hypothesis is that certain factors affect the value of mixed-income developments. These factors include locational, neighbourhood, technical, structural and environmental and socio-economic affect property value. These are presented hereunder:

3.1 Locational factors

3.1.1 Proximity to schools

Sah et al. (2016) reported in a study investigating school proximity effects on housing prices in inland regions, there is a 'proximity premium' consistent with houses located close to schools. In a study examining a more holistic list of factors affecting property value, Oloke et al. (2013) found that proximity to a school was one of the leading locational factors of value.

3.1.2 Proximity to the central business district (CBD)

The value of property has an inverse relationship with travelled time or the distance to the CBD. In a study investigating the effects of the CBD and other housing features on housing prices, Zou (2015) sampled 180 housing units in China. Other factors were constant, it was discovered that proximity to a CBD is a significant determinant of property value. Inversely, a 1% increase in distance from the CBD recorded a decrease in the property value.

3.1.3 Proximity of the development to a highway

Proximity to a highway provides the benefit of reaching one's destination more easily and reducing navigation through unfamiliar routes. Oloke et al.'s (2013) relative importance index study based on various property stakeholders, including valuation firms, landlords and residents, in Lagos, Nigeria revealed that proximity to a highway is one of the leading locational factors of value.

3.1.4 Proximity to a shopping mall

Zhang et al. (2019) found a significantly positive relationship between shopping malls and housing prices in Hangzhou, China. Having divided the study area into nine blocks, the authors found that the shopping mall had a great effect on property prices in blocks located closer and the effect was reduced in blocks located farther away from the shopping mall. Using a hedonic analysis of 8,600 property transactions in a comparative analysis, Addae-Dapaah and Lan (2010) found that properties located close to shopping malls recorded higher premiums than those located in areas without shopping malls.

3.1.5 Size of the nearby shopping mall

The size of a shopping mall is synonymous with access to certain products. Sirpal (1994) examined the variations in price of identical residential properties proximate to shopping malls of different sizes in Florida, USA. Using various models (linear, log-linear and inverse models) the effect of shopping mall size on the values of identical properties located close to shopping malls was assessed. Results based on the log-linear linear model indicated the that values of residential properties close to larger shopping malls were higher than those of identical properties located close to smaller or no shopping malls. In a more recent study in China, Zhang et al. (2020a) found that various types of shopping malls had a positive impact on the value of residential, but the impact was not linear when the types of shopping malls were studied separately. Large shopping malls had a more significant impact on properties in the 'non-core' areas of the city while smaller neighbourhood shopping malls had a greater impact on most of the areas in the city.

3.1.6 Proximity to places of worship

Places of worship are important considerations for some buyers and communities. Brandt et al. (2014) used hedonic price models to examine their effect on the prices of proximate condominiums. Condominiums located between 100m and 200m from the places of worship recorded a 4.8% price premium. Conversely, in Thompson et al. (2012), it was concluded that the place of worship did not have an influence on the values of surrounding properties in Missouri. Using a pre- and post-treatment model, the religions were analysed to determine the effect on post-construction construction. Based on the results, Thompson et al. (2012) concluded that data on the post-completion phase of the project distort the effect of places of worship on property value.

3.1.7 Proximity to the workplace

In a study examining a variety of factors affecting property values in Malaysia, it was found that the distance to the workplace was one of the significant contributors to property value (Teck-Hong, 2011). Properties situated within a 20-minute travel time to the workplace had a 20.3% premium in comparison to similar properties located within a farther distance.

3.1.8 Proximity to power plant (including nuclear)

Power plants are major energy sources, and they have great benefits to society. However, they are also sources of negative externalities (Xu & Lin, 2020). In a comparative assessment of property values in American neighbourhoods, Davis (2011) found that houses proximate to power plants recorded 3-7% decreases in their values.

3.1.9 Proximity to a hospital

Spatially, the appropriate location of hospitals requires more elaborate consideration. Peng and Chiang (2015) found the effects of hospitals' proximity on property prices to be more complex. Distance at various levels showed a non-linear relationship between hospital proximity and property prices. Properties located between 1,000 metres and 1,000 metres away from the hospital recorded higher prices. Properties located between 2 000 metres and 3 000 metres recorded lower prices. This indicates that an appropriately located hospital has a positive effect on the property price given that it is not close to the problem or too far away.

3.1.10 Proximity to transportation hubs

Transportation hubs include taxi ranks, train stations and airports. Proximity to transportation hubs affords convenience to residents. In an Australian study based on the Bus Rapid Transit (BRT), system and property values in Brisbane, the property value was positively affected by the bus system (Zhang et al., 2020b). Using regression analysis, it was found that property values increased by 1 metre for every 100 metres of proximity to the bus stations. When examining the effects of integrated transport hubs as a component of urban planning policy on housing prices in Singapore, Chin and Husaini (2013), found that the two variables were positively correlated.

3.2 Neighbourhood factors

3.2.1 Road conditions

In a study based on examining the effect of road conditions on property values in California, the effect was found to be minimal (Seo et al., 2018). Results based on a hypothetically improved pavement indicated that the relation between the two variables is statistically insignificant and may lead to no increase in property value at all.

3.2.2 Safety and Security

Studying the impact of a sense of security from crime on property values in Brazilian metropolitan areas, Vetter et al. (2013) found that a sense of security had a positive effect on property values; an increase in the standard deviation by one point led to $750 average increase in property value of each house.

3.2.3 Effective drainage and waste management

In a comprehensive study based on the effect of urban infrastructure on property values, Ajibola et al. (2013) found that an effective drainage and waste management system had a positive effect on property value. While significant factors of value, waste disposal systems and drainage systems ranked fourth and fifth in the ranking table compromising seven factors of value.

3.3 Socio-economic factors

Assessing the influence of the quality of schools on property value, Machin (2011) found that there was a positive correlation between the two variables. Applying an appraisal of literature from different countries, Machin (2011) determined that houses' proximity to quality or high-end schools recorded higher property values and parents demonstrated a strong will to pay a premium associated with quality schools.

Manufacturing factories are key for economic activity and affect property value. However, they possess various negative externalities for the environment. Analysing the effects of industrial sites on property value, de Vor and de Groot (2011) found that they had a negative impact on property values. The impact was found to be dependent on distance and the results indicated that it was localised. The impact was reduced the farther the property was from the industrial site.

3.4 Structural and technical factors

Age, size and condition are some of the most significant structural and technical factors of value. In a more comprehensive study based on compositional and urban effects on residential property

value, Chiaradia and Hillier (2013) found that property size is the most important structural factor followed by age and condition of the property.

With the growing rates of crime in South Africa and other parts of the world, there is a growing attraction to security in households. In a Nigerian study examining the effect of security features on property value and the willingness of prospective buyers to pay for security features, it was found that security is a significant contributor to property value (Osagie & Ilechukwu, 2016). In a quantitative study featuring 124 questionnaire respondents, security arrangements and features were ranked first and second as the leading determinants of property value.

3.5 Environmental factors

Environmental amenities contribute to people's quality of life and liveability, and some property buyers are willing to pay for them. In a comprehensive study based on the valuation of environmental amenities, Sylla et al. (2019) found that proximity to protected areas and green spaces significantly influenced property prices in Portland, considering factors like the density of cities and noise quality. Likewise, Cellmer et al. (2012) found that environmental factors including noise quality, surface bodies, greenery and landscape had a positive impact on property values as they provide ecological benefits like carbon reduction and ecosystem balance (Bonilla-Duarte et al., 2021). These views were supported by Sander et al. (2010) who found that tree cover had a positive effect on value. Using hedonic modelling, data indicated a positive relationship and statistical significance in the tree cover within 100m and 250m ranges. The 100m and 250m ranges also indicated respective increases of 1,371$1 371 (0.48%) and $836 (0.29%) in the property price.

Housing susceptible to flooding and other natural disturbances attracts a property discount if known to market participants (Kropp, 2012). Contrarily, with the rise in sea levels, property with adequate elevation is expected to record a price premium. Fromrom investigating the implications of flooding, rising sea levels and other environmental factors affecting the pricing of property, the relation was found to be negative (Fuerst & Warren-Myers, 2019). Expectations of flooding attracted a negative on the property price while sea levels could not be priced accurately.
The above studies acknowledge the effect of various factors on house prices and property value. However, it appears that there is a dearth of literature on the effect of these determinants on the value of mixed-income housing developments, which is the focus of the current study.

4. Methodology

A quantitative research design was adopted to answer the research question in line with the objective of the study (Abidoye & Chan, 2016). A questionnaire was used to obtain answers which are definitive using a scale and statistical analysis techniques, as would not be possible with qualitative data. A deductive approach is applicable in a quantitative study and may be evaluated through survey data collection (Saunders et al., 2009).

The value concepts and influencers established through literature were used to form Likert scale closed-ended questions in three sections including the demographic aspects, value determinants and value concepts. Responses ranged from 1 = Strongly disagree to 5 = Strongly agree. The questionnaire draft was checked and revised repeatedly by the supervisor and an industry expert

proficient in valuation (Grimm, 2010). The research complied with the code of ethics stipulated by the researchers' institution.

The target population included property valuers (professional, professional associate and candidate valuers) registered with the South African Council for the Property Valuers' Profession (SACPVP) with about 2100 registered valuers (SACPVP, 2018). However, the Protection of Personal Information Act was cited as a deterrent by the council. Purposive sampling was therefore used to include respondents with experience in valuing properties in mixed-income developments (Taherdoost, 2016). It was thus possible to select a representative sample from which inference could be made about the hypothesised relationships. In addition, snowball sampling was used to identify participants from previous acquaintances and firms surveyed, thus enabling access to more respondents with the target characteristics (Naderifar et al., 2017).

The questionnaires were distributed by hand and online (Google form link) in the provinces of Gauteng, KwaZulu-Natal and the Western Cape. These provinces were included because of the snowballing technique. Data was collected over four months. Eighty-two responses were received. The number was low due to the strict participation criteria and the relative newness of mixed-income housing in South Africa. Therefore, valuers based in municipalities with more exposure to mixed-income housing developments were approached to provide reliable responses. For this study, at least 140 respondents were required (N= 10 X m, where m is the number of independent variables in the largest construct) (Pallant, 2020). However, the small sample was acceptable as observed in similar multiple regression analysis research (Kamath & Fan, 2018; Shetty et al., 2020).

Preliminary analyses included checking for multicollinearity, normality, outliers, and sample size adequacy. The reliability of the questionnaire scale was assessed using Cronbach's alpha, with values of the constructs exceeding 0.7 indicating good reliability (Pallant, 2020). Normality and outliers were assessed. The data was non-normally distributed. However, for multiple regression analysis (MRA), the standardised residuals should resemble a normal distribution, especially with small samples, to produce trustworthy effect estimates and 95% confidence intervals (Osbourne, 2013). An examination of the histograms revealed that there were no outliers, and this assumption was met.

Multicollinearity was checked using Pearson's correlation tests between the variables. Pallant (2020) suggests that the coefficients between the variables should not be greater than 0.7 or less than 0.3 for multicollinearity to be excluded. Multicollinearity was also checked using Tolerance (> 0.1) and VIF (1-10) scores. Descriptive analysis was then performed to output mean and standard deviation scores. Further, inferential statistics was done using MRA to establish the effect of one variable on another, as opposed to correlation (Huberty, 2003). Multiple R was analysed to assess the statistical significance of the relationship between the value determinants and indicators. The null hypothesis (no relationship) was rejected when $p<0.05$. The R-squared coefficient was used to explain the extent of variance in the dependent variable which is explained by the model comprising five categories of factors of value. The standardised values were assessed (Pallant, 2020). The ANOVA function also showed the levels of variability within the regression model and formed a basis for tests of significance, with the F-statistic (Frost, 2021). The analysis process and use of suitable methods as explained served to enhance the reliability and validity of the study.

5. Results

5.1 Demographic profile of respondents

The profile of the respondents is presented in Table 1. Most mixed-income housing developments are in the Gauteng province, with 90.2% representation of valuers based in Gauteng municipalities. Their educational qualifications ranged from diplomas to Master's degrees, and 27% had less than 5, and 5-10 years' experience, respectively. Most of them (71%) had conducted more than seven valuations in mixed-income housing developments. Therefore, valuers from different sectors and municipalities, holding various levels of educational qualifications, positions and experience were included leading to a high degree of reliability placed on the data.

Table 1: Respondents' profile

Category	Characteristics	Percentage frequency	Category	Characteristics	Percentage frequency
Organisation	Municipalities	49	**Position**	Senior valuers	33
	Private consultants	35		Graduate and candidate valuers	31
	Mixed categories (corporate and financial services sectors	7		Other (Valuation assistants and land acquisition negotiators)	10
	Government departments	5		Managers	23
				Head of valuation	3
Location	City of Johannesburg	55	**Number of valuations**	More than 7	71
	City of Tshwane	21		5 to 7	8
	City of Ekurhuleni	10		2 to 4	3
	Other (eThekwini and the City of Cape Town)	10		Less than 2	17
	Sedibeng and West Rand	4			
Qualification	Honours	50	**Experience (years)**	Less than 5	27
	National Diplomaaa	18		5-10	27
	Master's	15		11-15	24
	Bachelors	12		More than 15	22
	Other (advanced and postgraduate diplomas)	3			

5.2 Preliminary assessment

A normality test using a histogram to examine the skewness indicated that the data was normally distributed. The multicollinearity requirements were met, with Pearson's correlation values

ranging from 0.40 to 0.73, Tolerance values greater than 0 and VIF greater than 1 and well below the cut of 10. The constructs recorded Cronbach's alpha values greater than 0.8, indicating reliability (monetary value, 0.846, N=8; non-monetary value, 0.863, N=11), social benefits to other stakeholders (0.835, N=7), locational factors (0,863, N=11), neighbourhood factors (0.918, N=9), socio-economic factors (0.917, N=14), structural and technical factors (0.956, N=10), environmental factors (0.885, N=7). The corrected item coefficients were greater than 0.3, indicating a strong correlation with the total score. Collectively, the items in the sub-scales had a strong correlation with the total scores; thus, a high degree of reliability.

5.3 Multiple regression results

5.3.1 Monetary value as a dependent variable

The R-squared coefficient (0.377) explains the extent of variance in the dependent variable (monetary value) which is explained by the model comprising five factors of value (Table 2). This translates to 37.7% of the monetary value concepts being collectively predicted by location, neighbourhood, socio-economic, technical, structural and environmental factors of value. The model also recorded statistical significance, as shown in Table 3, F (9.180, $p < .05$) indicating that the five independent variables are jointly significant in predicting monetary value.

Table 2: Model for monetary value

Model Summary[b]				
Model	**R**	**R Square**	**Adjusted R Square**	**Std. Error of the Estimate**
1	.614[a]	0.377	0.336	0.566
a. Predictors: (Constant), ENV, LOC, NEB, STR, SOC				
b. Dependent Variable: MON				

Table 3: ANOVA results on monetary value

Model	**Sum of Squares**	**df**	**Mean Square**	**F**	**Sig.**
Regression	14.701	5	2.940	9.180	.000[b]
Residual	24.340	76	0.320		
Total	39.041	81			
a. Dependent Variable: MON					
b. Predictors: (Constant), ENV, LOC, NEB, STR, SOC					

When other factors are constant, neighbourhood factors are the most significant predictors of monetary value (Table 4). Neighbourhood factors recorded a standardised beta of 0.345. The confidence interval ranged between 0.043 and 0.609. This indicates that neighbourhood factors predicted 35% of monetary value (p = 0.025). Further, results from Pearson's correlation analysis

supported a significant positive relationship between neighbourhood factors and monetary value ($r = 0.563$, $p = 0.000$).

Table 4: Coefficients for evaluating the influence of the independent variable

Model	Unstandardised Coefficients		Standardised Coefficients	T	Sig.	95,0% Confidence Interval for B	
	B	Std. Error	Beta			Lower Bound	Upper Bound
(Constant)	1.578	0.397		3.979	0.000	0.788	2.368
LOC	-0.024	0.152	-0.022	-0.160	0.874	-0.326	0.278
NEB	0.326	0.142	0.345	2.291	0.025	0.043	0.609
SOC	0.288	0.160	0.299	1.793	0.077	-0.032	0.607
STR	-0.043	0.123	-0.054	-0.349	0.728	-0.288	0.203
ENV	0.092	0.117	0.108	0.788	0.433	-0.141	0.326

5.3.2 Non-monetary value as a dependent variable

The R-squared coefficient (0.414) explains the extent of variance in the dependent variable which is explained by the model comprising the five factors of value (Table 5). This indicates that the proportion of variance in non-monetary value that can be explained by the independent variables (location, neighbourhood, socio-economic, technical, structural and environmental factors) is 41.4%. Further, results showed that the five independent variables are jointly significant in predicting non-monetary value ($F = 10.740$, $p < .05$) (Table 6).

Table 5: Model summary for non-monetary value

Model Summary[b]				
Model	**R**	**R Square**	**Adjusted R Square**	**Std. Error of the Estimate**
1	.643[a]	0.414	0.375	0.513
a. Predictors: (Constant), ENV, LOC, NEB, STR, SOC				
b. Dependent Variable: NMV				

Table 6: ANOVA results on non-monetary value

Model	**Sum of Squares**	**df**	**Mean Square**	**F**	**Sig.**
Regression	14.154	5	2.831	10.740	.000[b]
Residual	20.031	76	0.264		
Total	34.185	81			
a. Dependent Variable: NMV					
b. Predictors: (Constant), ENV, LOC, NEB, STR, SOC					

When other factors are constant, neighbourhood factors are the most significant predictors of non-monetary value. Neighbourhood factors recorded a standardised beta of 0.485 (Table 7). The confidence interval ranged between 0.172 and 0.686. This indicates that neighbourhood factors predicted 49% of the non-monetary value. Pearson's correlation results also showed a significant positive relationship between neighbourhood factors and non-monetary value (r = 0.587, p = 0.000).

Table 7: Coefficients for evaluating the influence of the independent variable

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.	95,0% Confidence Interval for B	
	B	Std. Error	Beta			Lower Bound	Upper Bound
(Constant)	1.237	0.360		3.438	0.001	0.520	1.954
LOC	0.025	0.138	0.024	0.180	0.858	-0.249	0.299
NEB	0.429	0.129	0.485	3.326	0.001	0.172	0.686
SOC	0.190	0.146	0.210	1.302	0.197	-0.100	0.479
STR	-0.195	0.112	-0.263	-1.745	0.085	-0.418	0.028
ENV	0.189	0.106	0.236	1.775	0.080	-0.023	0.400

5.3.3 Social benefits to other stakeholders as a dependent variable

The R-squared coefficient (0.432) explains the extent of variance in the dependent variable which is explained by the model compromising the five factors of value (Table 8). This translates to 43.2% of the social benefits accruing to other stakeholders being collectively predicted by location, neighbourhood, socio-economic, technical, structural and environmental factors of value.

Multiple R was analysed to assess the statistical significance of the results. The ANOVA model showed statistical significance (F=11.558, p < .0005) (Table 9). The five independent variables are jointly significant in predicting social benefits accruing to other stakeholders.

Table 8: Model summary for social benefits accruing to stakeholders

Model Summary				
Model	**R**	**R Square**	**Adjusted R Square**	**Std. Error of the Estimate**
1	.657[a]	0.432	0.395	0.498
a. Predictors: (Constant), ENV, LOC, NEB, STR, SOC				
b. Dependent Variable: SOB				

Table 9: ANOVA results on social benefits accruing to stakeholders

Model	Sum of Squares	Df	Mean Square	F	Sig.
Regression	14.320	5	2.864	11.558	.000[b]
Residual	18.832	76	0.248		
Total	33.152	81			
a. Dependent Variable: SOB					
b. Predictors: (Constant), ENV, LOC, NEB, STR, SOC					

When other factors are constant, environmental factors are the most significant predictors of social benefits accruing to other stakeholders (Table 10). Environmental factors recorded a standard error (0.103) with a standardised beta (0.405). The confidence interval ranged between 0.114 and 0.524. This indicates that 41% of the social benefits accruing to other stakeholders are predicted by environmental factors. Further results indicated a significant positive correlation between environmental factors and SOB ($r = 0.558$, $p = 0.000$).

Table 10: Coefficients for evaluating the influence of the independent variable

Model	Unstandardised Coefficients		Standardised Coefficients	T	Sig.	95,0% Confidence Interval for B	
	B	Std. Error	Beta			Lower Bound	Upper Bound
(Constant)	1.254	0.349		3.594	0.001	0.559	1.949
LOC	0.167	0.133	0.164	1.251	0.215	-0.099	0.432
NEB	0.113	0.125	0.130	0.902	0.370	-0.136	0.362
SOC	0.270	0.141	0.304	1.913	0.060	-0.011	0.551
STR	-0.208	0.108	-0.284	-1.916	0.059	-0.424	0.008
ENV	0.319	0.103	0.405	3.098	0.003	0.114	0.524

6. Discussion of Findings

Based on the findings, the null hypothesis was rejected for the relationships between monetary value and neighbourhood factors, non-monetary value and neighbourhood factors and social benefits accruing to other stakeholders and environmental factors. The five categories of value determinants showed variable influence on the components of value. Neighbourhood factors were significant determinants of monetary and non-monetary value, whereas environmental factors significantly influence social benefits accruing to other stakeholders. In a similar study examining neighbourhood characteristics as predictors of property price in urban areas, 7,000 houses in Italian cities were studied (de Nadai & Lepri, 2018). Vitality and walkability were identified as significant drivers of property price with 20% of the property price, which is a monetary component of value. A property's neighbourhood factors are instrumental in determining economic and social value which are monetary and non-monetary, respectively (de Nadai & Lepri, 2018).

Environmental factors also recorded significance. In a comprehensive study on the effect of environmental amenities on value, Sylla et al. (2019) supported that proximity to environmental amenities has a significant influence on property price. To establish the relationship between neighbourhood characteristics and neighbourhood satisfaction and well-being, Mouratidis (2020) found that neighbourhoods deprived of environmental factors such as air and noise quality and green space experienced a lack of satisfaction while those having access recorded satisfaction. Also, in mixed-income housing developments, a greater economic impact may be felt than in other residential developments with the income-generation opportunities available (Levy et al., 2013).
Other factors were not statistically significant, for example, structural factors. It is a valuation principle that the property's structure and technical attributes constitute a larger share of the property's value. However, these findings support literature to the extent of neighbourhood and environmental factors and their influence on value components.

7. Conclusion

The objective of this study was to evaluate the relationship between determinants of value and the components of value in mixed-income housing developments in South Africa. Using responses from a questionnaire survey, factors affecting the value of mixed-income housing and their impact in terms of monetary, non-monetary and stakeholder social benefits were examined. Preliminary considerations included tests for normality, reliability of scale and sample size adequacy. The results obtained from evaluating the relationship between considerations of value and the factors of value indicate that the five categories of factors of value are joint predictors of monetary value, non-monetary value and social benefits accruing to other stakeholders. When other factors are constant, neighbourhood factors are the most significant determinants of monetary value and non-monetary value, and environmental factors are the most significant determinants of social benefits accruing to other stakeholders. This research presents an opportunity to acquire a better understanding of the influence of factors on value from different value concepts throughout South Africa. In addition to the factors that influence the value of MIH, the study brings a better understanding of the role of mixed-income housing in the market and society in the context of South African cities. The results of this study could serve as a guideline on determinants of value to consider in the planning stages of mixed-income housing development and to guide prospective buyers on factors to consider when buying property in a mixed-income housing development. This research also presents evidence to inform housing decision-makers and planners to determine if mixed-income housing developments will be sustainable in future. The small sample size is a limitation of the study, thus limiting the generalisability to the entire population. The results should be interpreted with caution and this study should be replicated with a larger sample to confirm the results. Future research could also expand the focus on value to study social value derived from mixed-income housing developments from the residents' perspective, as income-diverse residents may have divergent views on what constitutes value to them, especially social value derivable from residing in mixed-income communities.

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Graduate Competency and Employer Satisfaction: A Concern for Employment Sustainability of Nigerian Real Estate Graduates

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Abstract

Real estate educational institutions in Nigeria seem to rely on student academic performance, programme accreditation status, and short-time industrial training for self-assessment of their undergraduate programme. Little emphasis has been placed on the use of post-graduation industrial performance to monitor the level of Real Estate Graduate Employers' (REGE) satisfaction with Real Estate Graduates' (REG) competency. This study compares the level of competency of REG (university and polytechnic) with the level of satisfaction of the REGE (accredited real estate firms) in Nigeria. Data were collected with the use of questionnaires administered to 339 heads of real estate firms in Nigeria and analysed using frequency, percentages and Likert summation scaling/ranking. The finding indicates a mismatch between the level of competency of REG and the expected level of satisfaction of REGE. REGs exhibit industrial competency only in commercial awareness but decreasing competency in other aspects, coupled with increasing employers' dissatisfaction. The consequent effect may be a threat to the relevance of real estate education in Nigerian tertiary institutions. The study recommended, among others, a need for

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tertiary institutions (offering real estate programmes) in Nigeria to identify commercial awareness as a vital competency requirement of the REGE and effectively incorporate such in their curriculum towards stemming the rising substitutes for REG.

Keywords: *commercial awareness, employer's satisfaction, graduate competency, real estate graduate, real estate graduate' employer.*

1. Introduction

The contemporary business environment indicates a pressing need to educate and train graduates for sustainable professional competence (Abdulrahman, 2016). To ensure a better future for real estate practice in Nigeria, there is a need for comprehensive research into the usefulness and contribution of REG to the real estate industry. Boyd *et al.* (2014) identified three models of real estate education. These models are interdisciplinary approaches that are practised in Australia, New Zealand, and Central Europe. They include the surveying approach as suggested by Boyd et al. (2014), which is typically practised in the UK and the other countries of the British Commonwealth and business/investment and finance approaches which are practised in the USA). Regardless of the type of these educational models, the expectation is for the graduate to gain knowledge and then demonstrate professional competencies derived from that knowledge. It is common knowledge that education gives knowledge, knowledge gives general skills, and both combined to ensure the employability of REG. According to Ogunba (2022), real estate education partially started in Nigeria in 1957 as a sub-professional course of the RICS, UK, through the Department of Estate Management in the College of Arts, Science, and Technology. The college was later absorbed by the University of Nigeria, Nsukka, in 1961 as its Enugu Campus. In 1962, estate management fully started and the first set of graduates was produced in 1967.

Knowledge, skills, and competencies jointly contribute to business performance, and they are vital resources for the operational practice of any professional. Employability incorporates the competencies needed by graduates to function effectively and efficiently. Knowledge acquired from real estate education therefore needs to be applied to both theory and practice altogether. However, the sustainability of any secured employment in an organisation is a function of the satisfactory performance of the employees to their employers, as well as the extent to which employees are able and willing to remain in an organisation (Oladokun and Gbadegesin, 2017). This may be influenced by either the exploitation of graduate employees by their employers or the graduate employee's competency/incompetency. The study by Mirembe and Viruly (2018) is a very related study on real estate education and knowledge, among others. In addition to real estate education and knowledge, studies like Ko (2012); Bui *et al.* (2016) and Bui *et al.* (2021) have been done on the career ambition of REG. These studies established the link between education, knowledge and career ambition as it relates to REG. Factors influencing graduates career choice, employability, and academic performance (not hands-on performance) have also been investigated by Rajabi *et al.* (2012); Odia and Ogiedu (2013); Maina (2013), and Ayodele (2019), as well as studies on employer's requirements and graduates' employability skills by Hoxley *et al.* (2011); Poon (2012); Poon (2014); Delcourt *et al. (*2017), and Wesonga *et al.* (2022). These previous studies generalised real estate education from a university perspective, though at the undergraduate

level, ignoring that other tertiary institutions, such as the polytechnics, also produce REG at the undergraduate level. This may give spurious results, hence, a need for caution in generalisation. In Nigeria, although universities are strictly producing post-graduates in real estate, the polytechnics and universities jointly supply holders of the higher national diploma and first degree respectively in estate management. Limiting research to universities may give spurious results.

Studies such as Hoxley *et al.* (2011), Poon (2012), Poon (2014), Delcourt *et al. (2017),* and Wesonga *et al.* (2022) specifically focused on employers' requirements, which are not complete feedback from the industry for the educators to fully address (Hofmann, 2010; Wofford and Troilo, 2013, and Boyd *et al.,* 2014). Furthermore, studies such as Wesonga *et al.* (2022), Bui *et al.* (2021), Mirembe and Viruly (2018), among others, are skewed towards the education and theoretical skills of REG; it seems no specific study has been conducted to link the competency of REG with their employer's satisfaction in 'hands-on' mode (industry evidence-based). Severally, the issue of the employer's satisfaction and sustainability of employment of REG has not been included as an aspect of concern. This is a vital miss in the scheme of real estate education, employability, and employment sustainability research. Apart from the moderation of the real estate programme in Nigeria by the designated Accreditors (team of academic and professional experts in field of estate surveying and valuation) as delegated by academic and professional regulatory bodies in Nigeria-National Universities Commission (NUC), National Board for Technical Education (NBTE) and Estate Surveyors and Valuers Registration Board of Nigeria (ESVARBON), there is a need for another synergy of linking learning to industry as a way of having reliable feedback towards real estate employment and sustainability. This will serve as a complement to the usual reliance on academic performance, short-term industrial attachment of graduates, and accreditation of programmes. Industry evidence-based studies have been advocated in preference for academic performance because 'hands-on' performance is better and more reliable than contextual performance or mere employers' requirements. For the re-evaluation of course curricula and the improvement of the future employability of REG in Nigeria, there should therefore be an ethics of evidence-based management as a paradigm shift from knowledge-based information. This can be achieved by measuring the competency level of REG based on the level of satisfaction derived by their employers.

A study by Connor *et al.* (2010) in London has empirically indicated employers' dissatisfaction with the types of competencies that are required for graduates in the work environment, including subject knowledge, specialist skills, and generic personal attributes. There is currently a dearth of such studies in Nigeria. Lack of awareness of this situation in Nigeria may be a threat to the relevance of real estate education and the sustainability of employment of REG. There is therefore a need for replication of a study on the level of employers' satisfaction with REG's competencies in Nigeria towards safeguarding the relevance of real estate education, and the sustenance of employment for REGs. Questions calling for this research attention include: what specific requirements do the REGEs expect from REGs (based on the acquired knowledge in curriculum and performance)? Can we rely on feedback from industry (purposely meant for accreditation of programmes) as sufficient evidence of graduate competency to the satisfaction of employers? Are the REGEs satisfied with their employed REGs? What motivates the REGE to employ Non-Real Estate Graduates (NREG) to do the work of REG? Are rising substitutes for REG a worthy source of concern or not? To answer these questions, it is pertinent to inquire into how competent the

REGs are after their qualification and to what extent their competencies (compared with NREG) met the satisfactions of REGEs.

2. Literature review

Parker (2020) observed that while the traditional real estate degree prepared students for employment in real estate firms by equipping them with the knowledge and skills to practice, the emerging form of business degree with minimal and generic real estate content may not prepare students for employment. Hence, a real estate degree must cover a wide range of real estate-specific content to meet the demands of the practice

2.1 Employee satisfaction, real estate academic content and career ambition

Mirembe and Viruly (2018) examined the real estate academic syllabus taught by universities in Sub-Saharan Africa and provided insight into the multidisciplinary knowledge base required to enable graduates to succeed in contextually diverse real estate markets. A survey of existing literature on real estate education was explored to derive an understanding of the body of knowledge in the real estate sector. The study suggested that moving away from the UK and USA, real estate education ideology in African universities should prepare students for the real estate profession in such a way that will reflect the way graduates will work and solve real estate problems on the African continent towards addressing problems of employees and employers' satisfaction in the real estate industry. However, despite the review of curricula at universities and other tertiary institutions, technologies and market requirements continue to evolve, affecting the skills and knowledge passed on to graduates.

Curriculum review, as suggested by Wesonga *et al.* (2022), is one of the most significant ways of bridging the gap between the education system and the changing industry. The study attempted to match the education and training of valuation surveyors with the Ugandan industry's need to determine the gaps in training. The study adopted a quantitative and qualitative survey of real estate academics in different universities in Africa to provide the necessary programme backgrounds. The study suggested the need for constant review of the curriculum and the adoption of a more practical approach to learning as the major ways to bridge the gap between education and industry needs. For the industry to survive and compete in the current business world, the producers and consumers of REG services need to nurture talent and teams that can recognise and seize strategic opportunities amidst the constantly changing conditions (Oloyede, Ayedun, and Ajibola, 2016). Pre-graduation studies in real estate education by Ayodele *et al.* (2016) indicated the factors affecting the academic performance of real estate students in two southwestern Nigerian universities. However, the coverage of the study is on academic performance, which may not capture the competencies of the respondents because the respondents were limited to students.

An aspect of employment sustainability is career ambition, which is an individual's desire and motivation to develop professional and personal capacities to get ahead, get secure, get free, get high, and get balanced in one's career (Bui et al., 2021). Ayodele (2019) examined the career preferences of final-year real estate students in three federal universities offering real estate in southwestern Nigeria and the predisposing factors influencing their choice of career. Closed-ended questionnaires were administered to final-year real estate students in the selected universities. Data were analysed using frequency counts, percentages, mean ranking, independent t-tests, analysis of

variance, and correlation analysis. The findings showed that of all the 14 variables on career choice, only educational and research institutions were not significant, while the other 13 factors were. In addition, the predominant individual factors influencing the career choice of real estate students were personal career interest, the magnitude of the initial salary, future financial prospects, and job security. While this study was the first attempt to examine the factors influencing the career choice of real estate students in Nigeria from gender and socio-economic perspectives, the employers' expectations or satisfaction were not included in the study. In a study conducted at Vietnam University, Bui *et al.* (2021) developed and tested a theoretical model that investigates how career ambition can have an impact on academic performance in terms of in-role and extra-role as earlier established by Ameh and Chukwujekwu (2020). In-role behaviour refers to the formal duties and responsibilities that an employee executes as an integral part of his or her job requirements, while extra-role behaviour refers to activities beyond formal job requirements that an employee chooses to do without expecting any direct reward. The findings suggest that in-role behaviour has a significant mediating role in the effect of career ambition on extra-role behaviour.

2.2 Real estate knowledge, skill requirements and employability

Oladokun (2012) examined the skills required for the practice of corporate real estate management (CREM) in Nigeria. Questionnaires were distributed to practising estate firms in Lagos State, Nigeria, final year students of estate management in Obafemi Awolowo University, Ile Ife, Nigeria as well as corporate real estate officers of recapitalised commercial banks, insurance companies and five GSM communication companies in Nigeria. The study adopted descriptive methods including percentages, mean, and proportions for analysis. The study found that, in rank order, the skill requirements for CREM were financial performance skills, investment in corporate strategy, productivity skills, space efficiency management skills, and customer and employee management skills. There is also a lack of uniformity between the training being given to students undergoing real estate education in Nigeria and the skills that are required of corporate real estate executives to make real estate assets impact the overall profitability of their organisations. The narrow scope of the study, which focused exclusively on CREM executives, practitioners in selected service industries and university students, poses limitations to achieving equal representation of the findings. Furthermore, CREM is a fraction of general real estate practice.

Employability refers to the possession of a specific set of traits, skills, and knowledge that are necessary for individuals to be effective in the job, and these competencies benefit both the individuals themselves, their employers, and the whole economy (Confederation of British Industry (CBI), 2010). However, to have a balanced employment sustainability, universities need to acquire greater awareness of employers' current requirements to boost the employability of their products and the ability of their products to satisfy the exact needs of their employers. In this regard, Poon and Brownlow (2014) reviewed how UK real estate students perceive the most important employability skills of commercial awareness and their perceptions about how their courses were supported and developed by their commercial awareness. The study utilised a questionnaire survey and e-mail discussions to collect data from students enrolled in Royal Institution of Chartered Surveyors (RICS) accredited real estate courses in the UK. The contents of the e-mail discussions were analysed, and similar themes were identified and coded. The frequency of the answers in the questionnaire and comments from interviewees were presented. Fisher's exact test was used to identify the statistical significance between the academic's and

students' views on commercial awareness. The study revealed that the UK real estate students agreed that the definition of commercial awareness is a "person's ability to understand the economics of business", and the component of commercial awareness is the financial component which forms the largest portion of their courses. The skill and attribute of commercial awareness are "critical thinking" and "ability and willingness to update professional knowledge", respectively. Furthermore, conforming with Poon *et al.* (2011), it is vital for students to obtain practical experience to fully develop their commercial awareness. This seems to be the first study identifying the statistical difference between students' and academics' views on commercial awareness, but this was not linked to employers' satisfaction with REG.

Corroborating the lack of commercial awareness in Poon and Brownlow (2014), Poon (2014) investigated whether the Royal Institution of Chartered Surveyors (RICS) accredited real estate courses in the UK have equipped REG with sufficient relevant employability skills to embark on a career in the profession. The findings showed that from the perspective of employers and graduates, the real estate course does not sufficiently equip graduates with employability skills. Human resource managers are very impressed with graduates' technical skills but have concerns about their soft skills, practical experience, and commercial awareness attributes. According to Ayodele (2020), real estate graduates possess hard skills (i.e. knowledge of a specific type of work or activity), but they are lacking in soft skills (i.e. the cluster of personality traits, social graces, facility with language and ability to communicate with clients, personal habits and ability to solve problems, professional ethics, friendliness, negotiation power, team, and optimism that mark people to varying degrees). Soft skills are thereafter recommended to be identified and included in the real estate education programmes at tertiary institutions in Nigeria by Ogunba (2022). Ameh and Chukwujekwu (2020) examined the employment challenges in the built environment profession through the job and person specifications in job advertisements for professionals in Nigeria. Conceptual content analysis was used to extract data from 500 job advertisements put out by employers of professionals in the built environment using a quota sampling technique from a heterogeneous population.

The study adopted descriptive statistical methods for the analysis of the data. The study revealed that the real estate profession is highly sought after by employers. Job-related employability characteristics requirements include possession of either a B.Sc. degree or HND with 3-5 years of post-qualification work experience, and dominant personal attributes such as reliability, confidence, and a good attitude. To further enhance graduates' employability, the study recommends mandatory one-year on-the-job industry experience as part of the required hard skills. However, Ameh and Chukwujekwu (2020) a study on Nigerian employers' views on employability attributes (hard and soft skills) of built environment professionals, not inclusive of the post-employment assessment of the REGs by REGEs in specific terms. There is no doubt that upon completion of real estate education at the undergraduate level, the acquired knowledge and skills are expected to be transformed into employability. It is discouraging to note that after the graduates have spent five years for the duly accredited real estate degree, the required satisfaction is still lacking among REGs. Hence, non-real estate graduates (NREG) are found on the job that is supposed to be done by the REG. This may have an adverse effect on REG employment opportunities and the sustainability of real estate education in Nigeria. There is therefore a growing concern among academics, real estate industry professionals, and other stakeholders in Nigeria

about why real estate education is not relevant to the economy as expected (Oladokun and Ayodele 2015).

2.3 Education, knowledge, professional skills, and competency

Real estate education may fail to be relevant to the economy if the education and professional skills practitioners are not properly aligned (Oladokun and Ayodele 2015). Wofford and Troilo (2013) applied the field of medicine to construct guidelines appropriate for real estate scholars and practitioners in the interdisciplinary conceptual study. This is about the gap between academic theory and practice, and its resolution. The study found that academicians provide a rigorous research inventory from which practical solutions may be developed, while professionals provide relevance by identifying important practical problems. However, the study of Oladokun and Ayodele (2015) has it that 'the hands-on' practice of the acquired real estate knowledge and skills are the indications of the practical competency of the graduates, not the academic/theoretical performance nor the employers' requirements. Employers' requirements are not the same as the employers' satisfaction. While requirements are sought as preconditions for hiring, satisfaction is the successful outcome of performance after employment. The gap between the perceived service and the anticipated delivery service, which, according to Akinwamide and Hahan (2022), is a measure of the customer (REGE) satisfaction with the services delivered by the service provider (the real estate tertiary institutions) required an empirical examination. According to Preko *et al.* (2013), customers' assessments of the service quality they receive rely on their perception of the actual service performance compared to their expectations. To achieve customer satisfaction, the difference between how firms perceive customers' expected service and actual customers' expected service in delivery is termed the service quality knowledge gap model (Shahin and Samea, 2010). When customers' expectations exceed performance, the perceived service quality is below satisfactory, resulting in customer dissatisfaction (Baffour-Awuah, 2018). Customer dissatisfaction is one of the basic knowledge barriers for firms in meeting expected needs in service delivery.

There is no doubt in the statement that a gap exists between the real estate education requirements and the real estate education system (Adama, Dugeri, and Anule, 2018) and a wide gap between the theory and practice of real estate, that is, between the skills possessed and what is required by the industry (Poon, 2012; Boyd *et al.* 2013). In several circumstances, REGE decries REG as unemployable and non-job-ready on account of the gap between town and gown (Egolum, 2022), and that REG scarcely meets the required employability standards in the industry (Egbenta, 2015). REGEs no longer focus their preference for employment of REG only on a certificate, but also on the requisite competencies (i.e., practical knowledge) of the applicants (Patunola, 2015). The gap of focus is not the quantity but the quality. According to Patunola (2015), while quantity focuses on lack and insufficiency, quality focuses on competencies in the performance of specific industrial tasks. To provide important feedback for the policymakers in the design and review of the curriculum of real estate education in Nigeria towards graduate employability, Oladokun and Gbadegesin (2017), building on Awogbenle and Iwuamadi (2010), revealed that outdated school curriculum is the main problem with employability of Nigerian graduates. Due to the competitive nature of the real estate labour market, there is an advocacy for the addition of marketable soft skills as an addition to the core knowledge of real estate, which will place the graduate applicants in a preferential position with their employers. The study established, in line with Ayedun *et al.* (2017), that soft skills are not fetched from the core areas of education but are personal to each

person and lacking in most REG. However, the study does not extend to inquire about the satisfaction level of the REG by their employers.

Wofford and Troilo (2013) examined the division between academicians and professionals in the applied field of real estate and the impact of this division on the use of best evidence by professionals. This is to bridge the gap between academic and professional divisions and introduce the concept of evidence-based management to the discipline of real estate in the USA. This is an interdisciplinary conceptual study of real estate stakeholders. The study concluded that the application of the evidence-based method can make the work of real estate researchers and professionals more rewarding by solving pragmatic, real-world concerns and balancing the needs of the two divides.

Boyd *et al.* (2014) explored the activities that constitute the body of knowledge of real estate practitioners, with emphasis on the application of skills in practice. The study identified fifty activities, of which thirty-three were established as core to practice, and some differences were identified between practitioner views and academic views. The study recommended that more practice-based knowledge should be identified and used for professional accreditation, real estate education, and practitioner development.

Hoxley *et al.* (2011) investigated the competencies and employability of real estate graduates in England and Wales, with an emphasis on the differences between undergraduate and postgraduate courses. The study shows that undergraduates with a real estate foundation are rated competently higher than postgraduates in terms of maturity and commercial awareness because of the conversion of courses to real estate at the postgraduate level. This indicates that there is no gain in spending on real estate education that lacks career prospects and initial course orientation. Poon and Hoxley (2011) critically evaluated the gaps in the professional practice firm employers' expectations of REG, their perceptions of what they attained during their studies, and universities' views of the content of Royal Institution of Chartered Surveyors (RICS) accredited real estate courses. The study adopted a mixed method approach which involved data collection through questionnaire surveys, interviews with RICS, accredited course providers, and interviews with human resource managers of major surveying firms. The findings reveal significant differences in the views of employers and graduates, as well as a clear gap between what employers expect of graduates and what graduates feel they achieved in their education. Practical experience is missing from courses offered by most universities, which raises concerns about graduates' levels of commercial awareness. Although this is a related study to this one, it is limited to employer expectations from real estate university graduates, not inclusive of employers' satisfaction, and such a study has not been done in the Nigerian space.

The collaboration between producers and consumers of real estate goods (REG) is crucial for achieving mutual benefits and sustainability in the real estate industry. However, in order to bridge the existing gap, it is necessary to regularly review and update academic curricula, enhance students' industrial work experience through internships and part-time projects, improve the skills of faculty members, and provide short-term updating courses for practitioners. However, there is still a lack of comprehensive understanding of the determination of employers' satisfaction levels in the real estate industry on the REG. From the various studies on real estate education, knowledge

and employability, there seems to be no specific study conducted to link graduate competency with employee satisfaction in 'hands-on' mode (industry evidence-based), hence a justification for this study.

3. Research Methodology

This study focuses on the general practice (hands-on performance) of REG and NREG from the perspective of real estate professional firms. This cross-sectional social survey did not include in its coverage non-real estate firms and establishments that use real estate supportive services like mobile telecommunications, insurance companies, banks, etc. This is not a total coverage study. It is restricted to real estate professional firms, as previously done by Poon and Hoxley (2011), Poon (2014), Kampamba *et. al.* (2017), and Wesonga *et. al.* (2022).

3.1 Target population

The target population are the principal partners, senior partners, and heads of practice of registered estate surveying and valuation firms in Nigeria with a minimum of ten years of practice (as obtained from the register of the Estate Surveyors and Valuers Registration Board of Nigeria (ESVARBON), 2021) as previously done by Oladokun (2012). Out of a total of 1006 registered firms of estate surveying and valuation firms in the 36 states of Nigeria, including the Federal Capital Territory, a total of 631 firms were found to have been operating for ten or more indicating operation before 2011 and to date. These are the firms that are expected to have the required industrial performance of the REG and NREG for the study. Since this study is set to cover the entire 631 duly identified firms, there was no need for sampling, but total coverage of the target population.

3.2 Questionnaire and data

A questionnaire was used as the main data collection instrument, administered (delivered and retrieved) by a combination of posting, using the internet, face-to-face, and phone interviews with the targeted firms. Primary data were complemented with secondary data from ESVARBON and NIESV. The questionnaire variables include the mode of acquisition of real estate education by the employees, nature and tenure of employment, level of conversion of academic performance of REG to industrial competency, and comparing the performance expectations of the REGE with the actual performance of the REG and NREG.

Other variables include the ratio/fraction of REG to NREG in the firm, what motivates REGE to employ NREG, the trend in the rate of competencies in REG and NREG, REGE level of satisfaction with REG and NREG performance, the specific areas of dissatisfaction in REG and NREG by the REGE, and the possibility and usefulness of post-employment training to leverage any noted dissatisfactions. Respondents were also required to indicate specific levels and areas of incompetency in REG that would need urgent improvement. The study adopted a nominal, ordinal, and interval scale of variable measurement in the instrument of data collection to address the peculiarities of each variable, while the reliability and validity of the data were tested before the data were processed. The ten-year study period of 2011-2020 was further partitioned into 2011-2015 and 2016-2020 for ease of analysis. The data collected was thereafter processed using frequency counts, percentages, and ranking as previously done by Bui *et. al.* (2021) and Oladokun (2012).

4. Results

A total of 339 responses to the administered questionnaires were found useful for this study. Findings as indicated in the appendix revealed that most of the respondents are the founding/principal partners of the firms, and the employees are graduates of real estate tertiary institutions (accredited and non-accredited by ESVARBON), while few crossed over from other disciplines. These employees are employed on a full-time basis in the ratio of 20% of NREG to 80% of REG. The study indicates that the academic performance of the REG, coupled with accreditation certification of their institutions of graduation, is not a reliable indication of their skills and competencies. The main competency required of REG ranked in terms of importance is presented in Table 1.

Table 1: Post-employment competencies of the REG

POST-EMPLOYMENT COMPETENCY OF REG	Highly Competent (5)	Fairly Competent (4)	Undecided (3)	Fairly Incompetent (2)	Highly Incompetent (1)	The sum of the Weighted frequency	Relative Importance Index	Rank
Subject knowledge	355	252	552	18	12	1189	3.51	3rd
Specialised skills	340	756	135	66	04	1301	3.84	2nd
Generic personal attributes	555	328	06	156	66	1111	3.28	5th
Commercial awareness	198	156	75	66	44	1331	3.93	1st
All round skills	380	256	399	78	27	1140	3.36	4th

Source Field Survey 2022

In order of importance, Table 1 indicates that the main competency REGE expected from REG is commercial awareness, followed closely by the ability to display specialised skills. The general personal attribute was the least in the ranking. This presented commercial awareness as the main competency required by REGE. Further to this, the level of competency of employees over the studied period is presented in Table 2.

Table 2: Level of competencies of employees for the past ten years

LEVEL OF COMPETENCIES OF EMPLOYEES FOR THE PAST TEN YEARS	Highly Increasing (5)	Slowly Increasing (4)	Undecided (3)	Slowly Decreasing (2)	Highly Decreasing (1)
REG	44	81	26	131	57
NREG	93	97	62	52	35

Source Field Survey 2022

In Table 2, the general display of competencies of REG was slowly decreasing with increasing dissatisfaction between the periods of 2011 and 2020, while competencies of NREG were slowly increasing with a corresponding decrease in dissatisfaction between the periods of 2011 and 2020. This contradicts the finding of Hoxley *et. al.* (2011) in England and Wales, where a clear gap was established between what employers expect of graduates and what graduates feel they attained in their education, and the competencies and employability of REG were increasing while those of NREG were decreasing. The study by Hoxley et al. (2011) affirmed that undergraduates with a real estate background are rated more competent than postgraduates in both maturity and commercial awareness due to the opportunity to convert real estate courses at the postgraduate level. The ability and willingness to update professional knowledge of employees observed as the most important skill and attribute according to Poon and Brownlow (2014), is seen to be diminishing in the REG, while the NREG is adopting post-employment development opportunities as a way of bridging up their identified real estate educational background gap.

Table 3: Level of satisfaction of employees for the past ten years

LEVEL OF SATISFACTION OF EMPLOYEES FOR THE PAST TEN YEARS	Highly Increasing (5)	Slowly Increasing (4)	Undecided (3)	Slowly Decreasing (2)	Highly Decreasing (1)
REG	43	66	28	161	41
NREG	72	68	108	47	44

Source Field Survey 2022

In pursuit of aspects of dissatisfaction that REGE have with their employees, Table 4 reflects that REGs possess real estate education knowledge, but lack commercial awareness, while NREGs are lacking in the relevant hands-on professional skills but possess the ability to deliver with commercial awareness. This is at variance with Oladokun and Gbadegesin (2017), Ayedun *et al.* (2017), Ayodele (2020), and Ogunba (2022) findings that what Nigeria REGs mainly lack in competency is soft skills. Commercial awareness, the ability to understand the economics of business, has previously been seen as an aspect of bringing the real estate profession up to date as suggested by Vandell (2007).

Table 4: Aspects of prominent dissatisfaction by the employers

ASPECTS OF PROMINENT DISSATISFACTION BY THE EMPLOYERS	REG	NREG
Educational knowledge	26	93
Display of general skills	30	43
Display of personal relations and soft skills	67	44
Commercial awareness	**155**	28
Lack of hands-on reflection on professional skills	61	**131**

Source Field Survey 2022

The finding indicates that REGEs, due to dissatisfaction on the part of the REGs, are motivated to substitute NREGs as preferences for REGs due to their commercial awareness and the ability to deliver on their assigned real estate duties. This finding slightly contradicts that of Hoxley *et. al*. (2011), which shows that NREGs undergraduates with previous real estate studies were rated competently more than their postgraduate counterparts in terms of maturity and commercial awareness. The respondents are of the view that post-employment development can leverage the skill deficiencies of their employees. However, NREGs were observed to be fast adapting to the practical skills afforded them as post-employment development opportunities, while REGs were slowly adapting to the post-employment development opportunities afforded them.

5. Discussion

The study indicates that there is increased satisfaction with some skills of NREGs, and it also shows decreased satisfaction with REGs. However, the REGs still have the educational upper hand, even when it comes to soft skills. REG are lacking in commercial awareness more than NREGs. Real estate professionals operate a capitalist approach to business; therefore, they expect not a mere performance from their employees, but rather a mixture of performance and business orientation through commercial awareness. As suggested by Poon and Brownlow (2014), there is a need for REG to understand the economics of business and for them to be trained in such a way to be fit for the contemporary real estate business environment (Abdulrahman, 2016). This will be a good advocate for sustainable professional competence. While it is clear that tertiary institutions cannot control the post-graduation performance of REG, it is evident that REG has a slower adjustment to post-employment development compared to NREG. Therefore, Nigerian tertiary institutions offering estate management and valuation programmes should recognise commercial awareness as a crucial and necessary skill for REGE and should integrate it effectively into their curriculum.

The NREG competency problem is the lack of relevant hands-on reflecting professional skills due to their educational background, which is not real estate specific. The way to walk over this background problem is through a combination of education and knowledge acquisition which the NREG are vigorously pursuing.

6. Conclusion

Since this study reflects that NREGs are seen to be fast adapting to the post-employment development afforded them, even more than REGs, this may let them leverage the REGs and further increase the preference of NREGs to REGs. Consequent upon this, the relevance of real estate education in Nigerian tertiary institutions may be in question, subsequently posing a threat to real estate employment in terms of opportunities and sustainability. Currently, the ratio of NREGs to REGs is 20% to 80%. However, if the trend continues to increase, it may reach a stage where REGEs may feel more comfortable with NREGs than REGs. The noted inverse relationship in the trend of competencies of REGs to NREGs should be a concern to stakeholders in real estate training and practice. During the study period, while REGs competency slowly decreased with increased dissatisfaction, NREGs competency slowly increased with decreased dissatisfaction. The NIESV's policy of allowing cross-over to the professional practice of real estate from allied and distant disciplines should be closely monitored and well-regulated quantitatively to preserve the relevance of real estate education. To sustain the secured and available employment for REGs in the real estate industry, commercial awareness among REGs should therefore be complemented with professionalism.

7. Limitations

This study is neither on comparative performance from a tertiary education perspective (university versus polytechnic) nor on individual institutional performance analysis. Also, the study is restricted to graduates employed by estate surveying and valuation firms only. A focus on either of these perspectives may yield a different result; hence, there is a need for further study in these directions.

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Factors Affecting Investment in Purpose-Built Student Accommodation in Studentified Neighbourhoods of Tertiary Institutions

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Abstract

This paper aims to increase the awareness of real estate investors and developers by providing a cross-country comparison of the factors affecting investment in purpose-built student accommodation (PBSA). The paper analyses both local and international literature to extract key findings pertaining to factors affecting investment in PBSA in studentified neighbourhoods of tertiary institutions. Through desktop review of the views and perspectives of past authors and based on specific content criteria, the paper analysed thematically, the main factors driving and hindering investment in purpose-built student accommodation. The paper identified demand-related, return-on-investment related, investment-related, and institutional-related factors as the main drivers of investment in PBSA, while e-learning facilities and potential oversupply of PBSA were identified as potential limitations affecting investment made in this real estate sub-market. It is therefore necessary that real estate investors consider these factors while investing in this asset class.

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Keywords: *Studentification, Studentified Neighbourhoods, Investment Asset Class and PBSA.*

1. Introduction

Amid alternative real estate investment options, purpose-built student accommodation (PBSA) has recently become an important real estate investment asset class for both private property investors and institutional property developers such as REITs, pension funds, and real estate mutual funds among others (Livingstone & Sanderson, 2021; Newell & Marzuki, 2018). PBSA is recognised and documented in property investment literature as an investment asset class (Lam & Chen, 2021; Livingstone & Sanderson, 2021; French et al., 2018), a commercial real estate subsector (Appau et al., 2023), with unique features in services provided, amenities, tenants' profile, and location-specific (Tiwari, 2022; Properties Partner, 2018). PBSA is designed to meet students' desire for privacy (McBride, 2017), with its major components such as independent room-spaces, facilities and services (Simpeh & Shakantu, 2019). The unique quality and scale of these PBSA properties are clearly shown in the current design pattern compared to old-styled university students' accommodation provided by tertiary institutions (Newell & Marzuki, 2018).

Traditionally, higher institutions of learning shoulder the responsibility of providing accommodation for their students (Newell & Marzuki, 2018), by adopting an on-balance sheet funding method that is internally generated or a debt financing approach in funding the construction of students' accommodation in their campuses (McCann et al., 2019). However, in recent times, students' enrolment into tertiary institutions of learning has grown geometrically and the inability of these tertiary institutions to provide adequate hostel facilities for their teeming student population has prompted a rapid investment opportunity in privately owned and operated PBSA (Kampamba et al., 2022). PBSA investment asset class is gradually informed through the process of tertiary institutions outsourcing the provision of students' accommodation to private real estate investors and institutional developers via tertiary institution-private sector partnership. Authors such as McCann et al. (2019) noted this partnership to include a stock transfer partnership in which the private investors shoulder full lease responsibility over existing students' accommodation, and a partnership in which the tertiary institution provides land, and contracts out the financing, building, and operation of the hostel facilities.

The traditional students' accommodation provided by tertiary institutions is considered lacking in facilities and services to meet the present needs of tertiary students (McBride, 2017), which has given rise to PBSA investment within the neighbourhood of many tertiary institutions in Nigeria. For instance, within the radius of about 0.5km–5km of the University of Calabar, University of Cross River State, Obafemi Awolowo University, University of Port-Harcourt, Federal University of Technology Minna, University of Lagos, amongst other universities are characterised with the presence of PBSA. This has also resulted in the restructuring of the existing housing stock in these university neighbourhoods to accommodate the students' influx. The clustering of students living in PBSA has created a sense of students' community which has in turn, birthed studentification and studentified neighbourhoods (Adebowale & Simpeh, 2021; Hubbard, 2009; Ordor et al., 2011).

Studentification is a global phenomenon that refers to the process of converting an area or neighbourhood into a student-dominated area through the concentration of student housing (Smith, 2009; 2002). A process where the original residents, traditional residential and commercial properties within the radius of tertiary institutions are made to give way to PBSA due to the high influx of students (Nakazawa, 2017). He (2015) traced studentification to the UK context as gradually evolving from Houses-in-Multiple-Occupations (HMO) to PBSA which has fundamentally changed the physical form of many tertiary institutions' neighbourhoods. The spatial distribution of PBSA could be traced to studentified neighbourhoods closer to higher institutions of learning. From the foregoing, studentification has certainly given rise to some elements of a specialised class of real estate investment that is tailored to cater for students' needs termed PBSA. Paradoxically, a pilot survey of the radius of many Nigerian tertiary institutions of learning indicates a number of factors affecting investment into PBSA. Few studies globally have researched PBSA. Locally, there is a lack of literature on the factors affecting investment in PBSA, hence, the need for this study to enlighten real estate investors and developers on the factors to consider while investing in this asset class.

2. Methodology

2.1 Search strategy

This study employed a systematic literature review, supported by meta-analysis, to synthesise and analyse the existing studies. This approach helps address specific research questions or gaps in knowledge by providing a comprehensive and objective summary of the existing studies. Accordingly, authors such as Mohammed et al. (2022); and Oluwunmi (2023) have adopted this approach, using five-step methodological procedures. These procedures include formulating research questions, identifying relevant published studies, evaluating previous studies, summarising, and interpreting study findings. The literature search strategy for this study focused on two core thematic areas: "investment in private hostels", and "purpose-built student accommodation". The search was conducted sequentially using interdisciplinary research databases such as Library Genesis, Google Scholar, and ResearchGate. The search results from these databases are summarised in Table 1, which shows the total number of articles retrieved from each database.

Table 1: Total Number of Articles Retrieved from the Listed Research Databases

Core thematic areas used in searching databases	Library Genesis	Google Scholar	ResearchGate	**Total**
Investment in Private Hostels	17	73	1637	**1727**
Purpose-built Student Accommodation	32	48	3122	**3202**
Total	**49**	**121**	**4759**	**4929**

Source: Author's compilation

2.2 Criteria for Article Selection

Studies were selected based on journal articles, publication date, language, and relevance to this current study. Articles published before 2010 were excluded. The screening process involved a

two-stage approach: a review of article titles and abstracts against predefined inclusion and exclusion criteria. This initial step yielded 18 articles related to "*investment in private hostels"* and 25 articles related to "*purpose-built student accommodation"*. These articles were then thoroughly evaluated for their eligibility to be included in the study, with a focus on factors influencing investment in PBSA. The inclusion criteria at this stage were based on three main considerations: the author's background, the study's relevance to this research, and the suitability of the research design. After applying these criteria, 6 articles out of the 18 articles related to investment in private hostels were found suitable for inclusion in this study, while 10 out of the 25 articles related to purpose-built student accommodation were selected as relevant and appropriate for inclusion. Therefore, a total of 16 articles were utilised to extract key factors affecting investment in PBSA.

2.3 Data extraction and synthesis

Key findings and other pertinent data were extracted to facilitate a comprehensive analysis. Upon the completion of the data extraction, the thematic analysis approach as reflected in Table 2 was employed to identify research perspectives, patterns and relationships within the extracted data. The synthesised data were analysed to draw meaningful conclusions and implications. This provides a coherent overview of the existing literature consensus and divergence.

3. Discussion of Findings

3.1 The Concept of Purpose-Built Student Accommodation and its Prospects

Students' accommodation as an integral component of tertiary institutions plays an important role in promoting the primary objectives of tertiary institutions. PBSA is a form of student housing accommodation provided by tertiary institutions, tertiary institution–private sector partnerships, and private real estate developers "on" and "off" tertiary institution campuses (Attia et al., 2020; McCann et al., 2019). PBSA has been part of the international property debate since 2008, in countries such as the USA, UK, Ghana, Australia, China, Germany, France, Austria, and India amongst others. PBSA is a specialised form of modern housing units built specifically for tertiary students by private real estate investors, while the on-campus student accommodation is a type of PBSA provided and managed primarily by the host institution (Appau et al., 2023). The private sector provision of PBSA is designed and built by institutional developers and private real-estate investors to meet student's unique needs and preferences (Kenna, 2011). In many Western European and African countries, PBSA is an evolving property market that is underexploited and deserves more attention (French et al., 2018).

More recently, the swift investment in PBSA as recorded in some parts of Africa is in response to tertiary students' changing expectations and needs, who now demand higher-quality and fashionable accommodation that provides a range of modern amenities and services. Again, according to Hamnett and Butler (2015), the growth of tertiary institutions has contributed to the PBSA investment trend, with many students seeking accommodation near their institutions. PBSA is an ensuite residential unit in the form of cluster flats and furnished apartments (Property Partner, 2018). Real estate investors devise means of capturing the attention of tertiary students by providing ensuite studio-type accommodation with quality facilities and social programmes that enhance student-friendly living experiences (Lam & Chen, 2021).

Conventionally, many real estate investors have previously considered PBSA as a proxy to residential property, hence did not consider a separate allocation for it in their choice of property investment (Newell & Marzuki, 2018). However, French et al. (2018) noted the roles of private property investors to include, the ability to identify trends, supply gaps, and providing the assets that meet specific market requirements. This underlying link between supply and demand has led to a steady growth in PBSA investment. It could be observed that the educational industry is one of the influential industries that is essential in promoting investment into PBSA. PBSA has become progressively conventional due to its students' user-friendly location, proximity to tertiary institutions, and supportive modern facilities that meet students' preferences.

Recently, in Nigeria, PBSA has witnessed a sharp investment opportunity due to the supply and demand gap. The demand for student accommodation in Nigeria is expected to grow as the country's student population increases (National Bureau of Statistics, 2021). For instance, there are currently 62 federal-owned universities, 63 state-owned universities, and 149 privately owned universities, aside from other tertiary institutions of learning such as polytechnics, colleges of education and other specialised institutions (National University Commission (NUC), 2024). These institutions attract students into studentified neighbourhoods, which in turn drives the demand for PBSA. The overall number of students enrolled in Nigeria's tertiary education system exceeds 3.8 million, with roughly 950,000 slots available each year, while the projected annual student population growth rate is at 12% (NUC, 2023). The expansion in the growth of off-campus PBSA investment is informed by increased enrolment into tertiary institutions, and this among other factors, indicates good prospects in PBSA. Additionally, the Nigerian government has shown support for private investment in the educational sector, creating an enabling environment for PBSA development (Obayori, 2020).

Additionally, many students in Nigeria who live in off-campus HMOs are faced with challenges such as substandard living conditions, high rental payments, and long distances to campus (Oluborode, 2021). These conditions have helped drive the demand for PBSA due to its proximity to tertiary institutions. However, the demand trends for student accommodation have surpassed the supply side, leading to an increase in the cost of renting PBSA (Oluwakayode, 2018). This situation creates an opportunity for private investors to develop PBSA within the peripheral radius of tertiary institutions. PBSA offers several benefits to students, including proximity to campus, quality facilities, and a supportive student community (Knight Frank, 2021). Facilities that are embedded in PBSA provide a mutual composition and synergy among students (Hassanain, 2008).

3.2 Factors Driving Investment in PBSA

In recent years, studies have examined the effects of students' demand metrics such as accommodation preference, facilities and services requirements, accessibility and proximity to tertiary institutions (Sanderson & Ozogul, 2022; Appau et al., 2023; Khozaei et al., 2014). In light of this, Lawton (2017) examined the changing students' preference for PBSA over the traditional housing option available. The study observed that PBSA offers a range of benefits, such as the provision of high-quality services and facilities, proximity to campus and the opportunity to live independently in a community of like-minded individuals. In Malaysia, Khozaei et al. (2014) examined student housing preferences. The study noted privacy as

paramount among students' needs in renting off-campus PBSA. PBSA provides greater privacy and enhances personal space.

Sanderson and Ozogul (2022) conducted a study on the investment expansion dynamics into PBSA in Europe by examining transformations in PBSA investment landscapes. Using a record of PBSA from 2010–2020 in analysing the trend drivers of this investment class. The study adopted an in-depth interview with PBSA investors. The study identifies positive changes in the PBSA investment landscapes of five European countries with the highest number of PBSA investment transactions since 2010. These countries include the UK, Germany, Netherlands, France, and Spain. From the study findings, a high-yield premium was identified as one of the major drivers of PBSA investment. Again, Lam and Chen (2021) adopted a triangulation research approach in examining PBSA investment prospects in Sydney. A positive and solid trend in demand and rental growth was revealed to be the major drivers of PBSA investment in Sydney. Moreover, McCann et al. (2019) carried out a study in the UK to identify motivations that propel real estate investors into the PBSA market. The study adopted a qualitative research design, and it was noted that private real estate investors view the student housing submarket sector favourably due to its stable rental growth and students' demand.

This view is supported by Newell and Marzuki (2018); and McBride (2017) whose studies evaluate the emergence of PBSA as an institutionalised property sector to identify the drivers and risk factors in this real estate sub-sector. These studies found PBSA as a good investment asset class that produces high returns while comparing it to conventional residential properties. PBSA was further noted to be a good portfolio diversifier for real estate investors. Moreso, the supply gap, investor appetite, reliable lease term, attractive yields, low vacancy rates, resilience against a market downturn, and professional operating platform were also listed as factors driving investment in PBSA.

A separate study conducted by French et al. (2018) examines how mobile students' clientele places demand for PBSA during their course of studies in the universities. The study noted the peculiarity in terms of service availability as a major factor that influences students' choice of accommodation. The study identifies the supply gap and low investment risk as key drivers of PBSA investment. In the same perspective, Huston et al. (2015) documented high demand from mobile students and the limited supply of students' hostels by tertiary institutions of learning as factors driving investment in PBSA. This view is supported by Kampamba et al. (2022) whose study listed these drivers to include rapid expansion of tertiary institutions, inadequate on-campus hostel facilities, market resilience and tight letting market conditions as factors driving investment in PBSA.

4. Thematic Analysis of Findings

4.1 Thematic Analysis of Research Perspectives on Factors Driving PBSA Investment

In this section, studies on PBSA are divided into five thematic research perspectives. These include the emergence of PBSA, investors' participation in PBSA, the performance of PBSA, changing students' preferences/innovation diffusion effects on PBSA investment, and demand/growth of PBSA.

Table 2: Research Perspectives on Factors Driving PBSA Investment

Authors/year	Thematic Research Perspectives	Findings
Newell and Marzuki (2018); McBride (2017); Manton (2018).	The emergence of PBSA as an investment asset class.	Good portfolio diversifier for real estate investors and developers, supply gap, increased investor appetite, attractive yields, low vacancy rates, resilience against market downturn, professional operating platforms and comparative higher yield.
Kampamba et al (2020); McCann et al. (2019).	Investors' participation in PBSA.	Increased students' enrolment into tertiary institutions, coupled with the effects of urbanization and continuous population growth provides opportunities for real estate investors to venture into the PBSA market. In addition, the inability of tertiary institutions to provide more hostels for their teeming student population creates a niche for property investors.
Lam and Chen (2021); Huston et al. (2015)	The performance of PBSA.	Positive demand trends and rental growth.
Appau et al (2023); Khozaei et al. (2014); Simpeh and Shakantu, (2019); Lawton (2017).	Changing students' preferences/innovation diffusion effects.	PBSA provide greater privacy and enhanced personal space control, high-quality services and facilities, proximity to campus and the opportunity to live independently in a community of like-minded individuals.
Sanderson and Ozogul (2022); French et al. (2018); La-Roche et al. (2010); McBride (2017); Oluwakayode, (2018).	PBSA demand and growth.	Higher yield premium, increased student population, and demand from foreign and local students for PBSA outweigh its supply.

Source: Authors' compilation

4.2 Thematic Analysis of Factors Driving Investment in PBSA

To identify factors driving investment in PBSA, several variables contributing to real estate investors' participation in PBSA provision were identified and extracted from several empirical studies. The factors chart below shows these variables that drive investment in PBSA as presented in Table 2. The variables were further classified into demand-related, return-on-

investment-related, investment-related and institutional-related factors. These themes entail a discussion of factors that have been identified in different studies to have a significant influence in driving PBSA investment.

Table 3: Factors Driving PBSA Investment in Studentified Neighbourhoods

s/n	Theme	Factors
1	Demand-related factors	High demand from students, and increased students' enrolment into tertiary institutions.
2	Return-on-investment related factors	Reliable lease term, attractive yield/comparative higher yield, alpha growth indices, and low vacancy rate.
3	Investment-related factors	PBSA is considered a good portfolio diversifier, with resilience against market turndown, and proximity to tertiary institutions.
4	Institutional-related factors	Pluralization of tertiary institutions, and the inability of tertiary institutions to provide sufficient hostel accommodation to their teeming student population.

Source: Authors' compilation

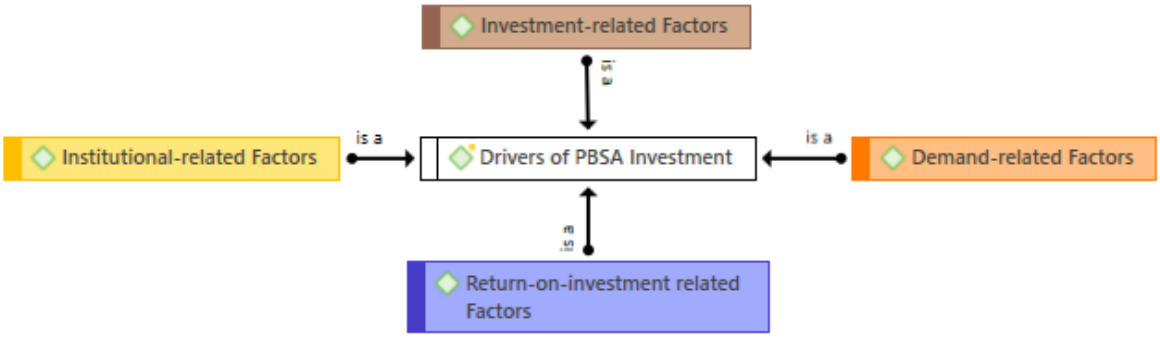

Figure: 1: PBSA Factors' Diagram

4.3 Hindrances to PBSA Investment

The advancement in Information and Communication Technology (ICT) has prepared the educational sector to imbibe the culture of e-learning facilities. E-learning employs ICT to improve students' performance by engaging tertiary students more effectively and actively in learning processes, through the provision of platforms for information dissemination and learning interface between participants (Michael & Joseph, 2014). E-learning is seen as a transition from the conventional classroom system of learning to a technological-based system. Halilovie et al. (2016) study on hybrid learning versus manual classroom learning at tertiary institutions level of education shows a high level of acceptance of hybrid learning among students. The growth in e-learning has reformed students' learning culture to a greater extent (Lam & Chen, 2021), as students prefer the use of virtual means in having lectures (McBride,

2017). This has revolutionised the traditional learning environment, making it possible for students to attend classes anywhere in the world (Halilovic et al., 2016). This development has an implicated concern on the future of on-campus and off-campus student housing. This in a few decades could discourage students from renting off-campus PBSA and on-campus accommodation.

The cost-effectiveness of e-learning over traditional classroom learning systems is a major indicator that real estate investors should consider. E-learning promotes virtual classes (Roebuck et al., 2013), therefore improved delivery strategies through technological means will only make this option more attractive (McBride, 2017), by eliminating the need for commuting to campuses and reducing transportation costs and time spent travelling (Newell & Marzuki, 2018). Students find it more affordable and convenient to live at home or with relatives instead of renting PBSA. This could affect the demand for PBSA in future due to its potential to cause a decline in the occupancy rate.

Again, looking through the lens of market oversaturation. Over the past few years, there has been a significant increase in the development of PBSA across many countries. Studies by Lam and Chen (2021) and Colliers (2019) show that the UK PBSA market is experiencing a decline in rental yields from 5% – 6% to 4% – 5% in some market locations due to the effects of market saturation. Oversupply of PBSA leads to a decline in the demand and occupancy rates. According to a report by Knight Frank (2021), the global PBSA market is expected to slow down in the short term due to the oversupplied effects of PBSA in some markets. PBSA is specifically designed and constructed to meet students' needs and the alteration of this asset class to fit other classes of users in the event of a decline in demand would result in a difficult situation.

5. Conclusion and Recommendations

This study provides information on factors affecting investment in PBSA that could assist real estate investors and institutional developers in making informed investment decisions. The result shows that demand-related, investment-related, return-on-investment-related and institutional-related factors are major factors affecting the provision of PBSA. Also, the findings of this study direct real estate investors to consider the potential risks associated with PBSA investment. Prominent among these risk factors are the potential oversupply of PBSA in some studentified neighbourhoods and an increase in the adoption of e-learning facilities. To mitigate these risks, investors should develop strategies to diversify their investment portfolios. Furthermore, governments and tertiary institutions should formulate policies that promote infrastructural development within studentified neighbourhoods to support PBSA development. Researchers should prioritise research initiatives focused on the risk-returns performance of PBSA in studentified neighbourhoods.

6. Policy Implications and Limitations to the Study

To address the identified drivers and hindrances of PBSA investment, policy should focus on balancing supply and demand to prevent market oversaturation. This can be achieved through regular assessment of student housing needs and coordinated planning between tertiary

institutions and real estate developers. Additionally, policymakers should encourage sustainable design and construction practices in PBSA developments that will promote flexibility to adapt to potential changes in demand due to trends such as e-learning, while the urban planning strategies should be updated to integrate PBSA development into the existing neighbourhoods.

Finally, policies should aim to ensure PBSA remains accessible to a diverse student population. This may involve implementing measures to maintain affordability, supporting the specific needs of students, and encouraging research into PBSA trends and student preferences. By addressing this area, policymakers can create a framework that will enhance the growth of PBSA, while mitigating potential risks and ensuring its long-term viability as an investment asset class and housing solution for students. Finally, this study's findings are based on theoretical evidence, which is the major limitation of the study.

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Sentiment News in the Nigerian REIT Market: Source and its Dynamic Nature

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Abstract

Market fundamentals have been replaced by biased news, and sentiment plays a significant role in shaping investment decisions in stock trading, particularly in the developing property stock market. In this study, we assess the source and dynamic nature of sentiment news in the Nigerian REIT market, aimed at providing information on the prominent source of sentiment news and its dynamic effects on the REIT market condition. The study adopts a direct survey method, and Nigerian stockbrokers were surveyed through a close-ended questionnaire instrument. A total of 95 registered stockbrokers were surveyed, out of which a total of 65 valid responses were collected and analysed by weighted mean score and a stepwise regression model. The result showed that the prominent source of biased news in the property stock market is pronouncements/announcements on economic indices and capital markets. The REIT market is more active, with often *buying decision*s during the optimistic market mood driven by good news. The pessimism market condition is characterised by the decision *to sell*, often dominated by pessimistic investors; the optimistic investors take caution, leading to a dull market and a low return on investment. Findings also revealed that sentiment news from pronouncements/announcements significantly explains the dynamic behaviour of investors during the optimistic market condition; the media/press report significantly explains investor behaviour towards property stock in the pessimism market condition. The study concluded that the need to examine irrational

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behaviour attributed to sentiment news is imperative to optimal investment decisions when thinking of investment in the REIT market.

Keywords: *Sentiment News; Real Estate; REIT Market, Nature; Source*.

1. Introduction

Sentiment news is systematically biased information about stock trading in the capital market. The biased news lacks basic market merits, generates noise, causes anomalies, and makes underlying market fundamentals and technical analysis difficult to prove (Mian and Sankaraguruswam, 2012). Small investors, who dominate the capital market and trade on noise as if it were information, are the primary drivers of sentiment news. They engage in herding trading behaviour, capitalise on information availability, demonstrate overconfidence and influence by the whims of other investors' decisions, and exhibit irrational behaviour (Awuor, 2017; Panga et al., 2018). The irrational behaviour of investors creates stock mispricing (undervalue or overvalue). Authors have argued the empirical evidence irrational behaviour of investors, driven by sentiments in the capital market, negates the efficient market hypothesis, which conceptualised that stock price reflects current market information (Xiong et al., 2020; Nguyen and Pham, 2018; Kanwal et al., 2017).

The dimension, diffusion, and impacts of sentiment news vary across the stock market. The variation is linked to the level of market transparency and maturity. An established property stock market is more stable and less asymmetric compared to an emerging market such as Nigeria. The Nigerian Real Estate Investment Trust (REIT) market is one of the oldest on the continent of Africa; its operation is still relatively young in the global REIT market space. Notwithstanding, the property stock market is not free from sentiment shock, and its consequential effects constitute what determines the dynamics in the property stock market. Previous studies have identified various sources of sentiment news in the capital market. Also, authors have reached a consensus on the two major natures of sentiment, namely optimistic and pessimistic (Curatola et al., 2016; Xavier and Machado, 2017).

Curatola et al. (2016) posited that in bullish market sentiment, investors with optimistic moods want to acquire new stocks and increase their trade volume and capital for investment; therefore, the market trend is 'to sell' stock. Meanwhile, Xavier and Machado's (2017) study is indifferent, as the authors report the non-significant relationship between investor optimism/pessimism with the decision to sell in the Brazilian financial market. Park (2015) noted that an optimistic market mood (good news) enhances earning capacity and sustains stock performance. Anusakumar et al. (2017) concluded that investor sentiment is dynamic and varies from country to country.

Literature in behavioural studies on the emerging market, especially the Nigeria property stock market, is underrepresented. The previous study on the Nigerian REIT market used a classical finance approach to assess the market situation (Olanrele et al., 2019; Dabara, 2021; Olanrele et al., 2020). In this paper, we examine the effect of biased (sentiment) news on the trading behaviour of investors, taking into consideration the uniqueness of the Nigerian REIT market. However, the research question addressed by this study is the magnitude and the dynamic implications of sentiment news in the local REIT market. To achieve this, the study investigates the source and dynamic nature of sentiment news in the property stock market.

First, the paper identifies the source of the sentiment to expose the prominent source(s). In the literature, the source of sentiment has been categorised into three (3) broad factors, such as news from pronouncements, media reports, and market surveys (Zhou, 2018). These sources are analysed in the Nigerian REIT market. Second, we examine the nature of the sentiment news in the REIT market. The sentiment of the news can be optimistic or pessimistic. The former is characterised by up-market, driven by good news, and the return is high. The latter is characterised by dull market events due to the spread of bad information in the stock market. Both the two market conditions are examined, and the major decision taken by the investors as to whether to buy or sell when the market is up or down.

Finally, we assess the relationship between the source and the dynamic nature of the market conditions. This was done to reveal the source of sentiment news that better explains the dynamic decision-making in the optimistic period and which source has a better prediction of market reaction to sentiment in the pessimistic period. Our result will provide novel insight into the importance of investor behaviour for optimal investment decisions, especially in an emerging REIT market such as Nigeria.

2. Literature review

Financial investment decision-making is more complex, with the odds of idiosyncratic risk. In the stock market, investors are faced with a variety of investment options, each with its own unique opportunities and inherent threats. Most importantly, in the face of uncertainty, investors jostle for decisions as to whether to sell, buy, or hold stock. The investment decision-making process is influenced by many factors, and the rationale for the influencing factors is gathering academic research momentum in the finance literature. One of the prominent influencing factors is investor sentiment, and its dynamic implications have been documented in the finance literature. In their study, Luong and Ha (2011) stressed that 'buying' and 'selling' are two major decisions taken in a sentiment-driven capital market.

From the perspective of the general stock market, Ur Rehman et al. (2023) and Deng et al. (2024) posit that the sentiment-based predictive method exhibited high prediction accuracy, characterised by low risk, and was superior to the benchmark model. Li and Ahn (2024) discovered that pessimistic sentiment driven by negative news has a strong impact on stock returns, which is contrary to the prominent positive investor sentiment reported by Xie et al. (2023) and Kamath et al. (2024). Andleeb and Hassan (2024) detect a nonlinear relationship between investor sentiment and conditional volatility in both bear and bull market conditions. Chau et al. (2016) noted that sentiment-induced buying and selling is an important determinant of U.S. stock price variation.

Given the prevalence of the real estate stock market, a good number of studies have examined emerging issues connecting investor sentiment and listed property stock price dynamics. Chiang and Tsai (2023) deploy an error correction model to examine the effect of investor sentiment on the asymmetric price adjustment behaviours of REITs and find that the adjusted price behaviour of REITs shows asymmetric effects under different sentiment regimes. Ruscheinsky et al. (2018) found a significant relationship between media sentiment and future REIT market movement and recommended the incorporation of both positive and negative sentiment in REIT market forecasting.

In a period of market liquidity crisis, Huerta et al. (2016) examined the interconnection among investor sentiment, REIT return, and volatility, and reported that the sentiment of both individuals and institutional investors had a significant impact on REIT return during the liquidity crisis. In a similar study by Huerta-Sanchez and Escobari (2018), the authors evidenced larger impacts of bearish shifts in institutional investors' expectations of future

market conditions on REIT return and volatility, indicating an overreaction to negative news.

Das et al. (2015) investigated the influence of sentiment on the trading behaviour of institutional investors and asset pricing in the REIT market and discovered that sentiment-induced institutional trading behaviour of real estate investors incorporates a non-fundamental component into REIT pricing. In summary, the mixed findings and varying impacts of investor sentiment across different markets indicate the uniqueness and peculiarity of local REIT markets, highlighting the inappropriateness of generalising results.

Surprisingly, empirical investigation of investor sentiment and REITs in emerging markets such as Nigeria is lacking and long overdue. Previous studies that have examined the Nigerian REIT market in connection with emerging market fundamentals, including macroeconomic predictors of REIT returns (Fasanya and Adekoya, 2022; Olanrele et al., 2020; Olanrele et al., 2019), REIT market evolution and development (Dabara, 2022; Dabara and Ogunba, 2020), REIT market efficiency (Gil-Alana et al., 2023), and volatility (Fateye and Ajayi, 2023).

It is worthy of note that none of these studies have taken into account the impact of sentiment-induced emotional trading in the Nigerian REIT market, despite its proven significant influence on investor trading patterns and REIT stock price behaviour. This is a pioneering behavioural study of the Nigeria REIT market, focusing on the source and dynamic effects of sentiment news on both bearish and bullish REIT market conditions. The primary objectives of the study include identifying the prominent sources of sentiment news and major investment options in sentiment-induced options.

2.1. Theoretical Framework: Noise Trade Theory (NTT)

The term 'noise' concerning securities trading activities was first expressed in an article by Fischer Black, the president of the American Finance Association, dated back in 1985 (Black, 1986). Black explained noise in different dimensions. The author referred to noise as a causal factor of many small trading activities that are more powerful than a small number of larger events. As a contributor to market inefficiency, it prevents the participants from making good use of the market deficiencies. It is a form of uncertainty about the future, but it resists improvement through government interference. Noise makes fundamental and technical analyses difficult to practically establish, and financial and academic theories are difficult to prove. Hence, noise opposes information. Black (1986) argued that, in some instances, market participants often based their trading activities on noise as if it were information.

However, Noise Trade Theory (NTT) is one of the behavioural economic theories emanating from the field of psychology, which opposes classical economic theories. They advocated that in decision-making, human beings tend to subject themselves to 'cognitive bias' i.e., human beings are more confident in their judgment than empirical fact (Griffin and Tversky, 1992; Tversky and Kahneman, 1975). Madura and Richie (2004) added that individuals prefer considering *the subjective probability* approach to *prior probability* in their assessment when making decisions. Subjective probability is linked to how people preconceive events (trading activities in the market) in making their judgments rather than relying on market-based information. Noise trade theory explains *investors' irrationality in trading on financial stock markets*. The theory posits that investors possess different information-processing skills and may not think in the same direction. In the theory, investors are categorised into two categories: the informed and the noise trader. Informed investors are those whose decisions are based on market fundamentals. Their decision-making is based on an assessment of the basic information available in the market. On the

other hand, noise traders are those who trade on sentiment. The trading activities and decision-making process are formed on noise signals or sentiments that are preconceived to be the same as information (Black, 1986; De Long et al., 1990; Shleifer and Summers, 1990)

Black (1986) identified two major reasons why people trade based on noise in the liquidity market. The first is that people *like to do it,* and the second is that *people think they are trading on the information.* Generally, Cutler et al. (1989) classified the traders into two groups, namely, the *'positive'* and *'negative'* feedback traders. The positive feedback trader buys when stock prices rise, while the negative feedback trader sells. Studies have investigated the characteristics of the noise trader. For example, Sanders et al. (1996) characterised the noise trader as an uninformed trader whose demand largely depends on past prices. The authors added that noise trader demand is driven by the whims of sentiment, fads, and social trends. De Long et al. (1990) expressed that they are sentimental in trading and that their demand is random. Cutler et al. (1989) characterised them as retail or small speculators who trade on news that does not follow market fundamentals. Literature has documented works on the improvement, applications, and implications of noise trader theory (Barber et al., 2009; Bosman et al., 2015; Felix et al., 2018). Felix et al. (2018) studies showed evidence of the effects of noise trading activities on the general stock market.

3. Research methods

The study is quantitative, and a questionnaire-based field survey approach was adopted for data collection. The appropriateness of a questionnaire survey (direct approach) has been justified by previous studies (D'Hondt and Roger, 2017; Lux, 2011; Schmeling, 2009; and Fisher and Statman, 2003), especially in a situation where there is insufficient good secondary data. The study population comprises registered and active stockbrokers operating on the Nigerian Exchange Group (NGX). The use of stockbrokers as a proxy for individual investors is considered because they are active and major participants, very familiar with market dynamics, play intermediate roles, and virtually represent all categories of investors (individual, corporate, international, and government) in the capital market. A total of 116 registered and active stockbroker companies were identified across the country (NGX, 2022). The study concentrated on those locations with a higher presence of stockbroker companies, such as Lagos, Abuja, Ogun, Oyo, Port-Harcourt, and Kaduna. A total of 95 stockbroker companies were identified, out of which a total of 68 valid responses were retrieved and analysed, giving a response rate of 70.83%. The data were analysed by weighted mean score, standard deviation, skewness, maximum and minimum statistics, and stepwise regression estimation. The mathematical functions and operationalized input variables of the statistical methods used were explicitly expressed as follows:

3.1. Weighted Mean Score (WMS)

A weighted mean score is used to analyse ordinal variables measured on a scale point of preference (ascending or descending order). The mathematical function of the method is expressed in $Eqn\ 1$

$$\text{MS} = \frac{Wn_5 + Wn_4 + Wn_3 + Wn_2 + Wn_1}{N} \quad ---------Eqn\ 1$$

The equation ($Eqn\ 2$) can be re-writing as:

$$\text{MS} = \frac{\sum TWF}{N} \quad ----------Eqn\ 2$$

MS - Weighted Mean Score
W – Assigned weight to the scale (1-lowest to 5-highest)
N - Total number of sample
TWF - Total weighted Frequency
For clarity of scale measurement, the range of scales and their corresponding levels of measurement are presented in Table 1.

Table 1: Scale for Weighted Options

Likert Scale	Scale Range	Remarks
5	4.1 ≤ WMS ≤ 5.0	Strongly Agreed
4	3.1 ≤ WMS ≤ 4.0	Agreed
3	2.1 ≤ WMS ≤ 3.0	Neutral
2	1.1 ≤ WMS ≤ 2.0	Disagreed
1	0 ≤ WMS≤ 1.0	Strongly Disagreed

3.2. Regression Analysis

Regression analysis (stepwise) is deployed to measure the effects of the source of sentiment news on the dynamic nature of investor irrational behaviour. The explanatory (dependent) variables were the source of sentiment news, such as news from pronouncements (NP), media reports (MR), and market surveys (MS), while the dependent variables were the nature (optimism and pessimism) of sentiment news. The optimistic nature is driven by good news and is represented by ($G N_y$), while the pessimistic nature, which is induced by bad news is donated by (BN_y). The mathematical expression of the stepwise regression is expressed in Eqn 3 and Eqn 4 as thus:

Optimism market mood(GN_Y)

$$GN_Y = \propto + \beta_1 NP_1 + \beta_2 MR_2 + \beta_3 MS_3 + \varepsilon_t \qquad Eqn\ 3$$

Pessimism market mood(BN_Y)

$$BN_Y = \propto + \beta_1 NP_1 + \beta_2 MR_2 + \beta_3 MS_3 + \varepsilon_t \qquad Eqn\ 4$$

Where $\propto$ is the constant, β_i $(\beta_1, \beta_2, \ and\ \beta_3)$ donates the coefficient of the respective source of sentiment news $(NP_1, MR_2\ and MS_3)$ and measures their contribution to the dynamic nature of sentiment news in the optimism and pessimism market condition. ε_t is the error term and the variables are statistically significant at a 5% level of confidence ($p<.05$).

4. Results and discussion of findings

4.1. Profiles of the Respondents

The background profile of the respondents is presented in Table 2. The profiles examined were gender, age, highest educational qualification and relevant work experience in stock trading activities on the NGX floor.

Table 2: Profiles of the Respondents

Profile	Category	Frequency	Percentage (%)
Gender	Male	40	58.8
	Female	28	41.2
	Total	***68***	***100.0***
Age (in years)	18-25	1	1.5
	26-35	5	7.4
	36-45	28	41.2
	46-55	24	35.3
	56-65	7	10.3
	Over 65	3	4.4
	Total	***68***	***100.0***
Highest educational level	B. Sc./HND	37	54.4
	M.Sc./MBA	27	39.7
	Ph.D.	4	5.9
	Total	***68***	***100.0***
Relevant work experience in trading activities NGX	Below 5yrs	10	14.7
	5-10yrs	19	27.9
	11-15yrs	21	30.9
	16-20yrs	6	8.8
	Above 20yrs	12	17.6
	Total	***68***	***100.0***

Source: Field Survey (2022)

The results show that the survey exercise had more male (58.8%) participation than their female counterpart (41.2%). The categories of dominating age brackets were '36-45 years' and '46- 55 years' and the age categories account for 41.2 and 35.3%, respectively. For educational status, 54.4% had first-degree certificates (B.Sc./HND), 39.7% had obtained M.Sc. certificates, while the remaining set of respondents (5.9%) had attained PhD level in their academic pursuit. Also, the analysis of relevant work experience on stock trading activities on the NGX floor reveals that those with less than 5 years were very view (14.7%), while stock brokers with minimum relevant work experience in stock trading activities of 6 years and above account for 85.3%.

In summary, the profile statistics show that about 90% of respondents were aged 36 years and above. This age bracket represents the labour force and is expected to be dominant. All respondents (100%) had a minimum of a first-degree certificate, with about 85% having a minimum of 5 years of relevant work experience or more. This reflects the technicalities involved in stock brokerage, which requires a high level of qualifications and certification. The substantial number indicates that the study is well representative of both genders; the majority of respondents are well-educated, mature, and have relevant work experience in stock trading activities in the Nigerian capital market. Their background information suggests that their informed opinions are relevant and reliable to the subject matter of the study.

4.2. Prominent Source of Investor Sentiment News in the Nigerian REIT Market

The study examines the sources of sentiment news in the Nigerian REIT market, and the result is presented in Table 3. In the pronouncement/announcement category, news on the general economy has a mean score of 4.1176 and took 1st position, followed by news concerning the general stock market and capital market regulations/structures with both having mean scores of 3.9265 and 3.9118, respectively. Meanwhile, news on other securities, such as bonds (3.1471), was the least prominent source. For the analysis of the media/press report category, the prominent sources were reports on economic statistical bulletins, newspapers, and ratio/virtual transmission with respective mean scores of 3.8088, 3.6471, and 3.5441 and ranked 1st, 2nd, and 3rd in order of prominence.

The media report on the international market was the least source of sentiment news in that category. For the market survey, the outcomes of the market survey bulletin on Nigeria's capital market (3.8382), global REIT market index (3.8382), and Nigeria REIT market (3.7941) occupied the 1st, 2nd, and 3rd, respectively as the most prominent sources. However, the opinion survey of individuals/market participants with a mean score value of 3.3526 was the least prominent in that category. In addition, based on the average mean score statistics, pronouncement/announcement scored the highest (3.6848), followed by market survey (3.6407) and media/press report (3.5588) in that order of prominence as a source of sentiment news in the Nigeria REIT market. The result showed the presence of sentiment news in the property stock market and the potential of the broad sources at varying degrees of prominence.

Table 3: Source of Sentiment News in the REIT Market

Sources	News	Mean	Std. Dev.	Skew	Min.	Max.	Mean Rating
Pronouncement/ Announcement	General economy (FGN, CBN, NBS)	4.1176	.72337	-.182	3.00	5.00	1
	General stock market	3.9265	.63047	-.313	2.00	5.00	2
	Capital market regulations/structures	3.9118	.74784	-.295	2.00	5.00	3
	RES industry	3.5882	.71728	-1.195	2.00	5.00	4
	Terms and conditions of the trading	3.5735	.86931	-.022	2.00	5.00	5
	REIT specific	3.5294	.50285	-.121	3.00	4.00	6
	Other trading securities such as bonds, etc.	3.1471	.75833	-.254	2.00	4.00	7
	Average	***3.6848***					***Agreed***
Media/press report	Economic Statistical Report/Bulletins	3.8088	.69663	-.813	2.00	5.00	1
	Printing media (Newspaper)	3.6471	.61728	.394	3.00	5.00	2
	Radio/Virtual Transmission media	3.5441	.81833	-.819	1.00	5.00	3

	Parallel/Black Market Report	3.4853	.83742	-.188	2.00	5.00	4
	Experts FX Report /Statement	3.4706	.92188	-.147	2.00	5.00	5
	International stock market reporting	3.3971	.73586	.136	2.00	5.00	6
	Average	***3.5588***					***Agreed***
Market survey	Nigeria Capital Market bulletin	3.8382	.53561	-.139	3.00	5.00	1
	Global REIT market index	3.8382	.68263	-.075	2.00	5.00	1
	Nigeria REIT market bulletin	3.7941	.56142	-.032	3.00	5.00	3
	Corporate Institutions Opinion Survey	3.6912	.49648	-1.218	2.00	4.00	4
	FX expert survey	3.5147	.78213	.336	2.00	5.00	5
	Speculations	3.4559	.67876	.017	2.00	5.00	6
	Individual/Market participant opinion survey	3.3529	.72821	-.900	1.00	4.00	7
	Average	***3.6407***					***Agreed***

Source: Field Survey (2022)

The prominence of some sources of sentiment news can be attributed to many reasons. The unstable economic outlook and inconsistent regulations of capital market trading activities can create sentiment in a capital market. Investors are very sensitive to any pronouncement or announcement emanating from the exchange floor. This could cause overreactions among market participants, create biased trading, and trigger irrational investor behaviour. In addition, empirical evidence of the effect of the macroeconomic index, especially the local economic indicators such as interest, exchange, and inflation rates, has been reported by Olanrele et al. (2020). Also, breaking biased news on the REIT industry, such as the conduct, structure, management, opportunities and threats characterised by the REIT, may induce irrational trading behaviour (Dabara, 2022)

4.3. The Nature of Sentiment News in the Nigerian REIT Market

In Table 4, the study examines the dynamic nature of sentiment, namely optimism (good news) and pessimism (bad news), and the result shows that the REIT market is driven by good news (4.1912), and investors react sharply in optimistic market conditions. While the property stock market is less active in a pessimism period, bad news (2.9412).

Table 4: The Nature of Sentiment News in the Nigerian REIT Market

Nature	Mean	Std. Dev.	Skew	Min.	Max.	Mean Rank
Optimism (good news)	4.1912	.62908	-.536	2.00	5.00	1
Pessimism (bad news)	2.9412	1.27995	.113	1.00	5.00	2

Source: Field Survey (Fateye, 2022)

The result is a reflection of how the dynamic nature of sentiment news explains the reactions of market participants to property stock trading. The reason for the quick response to good

news is noted by Xiong et al. (2020). The authors explained that the stock market driven by good news is dominated by optimistic investors, and their trading activities increase the volume traded and return on investment. Park (2015) added that an optimistic market mood (good news) enhances earning capacity and sustains stock performance. On the other hand, the relatively low reactions of investors to REIT trading in a pessimistic market mood are a result of the fact that investors take caution when the market is down and dominated by pessimistic investors. The argument is supported by the findings of Nguyen and Pham (2018) and Curatola et al. (2016), who discovered that, in a bearish market caused by the overreactions of pessimistic investors, optimistic investors deployed delay tactics in taking investment action.

4.4. Dynamic Nature of Sentiment News and Decision-Making on Nigerian Estate Stock

In Table 5, the study analysed the investment decisions often taken on REIT under a sentiment-driven (good/bad news) capital market condition. The study discovers that during the optimistic market mood, 64.7% of investors often make the decision 'to buy' REIT. The percentage is relatively higher than those that take the decision either 'to hold' (17.6%), to remain 'passive' (8.8%), or 'to sell' (8.8%). Whereas, during the pessimism period, very few investors (5.9%) made the decision to buy REIT.

Table 5: Investment Decisions on REIT in Sentiment Market Condition

Market Condition	Category	Frequency	Percentage (%)
Optimism mood	Sell Stock	6	8.8
	Hold Stock	12	17.6
	Buy Stock	44	64.7
	Passive	6	8.8
Pessimism mood	Sell Stock	42	61.8
	Hold Stock	13	19.1
	Buy Stock	4	5.9
	Passive	9	13.2
Balanced	Sell Stock	-	-
	Hold Stock	55	80.9
	Buy Stock	10	14.7
	Passive	3	4.4

Source: Field Survey (2022)

A significant proportion of investors (61.8%) prefer the decision to sell REIT to either hold or remain passive, as the investment decision accounts for 19.1 and 13.2%, respectively. Whereas, in a balanced (normal) market condition, 80.9% of the investors prefer to hold REIT against the decision to buy (14.7%) and to remain passive (4.4%), while none of them indicate a decision to sell. The result, however, implies that the decision to buy or sell remains the major investment decision that is often taken under an imbalanced capital market attributed to sentiment news. This is because, under normal circumstances (balanced market conditions), most investors (about 80%) indicate their interest in holding the stock against buying or selling decisions. Luong and Ha (2011) have earlier reported that 'buying' and 'selling' are two major decisions taken in a sentiment-driven capital market. Curatola et al. (2016) posited that in bullish market sentiment, investors with optimistic moods want to acquire new stocks and increase their trade volume and capital for investment; therefore the market trend is 'to sell' stock. Whereas, Xavier and Machado's (2017) study is indifferent, as the authors report the non-significant relationship between investor optimism/pessimism

and the decision to sell in the Brazilian financial market. However, the disparity in the findings is attributable to the peculiarities associated with the capital market in terms of physical, political, social, and economic development, which vary across the globe. This assertion is supported by Anusakumar et al.'s (2017) study, which concluded that investor sentiment is dynamic and varies from country to country.

4.5. The Causal Relationship between the Source and the Dynamic Nature of Sentiment News in the Nigerian REIT Market

To determine the causal relationship, this study deployed a stepwise regression model, and the analysis returned six (6) cases altogether (3 cases each) of the different market periods (optimism and pessimism). The result is presented in Table 6. In the optimism period, the statistically significant contribution of pronouncement/announcement sentiment news was evidenced (Sig. F. Change: $p < .05$), as shown in model case 1. In model case 2, the addition of media/press reports to the model has a less statistically significant contributory effect ($p > .05$), meaning that news from media/press has little influence on REIT market dynamics in a bullish period.

However, the combined effects of the predators (pronouncement/announcement and media/press report sentiment news) were statistically significant (ANOVA Sig. F. Change: $p < .05$). In model case 3, a statistically significant effect of a market survey was recorded (Sig. F. Change: $p < .05$), and the combined effects of the model are also significant (ANOVA F-statistics $p < .05$). The result implies that news from pronouncements/announcements and market surveys, especially those concerning the economy, capital market regulations, and the REIT industry, were observed to be major drivers in the optimistic period. This means that investors respond sharply to positive news from pronouncements and are stimulated to buy more REITs.

Table 6: Effects of Sentiment towards REIT in the Nigerian Capital Market

Case	Model	Coefficient			Model Summary			ANOVA	
		Beta	t-Stats	Sig.	R Square	R Square Change	Sig. F Change	F	Sig.
	Optimism market condition (*Good News)*								
1	Pronouncement/Announcement News	.304	2.281	.041	.254	.005	.360	4.120	.041
	Pronouncement/Announcement News	-.263	-1.995	.050					
2	Media/Press Report	.397	3.008	.004	.258	.122	9.050	4.727	.012
	Pronouncement/Announcement News	-.268	-2.069	.043					
	Media/Press Report	.183	1.068	.290	.348	.047	3.619	4.485	.006
3	Market Survey	.306	1.902	.062					
	Pessimism market condition (*Bad News)*								
1	Pronouncement/Announcement News	-.073	-.595	.554	.073	.005	.354	.354	.554
	Pronouncement/Announcement News	-.291	-2.259	.027	.166	.161	.001	6.484	.003
2	Media/Press Report	.457	3.543	.001					
	Pronouncement/Announcement News	-.292	-2.246	.028					
	Media/Press Report	.433	2.518	.014	.167	.011	.836	4.273	.008
3	Market Survey	.033	.208	.836					

Source: Field Survey (2022)

Meanwhile, during the pessimistic period, pronouncement/announcement news had less significance (Sig. F. Change: $p > .05$) in model case 1. When media/press reports are added in model 2, the contributory effects of pronouncement and media/press were statistically significant individually ($p < .05$) as well as in the model (Sig. F. Change: $p > .05$). In model case 3, the addition of market survey makes the model a statistically significant predictor (Sig. F. Change: $p > .05$). Individually, except for the less statistically significant contribution of the market survey ($p > .05$), the contributory effects of pronouncements and media/press news were statistically significant ($p < .05$). The significant effect of media/press news was noted across the models, indicating its ability to explain the REIT market during bearish market conditions. Negative news spreads easily and quickly, creating panic, especially when the basis of the information is unknown (Li and Ahn, The media's insensitive ways of reporting negative news about the country, whether in hardcopy or electronic formats, have adverse effects on the REIT market.

Overall, the analysis shows that the significant effect of individual sources of sentiment news, such as pronouncements, media/press, and market surveys, may be insufficient to explain dynamics in the Nigerian REIT market, both in optimistic and pessimistic market conditions. However, their combined effects play a more robust and significant role. This is because investor confidence concerning the information on trading activities in the bull period is generally high but low when the market is down (bear period) The high/low confidence is caused by news from every available source, such as pronouncements/announcements, media/press reports, and market surveys.

5. Conclusion and practical implications

The prominent source, dynamic nature, and implication of sentiment news on decision-making in the Nigerian REIT market were assessed in this study. The results of the analysis showed that sentiment news through pronouncement/announcement was prominent. Specifically, biased news/reports general economy, stock market, newspaper and property stock were top-rated sources. Good news and sharp responses largely drive the real estate market. This further signals that the Nigerian REIT is more active, experiencing an increase in volume traded and a higher return. The sentiment news creates an optimistic market condition, the pessimistic market mood is dominated by pessimistic investors, and the property stock market saw a low turnout of trading activities, resulting in a low return on investment. However, the dynamic nature of sentiment news influences decision-making- towards REIT. Under the property stock market driven by good news, investors acquired more property stock; the often taken decision is 'to buy'. However, investors are willing to sell more property stock in a pessimistic market condition.

In a sentiment-free stock market, the majority of the investors expressed their options 'to hold' property stock against the 'buying' and 'selling' decisions. This situation signals the potential of sentiment news to create overreactions and influence the irrational behaviour of investors in the real estate market. In addition, the study noticed the consistency of pronouncement/announcement source of sentiment news to significantly explain investors' behaviour in an optimistic market mood and the reactions of investors to REIT in the pessimistic market condition.

The study concluded that the Nigerian stock market is not free from sentiment shock, as evidenced globally. The trading activities in the property stock market are largely driven by good news rather than bad news. This signals the need for investors, investment analysts, and fund managers to critically consider potential sentiment news and its dynamic nature when thinking of investment in the property stock market.

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