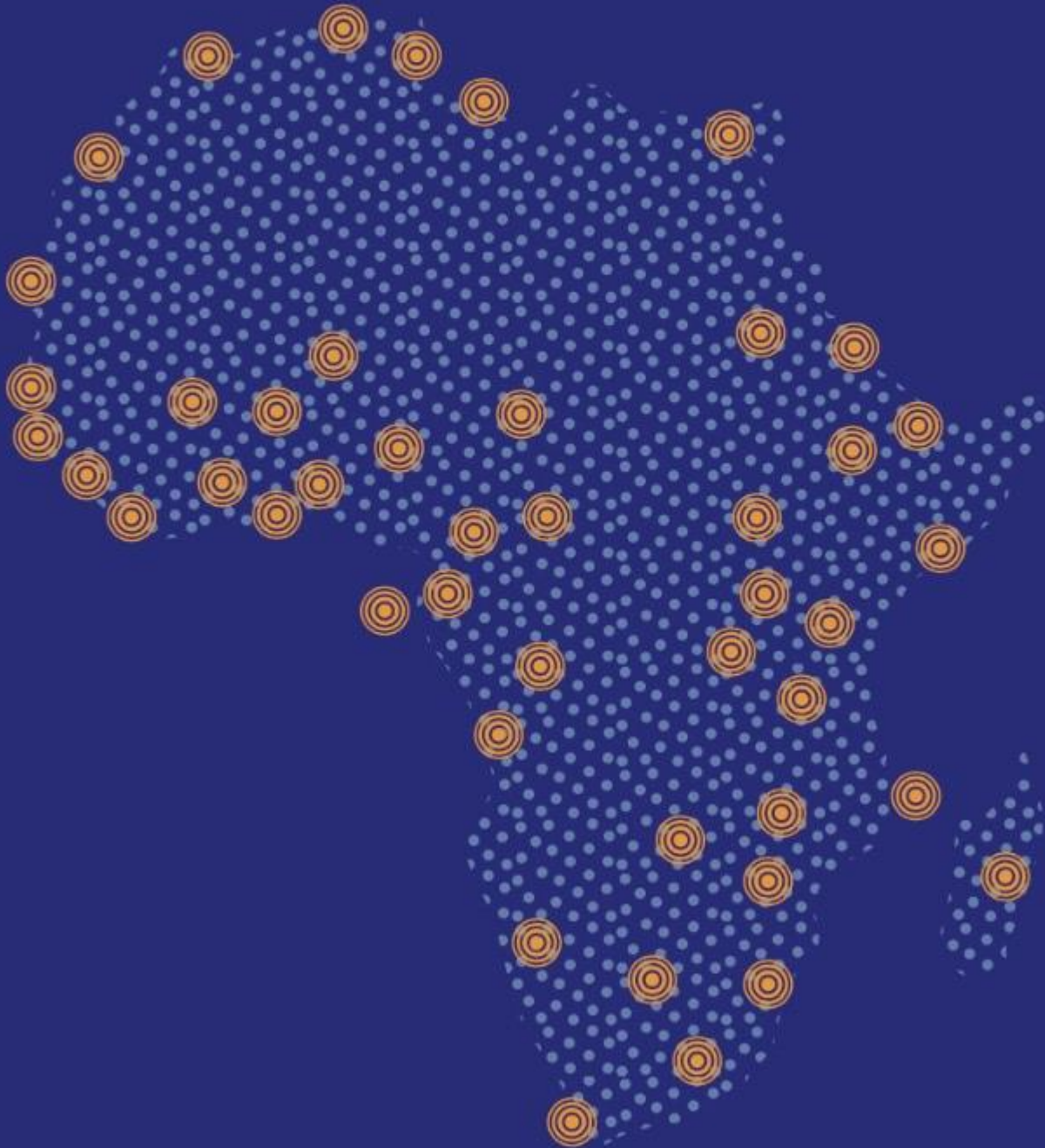


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Editorial for JARER Vol. 10 Issue 1, 2025

Abel Olaleye^{*1} (<https://orcid.org/0000-0002-2705-4813>)

¹Department of Estate Management, Obafemi Awolowo University, Ile-Ife, Nigeria.
Department of Finance and Investment Management, University of Johannesburg, South Africa.

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Welcome to the Volume 10, Issue 1 (2025) edition of the Journal of African Real Estate Research (JARER). JARER is a bi-annual peer-reviewed journal that is devoted to publishing quality papers geared towards advancing knowledge and enhancing practices in the real estate sector and the built environment in Africa. The Journal offers a medium through which the different types of applied research engaged with in the real estate sector and the built environment by academics and professional researchers in Africa, and those interested in the African continent, are disseminated.

In this current issue, which contains six (6) papers, a wide range of topics covering diverse areas of interest including gender diversity and inclusiveness in the valuation surveying discipline vis-a-vis workforce composition and the influence of organisational policies, challenges of land resettlement in a government land acquisition project, the usage of blockchain technology in real estate transactions, students' participation behaviour in professional associations' activities, among others.

The first paper by Mugalu and Barasa contributed to the discourse on gender composition within Uganda's valuation surveying discipline and examined the influence of organisational policies on this composition through a mixed-methods explanatory sequential research design. The paper's findings revealed a significant underrepresentation of women in Uganda's valuation surveying discipline, with women comprising only 22% compared to 78% for men. This disparity is attributed to educational barriers, stereotypes, and organisational barriers that have considerably affected women's participation in the valuation profession relative to men. The paper offered insights that are germane in promoting a gender-inclusive valuation surveying profession.

*Corresponding author's email: addressaolaleye@oauife.edu.ng

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The second paper, written by Babatunde and Oladokun, sought to investigate the challenges of land resettlement with respect to land acquisition by the government of Nigeria for project development. Using the acquisition for the inland port project as a case study, the study collected relevant data from landowners with the use of questionnaires. The result revealed the challenges of land resettlement to include exposure to security and welfare threats due to a long period of resettlement, loss of shelter and ancestral homes, and deprivation of access to common heritage. Other challenges are the loss of landowners' livelihood, the increase in the cost of living, and a decline in the standard of living.

The third paper, by Adebisi, Afolabi and Olusola, examined the usage of blockchain technology in real estate transactions with a focus on Lagos State, Nigeria. It specifically assessed the level of awareness among estate surveyors and valuers and the factors influencing blockchain usage and adoption. The data were obtained with questionnaires administered to estate surveying and valuation firms in Lagos Island, Nigeria. The results revealed that the real estate practitioners were very aware of some blockchain applications, such as Fintech, Bitcoin, Ethereum, smart contracts, and cross-border transactions, that they can adopt in real estate transactions. The results further showed that regulatory challenges, trust issues, and poor internet provision were the most influential factors in the adoption and usage of blockchain technology. The paper concluded on the need for frequent sensitisation of practitioners about blockchain technology and the provision of an enabling environment by the government.

The fourth paper is written by Chambulila and Banyani, and it focuses on analysing the extent of undergraduate students' awareness, interest and participation in Real Estate Professional Associations (REPAs) in Tanzania. The result indicated that there was no direct relationship between the intention and participation of the students in the associations. It was also revealed that there was a mismatch between students' expectations and the services provided by the associations. Students were expecting the REPAs to provide direct connections to internship and graduate recruitment opportunities, which was not the case. Furthermore, the study established a lack of engagement and direct communication between REPAs and students, which limited students' motivation. The study concluded that there was a need for increased engagement and collaboration activities between REPAs, higher learning institutions offering real estate programmes and students, through outreach programmes and sponsorships for students to participate in annual events of REPAs.

The fifth paper, by Olapade, Agumba and Muthelo, provided a systematic review on the integration of Health and Safety (H&S) into the construction procurement system, identifying key drivers and barriers. Seventy-one (71) articles were analysed out of 21,407 records that were retrieved from Scopus and Web of Science databases to uncover the drivers and barriers to H&S incorporation into the procurement system. The findings revealed that traditional procurement methods, low technology adoption, inadequate legislation, and negative management actions were major barriers. Conversely, modern procurement methods, robust digital technologies, clear legislative frameworks, and positive management actions served as drivers for incorporating H&S into procurement systems. The study highlighted significant research gaps, including limited empirical evidence on the long-term impact of procurement methods on H&S outcomes.

The focus of the sixth paper, written by De Beer, de Wet and Sutton, probed into the factors that influences the relationships between real estate agents. Semi-structured interviews were conducted with 18 real estate agents working in the town of Potchefstroom in the North-West Province of South Africa, which had no centralised listing system in place to collect data on their perceptions of their relationships with each other. An inductive analysis generated six

themes that influenced their relationships, which are a lack of timely information, communication and feedback; unethical conduct and limited transparency; selfishness and unbalanced collaboration; trust issues; pre-established relationships; and networks and communities. A conceptual framework was proposed as a first step towards developing a holistic relationship model for real estate agents to address these issues, making a practical and theoretical contribution.

We use this opportunity to appreciate the efforts and support of the Journal editorial board members, our anonymous reviewers and other stakeholders. Our gratitude also goes to the African Real Estate Society's board members, the team and colleagues at the library services at the University of Cape Town, and the Journal Manager, Ms Dayni Sanderson, from the Urban Real Estate Research, who has been working diligently in managing the journal's operations. We will continue to appreciate the support from the IRES, and Prof. Karl-Werner Schulte and his team from the IREBS at Regensburg University.

Prof. Abel Olaleye
Editor-in-Chief



Gender Diversity and Inclusiveness in the Valuation Surveying Discipline: Examining Workforce Composition and the Influence of Organisational Policies in Uganda

Charles Mugalu^{*1} (<https://orcid.org/0009-0008-7330-5741>) and Linda Barasa² (<https://orcid.org/0009-0003-0162-5715>)

¹ Department of Construction Economics and Management, College of Engineering Design Art and Technology (CEDAT), Makerere University, Kampala, Uganda

² East African Consulting Surveyors and Valuers, Kampala, Uganda

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Abstract

This study investigated the gender composition within Uganda's valuation surveying discipline. It examined the influence of organisational policies on this composition through mixed-methods explanatory sequential research design. Initially, quantitative data were gathered through a desk review, followed by the collection and analysis of qualitative data obtained from semi-structured interviews with representatives of valuation surveying firms affiliated with registered valuation surveyors of Uganda. The study's findings revealed a significant underrepresentation of women in Uganda's valuation surveying discipline, with women comprising only 22% compared to 78% of men. This disparity is attributed to educational barriers, stereotypes, and organisational barriers that have considerably affected women's participation in the profession relative to men. The findings contribute to the broader discourse on gender equity in STEM fields, offering insights pertinent to promoting a gender-inclusive valuation surveying profession in alignment with global efforts to achieve gender equality and women's empowerment, as outlined in Goal 5 of the Sustainable Development Goals.

Keywords: *surveying, valuation, gender, diversity, inclusion, Uganda*

*Corresponding author's email address: mugalucharles@yahoo.com

1. Introduction

Workplace demographic differences have historically been a peripheral subject in academic discourse. However, the increasing global emphasis on addressing social inequities, particularly those related to gender and economic disparities, has necessitated rigorous scholarly engagement with diversity and inclusion within organisational contexts. Although often used interchangeably, the concepts of diversity and inclusion are distinct. As defined by Thomas (1991), diversity refers to the presence of differences among individuals encompassing both visible attributes, such as race and gender, and invisible ones, including educational levels and sexual orientation. In contrast, inclusion denotes the active and intentional strategies through which organisations integrate these differences into their processes (Roberson, 2006).

Among the various dimensions of diversity, gender diversity has emerged as a particularly salient area of inquiry. The persistent gender gaps observed across multiple industries, most notably in science, technology, engineering, and mathematics (STEM) fields, have drawn scholarly attention due to their longstanding roots in social, cultural and legal exclusions. For instance, Carrie de Silva (2023) notes that in the United Kingdom, the Solicitors Act of 1843 explicitly excluded women from the definition of “persons”, thereby legally barring their entry into certain professions. Cross-cultural examinations further reveal systemic marginalisation, with women in ancient Greece and various African societies frequently restricted to domestic roles and denied access to formal education and public participation (Kleiner, 1995; Uchem and Ngwa, 2014). Despite significant advances in international human rights laws, such as the institutionalisation of gender equality as a standalone objective formalised as Goal 5 in the United Nations Sustainable Development Goals (SDGs), gender disparities in professional participation persist (UN, 2015). Empirical studies confirm that women continue to be significantly underrepresented in high-paying STEM careers (Sassler et al., 2017; Foley et al., 2019; Shrestha et al., 2020). This is also true for surveying, a STEM field. A 2023 insight report by the Royal Institution of Chartered Surveyors (RICS) revealed that women comprise only 17% of the surveying workforce in the United Kingdom and Ireland (RICS, 2023). The gender gap is even more pronounced in the United States and Australia, where women account for merely 3% and 5% of surveyors, respectively (Woodbury, 2002; The Surveyor’s Trust, 2022). However, a substantial gap exists in research regarding the gender composition of the surveying profession in developing countries, particularly in Africa, except for Nigeria, where a recent study by Kesiena and Omamuyovmi (2020) also indicated wider gender gaps, with women comprising merely 3%. This research gap is notably pronounced in Uganda, where no empirical investigations have examined the gender dynamics within the valuation surveying discipline.

This study, therefore, addresses this gap by exploring three primary research questions:

1. What is the gender composition of Uganda’s valuation surveying discipline?
2. What are the factors that contribute to the identified composition?
3. How do organisational policies influence this composition?

Through the examination of these questions, the study offers empirical insights to inform evidence-based interventions aimed at promoting gender equity in surveying. Furthermore, it contributes to the broader discourse on gender disparity in STEM fields, providing comparative relevance for other developing countries encountering similar challenges. Ultimately, the findings have direct implications for policymakers, professional associations and firms striving

to align with global efforts to achieve gender equality and women's empowerment while also enabling organisations to benefit from diverse workforces.

Beyond its empirical contributions, this research advances theoretical debates on workplace gender diversity, particularly within underrepresented STEM fields in developing countries. By focusing on the valuation surveying discipline, an under-studied yet economically significant profession, it lays the foundation for future interdisciplinary research and policy development.

2. Literature review

2.1 The surveying practice: A brief history

The assertion that surveying is one of the oldest known professions in the world is substantiated by historical evidence. By 3000 BC, the Egyptians had established a comprehensive land register that provided detailed information on the location and ownership of each parcel, indicating the involvement of land surveyors in these processes (Swee, 2020). Surveyors are also believed to have conducted construction surveys for the erection of the Great Pyramids and played a crucial role in land tax assessments in Ancient Egypt, utilising calibrated ropes for precise parcel measurements, as noted by Paulson (2005). However, what remains unclear is when the current disciplines of surveying were integrated with land surveying, as these too have long been practised even before their formal designations. Baiyekusi (2021) contends that quantity surveying services were sought as early as the Neolithic period, while Bowles and Le Roux (1992) cite Luke 14:28 from the Bible to establish the early presence of the quantity surveying profession. Conversely, there is no substantial evidence of the historical practice of valuation surveying, suggesting it is a more modern discipline. Particularly, the formal training of valuation surveyors in Uganda at the degree level commenced only in 2003, following a prolonged period of reliance on outsourcing valuation services from within the East African region since the 1970s (Magembe, 2022; Wesonga et al., 2022).

In contemporary practice, surveying encompasses diverse disciplines, with classifications varying depending on the regulatory body or geographical region. In Uganda, for instance, the Institution of Surveyors of Uganda (ISU), the country's professional body for surveyors, categorises the surveying profession into three distinct chapters: Land Surveying, Quantity Surveying and Valuation Surveying according to ISU (2018). However, the definition of a surveyor under the Surveyors Registration Act of 1974 extends beyond these to include, for example, Building Surveyors and Land Agents. This classification is similar to that in the UK under the Royal Institution of Chartered Surveyors (RICS), where the aforementioned disciplines are part of a broader classification of surveying pathways, including facilities management, planning and development, and commercial real estate (RICS, 2018). In contrast, the valuation discipline is distinctly separate from the surveying industry in regions such as the United States, Canada, and Australia, and is governed by different regulatory bodies, with terms such as valuer or appraiser more prevalent than valuation surveyor.

Conclusively, the aforementioned historical overview of surveying lacks specific details regarding the gender composition within the field and its temporal evolution. This deficiency underscores the necessity for a comprehensive discussion on the intersection of surveying and gender, which will be elucidated in the subsequent section.

2.2 Women's participation in the surveying profession

The historical subordination and marginalisation of women, perpetuated by cultural and societal norms and reinforced by legal frameworks, have historically deterred women from entering not only the surveying industry but the workforce in general. These factors resulted in male-dominated workplaces and required significant global events, such as the Second World War, which created labour shortages that necessitated the inclusion of women in the workforce (Woodbury, 2002; Barton and Harris, 2017). In other countries, such as the UK, more deliberate efforts, such as the removal of gender-discriminatory legislation like the Solicitors Act of 1843, were necessary to foster more gender-inclusive workplaces. Indeed, Carrie de Silva (2023) argues that the enactment of the Sex Disqualification (Removal) Act of 1919 marked a pivotal moment for women in the UK to enter previously male-dominated professions, including surveying.

Whilst it is challenging to identify the very first woman to practice any surveying discipline due to fragmented historical records during the nineteenth and early twentieth centuries, extant literature commonly highlights two pioneers: Alice Fletcher and Irene Barclay (Woodbury, 2002; Guida Team, 2021; Carrie de Silva, 2023). Alice Fletcher is widely recognised as an ethnologist and anthropologist despite having engaged in some surveying activities. Irene Barclay, out of the two women, is the first recognised woman surveyor, having achieved chartered surveyor status in 1922 through the RICS, a globally recognised professional body in surveying.

Since the time of these pioneers, the representation of women in the surveying profession has seen a modest increase globally. In the UK and Ireland, women now comprise approximately 17% of the total surveying workforce, according to RICS (2023). These figures are slightly lower in the United States and Australia, where women constitute about 3% and 5% respectively, while there is limited data about the gender composition of the surveying profession in Africa (Woodbury, 2002; Surveyor's Trust, 2022). Bichard (2022) and RICS (2023) provide the gender composition of RICS members from North, South, and Sub-Saharan Africa, although these are merely a fraction of the many unaccounted women practising surveying in their countries as they are not members of RICS. However, recent studies by Kesiena and Omamuyovmi (2020) indicated that women surveyors in Nigeria constitute about 3% of the total surveying workforce. Notably, no such studies have been conducted in Uganda, leaving a critical gap in understanding the gender dynamics within the Ugandan surveying profession. Nevertheless, the available limited data suggests that women have significantly impacted the valuation surveying discipline. They have established successful practices that employ and mentor valuation surveyors, advise major financial institutions such as banks on real estate investments, educate young valuation surveyors in tertiary institutions within survey departments, and some oversee the implementation of billion-dollar infrastructure projects in the country, such as oil and gas investments (Aheebwa, 2022; Muhereza, 2022).

2.3 Gender dynamics and their influence on workplace diversity

Surveying has a substantial and well-documented history characterised predominantly by male participation. Although historical factors discussed in Sections 2.1 and 2.2 above elucidate the historical predominance of men in the surveying profession, they do not sufficiently account for the continued underrepresentation of women in this field. For instance, the legislative measures put forward by Carrie de Silva (2023) that were undertaken in the UK to enhance

women's participation in various professions were influenced by women pioneers in the UK surveying profession. RICS (2023, p. 2) highlighted the persistent and significant gender gap in RICS membership from the enrolment of the first woman surveyor to date. Similarly, the initiatives launched in 1983 by the National Society of Professional Surveyors (NSPS) Forum for Women in Surveying to address gender disparities in the United States surveying profession did not produce the intended results (Woodbury, 2002). These efforts reflect the historical reliance on liberal feminism, which, according to Arat (2015), advocated for deliberate institutional reforms to promote meritocracy in male-dominated spheres. Bichard (2022) also recently advocated this in his recommendations for RICS to achieve a more diverse and inclusive surveying profession. Unfortunately, the desired outcomes were not delivered as illustrated above, suggesting the existence of more complex gender issues that perpetuate wider gender gaps in the surveying profession. The mere provision of equal opportunities as a means of addressing workplace gender disparities has also been challenged by contemporary feminist literature, such as decolonial feminism and anti-racist feminist theory. These emphasise the need for a deeper understanding of workplace gender issues and the specific challenges faced by women, who have historically been marginalised (Webb, 1997; Fotaki and Pullen, 2023).

Turrell et al. (2002) identified the absence of role models as a significant impediment to the career advancement of women in the surveying profession. More recent investigations by González-Pérez et al. (2020) and Tal et al. (2024) have examined the substantial influence of role models on career choices regardless of gender or career stage, while acknowledging that role models exert a more pronounced impact on women's career trajectories compared to men's. Role models also mitigate against negative stereotypes that contribute to attrition in STEM education and improve the retention of STEM professionals in the workplace (Lubaale, 2021; Tal et al., 2024). These stereotypes are not unusual in Uganda and create gender imbalances in STEM disciplines at Kyambogo University.

Table 1: General gender stereotypes in Uganda

Men are:	Women are:
Public	Private
Active	Passive
Leaders	Followers
Independent	Dependent
Strong	Weak
Courageous	Timid
Risk takers	Avoid risks
Aggressive	Polite
Rational (reason)	Intuitive/emotional
Sciences	Arts
Tough	Tender
Assets	Liabilities
Superior	Inferior
Handsome	Beautiful
Rulers	Ruled
Dominants	Subordinates

Source: Lubaale (2021)

It has been observed that role models and stereotypes, while influential, are not the sole factors in the increased attrition rates of women in STEM fields. Other factors such as lack of promotion opportunities, work-life balance issues, lack of male patronage, and education barriers also play significant roles (Kesiena and Omamuyovmi, 2020). Additionally, Turrell et al. (2002) identified a lack of awareness about the profession as a significant barrier to entry for women. However, this issue primarily targets increasing the number of women entering the profession rather than retaining them, which is entirely influenced by other factors. Nevertheless, this aspect cannot be overlooked, as retention is inherently linked to recruitment, and it is impossible to retain individuals who have not been recruited. In conclusion, while historical factors may not entirely account for the increasing gender disparities in the field of surveying, they offer valuable insights into the profession's persistent male dominance. Existing research on gender gaps within STEM disciplines provides a valuable framework for comprehending the gender dynamics that sustain these disparities in surveying, underscoring the necessity for more comprehensive and intersectional strategies to address these issues.

2.4 The need for workplace gender diversity and inclusion

Promoting gender inclusivity within the surveying profession not only aligns professional bodies and organisations with global efforts to achieve gender equality but also offers tangible benefits to organisations. Research by Milliken and Martins (1996), Richard and Johnson (2001), and Bichard (2022) highlighted that diverse workforces enhance organisational effectiveness and efficiency by integrating individuals with varied skills, fostering better decision-making through representation of diverse market perspectives, and driving innovation and creativity through competitive dynamics. Furthermore, a workforce that reflects the diversity of the community in which an organisation operates can enhance social acceptance and expand market reach.

However, achieving gender diversity in the workplace requires deliberate strategies, as diverse workforces do not emerge by chance. Organisations tend to attract, hire, and retain individuals who share similar characteristics, a phenomenon explained by the Attraction-Selection-Attrition (ASA) hypothesis (Schneider, 1987), which will be further examined in the subsequent section. Therefore, organisations committed to fostering gender diversity, whether as part of broader gender equality initiatives or to leverage the advantages of a diverse workforce, must implement intentional policies and practices to counteract these natural tendencies.

2.5 Measuring diversity in organisations

Measuring workforce diversity in practising firms is vital in ascertaining the contribution of firms to the observed gender gaps, since a fully diverse workforce in any organisation does not occur coincidentally. Those who seek organisational heterogeneity must have deliberate strategies beyond legal compliance and social acceptance (Richard and Johnson, 2001; Schneider, 1987). This ideology supports the ASA hypothesis, which contends that organisations typically draw in, employ, and keep individuals with similar characteristics.

Various metrics have been proposed in the measurement of workforce diversity in organisations through the SHRM theory, although most of them are micro-oriented as they only focus on how human resource (HR) practices influence individuals in the organisation. For example, job satisfaction, job retention and employee participation, which is the trust employees have in diversity programs adopted by the organisation. 'Whether employees believe diversity

programs have significance or are a ruse to pacify affirmative action demands depends upon employee perceptions of management's seriousness in policy implementation' (Richard and Johnson, 2001, p. 181). This creates a methodological challenge in measuring the level of management's commitment to the implementation of programmes from the perspective of employees, some of whom have not spent a significant amount of time with the organisation, yet there are actual makers and implementors of these programmes (management). This is why today, in addition to micro relationships, macro relationships are now considered when evaluating the effects of HR practices on the organisation's goals, like the business strategy, such as profits, sales, quality, and growth (Butler et al., 1991). In addition, there have been developments around the SHRM theory to include the configuration theory, which proposes the integration of the adopted HR practices to direct the organisation towards diversity and diversity management, since these policies must supplement each other. This was termed as diversity orientation by Richard and Johnson (2001).

Similarly, this study moves beyond a micro-focus and adopts diversity orientation as discussed above. Organisations working towards a fully diverse workforce beyond legal requirements must satisfy the following key principles, which serve as the basis for measuring diversity in this study:

- The existence of a will or desire for diversity expressed through a formal commitment, such as a policy statement or objective,
- The requirement for this initiative to not only to surpass legal compliance and social acceptance, but rather to be an integral part of the organisation's strategy, whether in the business or human resource environment.
- The existence of well-defined practices or procedures towards achieving a highly inclusive work environment, and lastly, evident results in terms of workforce gender composition.

3. Methodology

The study utilised a mixed-methods explanatory sequential design to determine the gender composition within Uganda's valuation surveying discipline. Initially, quantitative data were collected and analysed, followed by semi-structured interviews to obtain qualitative insights (Creswell et al., 2003; Ivankova et al., 2006; Johnson et al., 2007). This methodology aimed to achieve a comprehensive understanding of the gender composition and the impact of organisational policies on it within Uganda's valuation surveying discipline.

3.1 Quantitative phase

Quantitative data were collected through a desk review of published lists of registered licensed surveyors in the Uganda Gazette, for the post-pandemic period (2020-2022). This timeframe was selected due to significant shifts in the economic and business landscape following the COVID-19-induced lockdowns, which, according to the World Bank (2021), exacerbated gender disparities in Uganda. The lists are issued by the Registrar of Surveyors of Uganda, an office established under Section 11 of the Surveyors Registration Act of 1974, whose responsibilities include the registration of surveyors and the issuance of annual practising certificates or licences. The dataset comprised a total of 355 surveyors, of whom 103 were valuation surveyors, the primary focus of this study. To address the first research question, a total enumeration of the surveyors was conducted, and the data collected were analysed using descriptive statistics.

3.2 Qualitative phase

To obtain the qualitative insights necessary to elucidate the factors influencing the gender composition of Uganda's valuation surveying discipline, particularly the impact of organisational policies on this composition, semi-structured interviews were conducted with a representative from each valuation firm where registered surveyors are affiliated. The selected group was required to possess the most comprehensive understanding of the organisation's strategy (Richard and Johnson, 2001). A total of 57 firms were identified in the Uganda Gazette, and a total enumeration of the population was conducted to eliminate sampling bias. Interviews were conducted face-to-face, with participants' consent obtained for recording, and subsequently transcribed verbatim. This qualitative data was then manually analysed using a reflexive thematic analysis approach, following the procedural steps proposed by Braun and Clarke (2006), thereby addressing the remaining research questions.

Table 1: Braun and Clarke's six-phase framework for doing a thematic analysis

Step 1: Become familiar with the data, Step 2: Generate initial codes, Step 3: Search for themes,	Step 4: Review themes, Step 5: Define themes, Step 6: Write-up
---	--

Source: Maguire and Delahunt (2017)

4. Results

4.1 Gender composition of Uganda's valuation surveying discipline

An examination of the published lists of practising registered surveyors in Uganda indicated that, among the 103 registered valuation surveyors, 28 are women and 80 are men. The percentage composition of these figures is depicted in Figure 1 below.

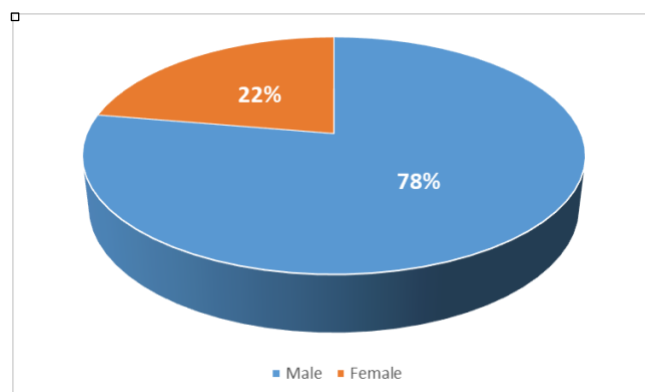


Figure 1: A pie chart illustrating the gender-based percentage distribution of practising registered surveyors in Uganda

These findings revealed a significant underrepresentation of women in the valuation surveying discipline in Uganda, with women comprising only 22% of the registered professionals compared to 78% of their male counterparts. Although these statistics pertain solely to registered valuation surveyors, it is important to note that there are additional practitioners in Uganda who are not registered. According to Section 19 (3) of the Surveyors Registration Act

of 1974, the legal practice of surveying in Uganda is restricted to those who are registered and licensed.

4.2 Qualitative phase

4.2.1 Demographic data of participants

The study achieved a response rate of 30 (53%), which is deemed sufficient for generalising the findings, considering that all participants possessed a comprehensive knowledge of the affiliated organisations and had extensive experience in Uganda's valuation surveying profession. Furthermore, Taherdoost and Madanchian (2025) acknowledged the absence of a universally accepted minimum response rate across research fields, and Nulty (2008) noted that even existing studies specifying certain percentages lack theoretical justification. The demographic data about the participants is illustrated as follows:

Table 2: A frequency table showing the demographics of interview participants based on their levels of experience

	Frequency	Percent	Cumulative percent
Under 4 years	0	0	0
Between 5–9 years	22	73.3	73.3
Above 10 years	8	26.7	100.0
Total	30	100.0	

With respect to the reliability and validity of interviewees' responses, Table 3 above shows that all participants possessed substantial experience in this field. Thus, they should be able to contribute meaningfully to the discourse on factors influencing gender composition within Uganda's valuation surveying discipline. Similarly, to address the third research question, participants needed to possess a comprehensive understanding of their respective organisations, as the question primarily focused on examining organisational strategies and policies. Figure 2 illustrates that all 30 participants satisfied this criterion as they all occupied managerial positions.

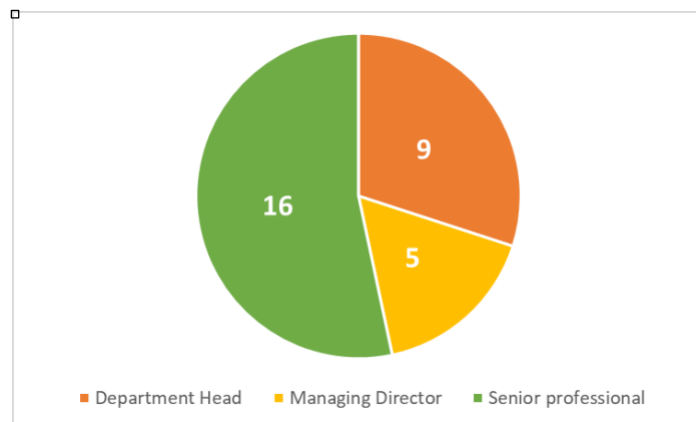


Figure 2: A pie chart showing the demographics of interview participants based on the position held in the firm

4.2.2 Factors influencing gender composition

The analysis of the factors influencing the gender composition of Uganda's valuation surveying discipline followed a reflexive thematic analysis, and the identified themes were refined into main themes after thorough coding of descriptive phrases that pertained to the participants' explanations for the identified gender composition. These themes are education barriers, stereotypes and organisation barriers as depicted in Table 4 below.

Table 3: Identified main themes for the study

Theme	Codes
Education barriers	Lack of role models, lack of awareness of the profession, and high entry points
Stereotypes	Cultural, societal, and religious
Organisation barriers	Lack of workplace benefits, lack of mentorship

4.2.2.1 Education barriers

Participants recognised educational barriers as a significant factor contributing to the widening gender gaps in Uganda's valuation surveying discipline. The majority of the participants cited high entry requirements for the course at universities as a hindrance to pursuing a career in valuation, in contrast to other fields such as the social sciences. For example, Participant P015 noted as follows:

“When I was joining the University, the cutoff points for the course on private sponsorship, I think, were 48 points something, and these points could get you, for example, a course in humanities on government sponsorship.”

When asked about how these cut-off points favour boys over girls, participants emphasised that few girls in Uganda study STEM subjects, which are essential for enrolment in the course. “Valuation surveying is a STEM field, and for one to apply for the course at the campus, they must have done Mathematics at A-Level, and this at times goes with Physics, yet few girls study these subjects at A-Level”. These low participation rates discourage other girls from pursuing STEM subjects, which participants attribute to a lack of role models. Furthermore, there is limited public awareness of the profession, exacerbating enrolment barriers. Participant P002 stated:

“Most of us pursued valuation because someone told us it was a good course. If students have no clue about the course, it is hard for them to rank it among top choices when applying.”

4.2.2.2 Stereotypes

Participants also identified prevailing stereotypes as a significant factor contributing to the observed gender disparities in Uganda's valuation surveying discipline. These stereotypes are primarily influenced by cultural and religious norms that dictate gender roles in society. One participant noted that valuation surveying is predominantly field-based, and many cultures groom women to be private and tender, with some cultures not expecting them to work. Additionally, societal stereotypes exist that portray surveying as a disreputable profession. Participant P026 remarked:

“The actions of unscrupulous, quack surveyors have labelled us as thieves within the society because land rights are considered sacred in our country, and any mischievous activities on land are acts against the society.”

These stereotypes discourage young aspirants, particularly women, from entering the profession, thereby significantly reducing enrolments.

4.2.2.3 Organisation barriers

Although the study explicitly structured the impact of organisation policies as a distinct research question, organisation barriers emerged as a theme during the interviews, with most responses aligning with organisational policies. More than half of the participants acknowledged that the lack of workplace benefits for women, such as paid maternity leave, flexible working arrangements and recognition or awards, as factors that increase the attrition of women in the profession. Participant P017 highlighted the societal expectation that, as a woman, she is expected to establish a family and expressed the necessity that her employment will remain secure upon her return from maternity leave, ideally with continued remuneration during this period.

“These are the types of workplaces that many women aspire to join; however, they are unfortunately among the least prevalent, discouraging women’s progress in the profession”.

Additionally, participants underscored the importance of mentorship as a critical factor in career advancement and development, noting that mentorship is particularly essential for women due to the distinct challenges they encounter in the workplace compared to men. Several participants emphasised that recognising exceptional women within the profession serves as a source of inspiration for emerging professionals and enhances the desire for mentorship. However, the majority felt that this recognition is more impactful when executed by professional bodies rather than locally within organisations.

When questioned about the presence of organisational policies supporting gender inclusion in recruitment within their firms, 23 participants acknowledged the absence of such policies, although some recognised their importance. Participant P019 stated specifically as thus:

“Ours is a merit-based recruitment system that gives no advantages to a particular group of people”.

While all participants concurred that women possess the same potential as men, they acknowledged their distinct challenges necessitating specific considerations.

5. Discussions and conclusion

The findings of this study indicate a pronounced gender disparity within Uganda’s valuation surveying discipline, with women comprising a mere 22% of registered practitioners. This underrepresentation is consistent with patterns observed in the surveying industry and other male-dominated STEM fields, where women encounter substantial barriers to entry and retention (Sassler et al., 2017; Foley et al., 2019; Shrestha et al., 2020; RICS, 2023). Qualitative insights from 30 experienced professionals, all holding managerial positions, illuminate the

multifaceted challenges contributing to this disparity, including educational barriers, stereotypes, and organisational policies that inadequately address women's unique needs.

Educational barriers emerged as a fundamental issue, where high entry requirements and the STEM-centric nature of the field disproportionately disadvantage female students, creating a pipeline problem. This is attributed to the scarcity of role models, who have been studied by Tal et al. (2024) to significantly influence women's enrolment in STEM subjects more than men. STEM subjects are prerequisites for pursuing a career in valuation at universities. Furthermore, the lack of awareness about the profession further limits female participation, as career choices are often influenced by exposure and guidance (Turrell et al., 2002). Interventions such as collaboration between surveyors and institutions on educational reforms and career fairs in schools targeting young women could address this issue, and the involvement of women would close the role model gap, thereby delivering a significant impact. Stereotypes were also identified as significant inhibitors, as entrenched cultural and religious norms discourage women from engaging in mobile work, confining them to domestic roles. Moreover, negative stereotypes associating the profession with unethical actors further deter potential entrants, especially women who may fear reputational risks, compounding the challenge and making the profession less appealing. Public awareness campaigns that challenge these stereotypes and media representations of successful women in the profession could reshape societal perceptions and create a more supportive environment for aspiring female surveyors.

Organisational barriers, such as the absence of gender-sensitive workplace policies, lack of mentorship, and limited recognition of women's achievements, were also identified as major contributors to the attrition and consequently the underrepresentation of women in the profession. The absence of affirmative policies by organisations to promote gender-diverse workforces in favour of meritocratic recruitment systems suggests a passive approach that inadvertently maintains the status quo, despite awareness of the distinct challenges faced by women in their careers. Firms could implement gender-sensitive policies to foster retention and career advancement for women.

In conclusion, the findings of this study align with existing literature that highlighted persistent gender disparities within Uganda's valuation surveying discipline, a field within STEM. These disparities are attributed to educational barriers, stereotypes, and organisational obstacles. Consequently, the study recommends essential interventions, including collaborative educational reforms, the promotion of the profession to young women in schools and the broader public to counteract negative stereotypes, and the implementation of gender-sensitive policies by organisations to enhance retention and career advancement for women. These measures aim to create a more inclusive valuation surveying profession, in line with global efforts to achieve gender equality. Although the study's focus on the valuation surveying discipline introduces limitations typical of case study research, such as challenges in generalising findings, potential researcher bias, and concerns regarding data rigour, its validity is strengthened through the triangulation of qualitative insights with quantitative data.

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Challenges of Land Resettlement for the Inland Dry Port Project in Ibadan

Theophilus Olugbenga Babatunde*¹ (<https://orcid.org/0000-0002-7550-4380>) and Timothy Tunde Oladokun² (<https://orcid.org/0000-0002-2493-4639>)

^{1 2} Department of Estate Management, Obafemi Awolowo University, Ile-Ife, Nigeria

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Abstract

One way the government often adopts to compensate people dispossessed of their land is to resettle the dispossessed landowners. Notwithstanding the good purpose for which resettlement is meant to be adopted, the act is not without a number of challenges. This study sought to investigate the challenges of land resettlement with respect to the land acquired by the government for inland port projects in Ibadan, Oyo State. Based on records from the Ministry of Land, Housing and Urban Development and the office of the Surveyor General of Oyo State, 44 households of the total 145 displaced landowners/households earmarked for resettlement were sampled. Data were collected from the respondents with the aid of questionnaires administered in person. The collected data were analysed using descriptive statistics tools such as percentages, mean and Relative Importance Index. The results indicated that in acquiring land for a public project, statutory procedures were followed, notifying the respondents of the government's intention to acquire the land and resettlement arrangements. The results of the study showed that the respondents suffered exposure to security and welfare risks from prolonged delays in the resettlement process. Additional challenges included loss of shelter and ancestral homes, as well as being deprived of access to a common heritage. The study concluded that the loss of livelihood and the increase in the cost of living led to a decline in the standard of living for the dispossessed landowners.

Keywords: *compensation, challenges, dry-port, resettlement, households*

*Corresponding author email address: theobaba2013@gmail.com

1. Introduction

Land is often seen as wealth for people, in addition to being regarded as one of the major factors of production (Duong, Samsura and van der Krubben, 2023). In addition to the economic value of land, it is also viewed as possessing physical, abstract, and spiritual values (Duong, Samsura and van der Krubben, 2023). For this reason, great importance is attached to the ownership right over land, and at times, leading some people to exercise constraint in selling their land. While land is believed to be fixed in supply (especially in the short run), there is always an ever-increasing need for its use at every point in time for specific purposes by individuals, groups of people, and even the government. The daily increase in land is apparent in urban areas because of the large population of people usually associated with rural-urban migration. The daily influx of people into cities in Nigeria, coupled with the natural increase in the population of the area, leads to urban development and expansion. This then prompts the government to build social amenities and infrastructural facilities to support the ever-increasing population (Abera, Yirgu and Unch, 2020). Most of the time, the provision of these amenities requires the government to acquire land from individuals, families, or communities.

In Nigeria, the enactment of the Land Use Act No. 6 of 1978 vested all land in the state government of the respective state in the country. The implication is that land within the states is held by the state governors. In addition, where private land is held before the enactment of the Law, the governors have the power to compulsorily acquire such private land from individuals, families, or communities for public use that will benefit the larger society. In the exercise of this power, the law provides that the governor should pay compensation for any physical development or crops on any of such land acquired for overriding public interest. Consequently, this gave birth to compensation, which could be in the form of a cash payment or the resettlement of the affected individuals, families, or communities by the government. Since urban development is associated with the delivery of infrastructural facilities for the benefit of all, occasions often arise that, as the government acquires land for public facilities, private land belonging to individuals, families, or communities could be taken over. As such, previous owners could be displaced from their homes, farmland, and other sources of livelihood. A similar scenario was observed in this study, wherein the state government acquired a substantial expanse of land for the development of the Ibadan dry inland port. To execute the project, previous settlers of the affected communities were given the option of resettlement as an alternative to monetary compensation to ameliorate their sufferings and loss.

Resettlement, according to Sherbinin et al. (2010), is the act or process of relocating a community or group of people who would no longer be permitted to live where they previously did to another location. As the appropriate process of organising and carrying out the relocation of individuals, families, and communities, it often provides monetary or in-kind compensation for lost resources, inconvenience, and assets, as well as support for the restoration and enhancement of livelihoods, the re-establishment of social networks, and the restoration or improvement of the social functioning of the community (Akingbehin et al., 2016). According to the author, resettlement practically involves measures adopted to lessen the negative effects of economic displacement on displaced individuals. This is necessary as resettlement could have a significant impact on the affected people or community. The displaced could be burdened with physical, economic, and occupational challenges like loss of shelter and land, loss of assets, marginalisation, loss of income source, unemployment, food insecurity, social disarticulation, and access to common properties and services, disruption of education and other sources of livelihood for community dwellers. (World Bank, 2011). While resettlement

is allowed under the law to relieve the inconvenience and pain of a dispossessed person, the difficulties associated with resettlement in large-scale public infrastructure projects like the Ibadan Dry Inland project seem to be underexamined in the literature. Even though every resettlement for development projects has some peculiar cost implications. The cost, apart from money, includes the social costs arising from the resettlement of the people displaced from their land. This paper, therefore, considers the challenges of land resettlement for inland port projects in Ibadan, Oyo State, with the aim of providing information that could enhance the land resettlement structure.

2. Literature review

A review of many past studies has shown that there are divergent views concerning the resettlement of displaced people. Cernea (1997) and Egbenta and Falana (2020) believed that the resettlement scheme placed the displaced people in a better position than they were before the resettlement. However, Yntiso (2008), Akujuru and Ruddock (2014), Egbenta and Udoudoh (2018) and Obute (2023) argued that the scheme impoverished and placed the people worse off after the resettlement scheme. In addition, extant studies (Abera, Yirgu and Uncha 2020; Akingbehin et al., 2016) have conducted research with a focus on various aspects of public land acquisition, compensation and resettlement schemes. These studies are reviewed based on their different themes, which include the statutory provisions for resettlement schemes, the trend analysis of previous resettlement schemes, the impact of resettlement schemes, the problem of relocation, and those that developed models for the resettlement schemes.

2.1. Statutory provisions for the resettlement scheme

Several previous studies (Uduehi 1987; Akujuru and Ruddock, 2014; Egbenta and Falana, 2020) have examined the statutory power of the government to revoke land rights and to compensate affected individuals through monetary payments, relocation, and resettlement, as well as the procedures for such compensation. For instance, Uduehi (1987) reviewed the issue of public land acquisition and compensation practice in the Land Use Act of 1978 in Nigeria. Uduehi (1978) posited that it was clear from the Act that both the local authority and the state governor have the power to revoke the right of occupancy. In the case of the local authority, the power is limited to land in non-urban areas, while the governor has the power to revoke any right of occupancy over land within their state for overriding public interest. The paper made further reference to Section 28 (1) of the Land Use Act, which states that “it shall be lawful for the military governor to revoke a right of occupancy for overriding public interest”. It also pointed out that Section 28 of the Act sets out the grounds upon which a governor can revoke an interest in land. The review lamented that there was nothing in the Act to guide the local authority in the exercise of its powers in similar circumstances. No procedure or condition has been laid for such exercise.

Akujuru and Ruddock's (2014) study examined the constitutional provisions concerning land acquisition and their impact on the compensation process. The study faulted the use of predetermined compensation rates, which do not meet the compensation requirements of adequacy when compared with international standards. This, according to the author, usually results in inadequate compensation, which negates the compensation requirements of adequacy in line with international standards. Similarly, Murali and Vikram (2016) compared the various land policies operational in different countries - the Australian Land Acquisition Act 1989 as

amended in 2013, the Land Management Law in Canada, the Land Acquisition Act (LAA) 2014 in Singapore; Land Acquisition for Public Interest (Law No. 2 of 2012) and Regulation No. 71 of 2012 that facilitates Land Acquisition for Public Project purposes (LAPI Laws) in Indonesia; Land Use Act of 1978 of Nigeria; and the Land Acquisition Act 1960 from the government of Malaysia. The analytical and comparative study established that the current practices in the countries examined do not allow for a determination of equivalent compensation in all situations.

The study from Egbenta and Udoudoh (2018) with a focus on compensation for land and buildings compulsorily acquired in Nigeria, criticised the valuation technique being adopted. The findings revealed that the valuation estimates conducted by the acquiring authority, using the depreciated replacement cost method prescribed by the Land Use Act, did not reflect prevailing market values. Hence, it produces inadequate compensation that puts the claimants in a worse socio-economic position than they were prior to the acquisition. The study emphasised the need for a better method of valuation for compensation that will reflect market valuation. In Egbenta and Falana (2020), the adequacy of the resettlement scheme in Apo, Federal Capital Territory, Abuja, Nigeria, was the focus. The study made use of depreciated replacement cost to determine the deprivation and bestowal values of acquired properties. The study found that the resettled property value was in excess of the value of the acquired property. It noted that the differential range of the excess value was between 62.72% and 85.92%. Although the study recommended a resettlement scheme as a better form of compensation, the challenges involved in this act were not mentioned, but are addressed in this study. The recent study by Oshikoya and Olayiwola (2023) analysed the satisfaction levels of claimants involved in the land acquisition and compensation process for the Amuloko road project in the Ona-Ara Local Government Area of Oyo State, Nigeria. A sample of 186 displaced people was analysed using the relative satisfaction index (RSI), and the analysis showed that the claimants were not satisfied with the process of compensation employed by the government. The study identified the following reasons for the dissatisfaction of claimants: inaccurate enumeration of assets, delay in the payment of compensation, lack of transparency by government officials, and low assessment rates for crops and trees. There is a need for a study to evaluate the perspectives and challenges faced by dispossessed people with resettlement schemes.

2.2. Trends in the land resettlement schemes

Previous studies focused on the trend analyses of resettlement schemes, where issues such as the process involved, strategies, and characteristics of the resettlement programmes were reviewed. The study of Cernea (1997) extracted the general trends and the common characteristics that were revealed by empirical data, which were used to construct a theoretical model of displacement and reconstruction. The study identified key risks and impoverishment processes in the displacement of people, which included: landlessness, joblessness, homelessness, marginalisation, food insecurity, loss of access to community property resources, increased morbidity, and community disarticulation. The model, which suggested that reconstructing and improving the livelihood of those displaced requires risk reversals through explicit strategies backed by adequate financing, warranted a study of this nature to corroborate the view of the author from the perspective of the displaced. The study of Oluwamotemi (2010) examined land acquisition, compensation, and resettlement in developing economies with particular reference to Nigeria. The study was an in-depth review of the various land tenure systems and their constraints on economic, social, and infrastructural development. The author argued that communities initially resisted the government, but they were compensated and resettled after their land was acquired. The study, which concluded that

one general law may not be sufficient for the government to process land for development purposes because of community agitations, seems to leave out the social and economic challenges of resettlement.

Mendie and Ofem (2010) examined the Land Use Act using the public land acquisition policy in Akwa State, Nigeria. The study found that between 1990 and 2005, the state government was able to develop 43% of the total land acquired for various developmental projects. Furthermore, the spatial and temporal dimensions showed a strong and positive relationship between the hectares acquired and the hectares developed. The study focused only on the assessment of development carried out on all government-acquired land compared to the total land acquired within the period covered by the study.

Onwe and Nwogbaga (2015) studied the three main strategies for resettling displaced people to achieve durable solutions: repatriation, integration, and relocation strategies. Each of these strategies concerns itself with the provision of housing, relief materials, jobs, security, and legal protection for displaced people. The study concluded that choosing the appropriate resettlement strategy and adopting a more inclusive participatory approach that involves displaced people, the local government, state government, national government and other key stakeholders is key to achieving success in resettlement schemes. Akingbehin et al (2016) assessed the process of public land acquisition in Oyo state, Nigeria. The study found, among other things, that the government did not follow established procedures for land acquisition in the public interest, and that the objectives of the enabling legislation were largely unfilled. The study by Lo and Wang (2018) sought to understand whether the voluntary resettlement program by the Chinese government targeted at alleviating poverty was genuinely voluntary. A survey of the resettlers was conducted using both qualitative and quantitative data collection methods. The analysis revealed a high level of willingness among the younger and wealthier individuals and those engaged in off-farm employment. The willingness was primarily driven by a desire to improve the quality of their life. However, the study also noted that the consent to relocate was not fully informed due to inadequate stakeholder consultation.

2.3. The impact of the resettlement scheme

No developmental project undertaken by the government is without adverse side effects (Egbenta and Falana, 2020). Some of the previous studies on resettlement schemes assessed the impact of resettlement schemes on individuals and the environment. Yntiso (2008) reviewed the impact of resettlement projects on low-income households in Addis Ababa, Ethiopia. The relocation had broken down and disrupted the relocates' business ties with customers, caused a loss of locational advantage on jobs, and incurred high transportation costs, which culminated in a drop in their incomes. Many displaced people were also exposed to water, sanitation, education, and healthcare problems. Farmers lost their land to investors, and the new resettlers complained of low compensation and a lack of economic options to make a living. The study concluded that developmental projects in the urban areas exacerbated poverty among the study group. However, applying the result of the study to a fast-growing country like Nigeria, with different economic and political situations, might be misleading; hence this study.

Abebe and Hesselberg (2013) examined the effect of slum resettlement projects on the socio-economic well-being of the poor households relocated in Addis Ababa. The analysis of the data revealed that although the relocated households benefited in terms of new houses and improved quality housing, there were some negative effects experienced by the families. The negative

effects included increased cost of rent, loss of income, changes in children's school, health challenges, and loss of savings. While the study recommended that urban redevelopment and resettlement plans should include the factors in the lives and livelihood opportunities of the relocated poor households, a similar study is missing in the context of sub-Saharan African countries. Hussen and Kibret (2018) explored the perceived social and psychological effects of development-induced displacement on low-income households in Addis Ababa. Findings from the study showed that relocating people from their original settlement to a new location led to social breakdown as well as psychological problems. Moreover, the relocation resulted in job losses, increased transportation costs, and affected access to education and healthcare services. The study concluded that the damage caused by the resettlement of poor people significantly outweighed the benefits associated with the resettlement scheme. Abera et al. (2020) interrogated the impact of the resettlement scheme on vegetation cover and its implications on conservation in the Chewaka district of Ethiopia. The study utilised ArcGIS 10.3 ERDAS Imagine 9.1, Landsat Imagery from 2000, 2009, and 2018, alongside socio-economic data to analyse the land use and land cover changes of the district. The analysis showed that the district had undergone substantial land use and land cover changes since population resettlement in the area left a gap to be filled in a developing country like Nigeria. The study from Getu (2021) investigated the impact of urban relocation on the livelihoods of poor households displaced by development projects in Bahir Dar, Northwestern Ethiopia. Using a qualitative approach to data collection and analysis, the study revealed that the relocation of urban landowners caused several livelihood risks, such as loss of homes or shelter. The finding that the new neighbourhood lacked main urban infrastructural facilities such as roads, electricity, marketing, and portable water services might not apply to other African countries with different socio-economic environments. In addition, the finding that displaced people received adequate compensation while some remained landless might not necessarily be the same in other developing countries like Nigeria.

Obute (2023) examined the problem with the relocation scheme at Pegi, located in the Kuje Area Council of the Federal Capital Territory, Abuja, Nigeria. Data collected was analysed using an independent sample t-test, a custom table, and a chi-square to ascertain the effect of the relocation. The study found that the relocation of the displaced people had a negative influence on their occupation, brought a decline in their level of income, and worsened their access to public services. However, the study concluded that the relocation facilitated improved housing and proximity to schools and clinics for the displaced people. Gai, Wahome and Bett (2023) studied how the relocation constrained resources for extensive pastoralism and how pastoral cope through adaptation of old pastoral knowledge, attitudes, and perceptions and the creation of new strategies for resilient livelihood using the case of the RAPland community. The study found that relocation significantly affected access to pastures and water resources. Before the relocation, the highest-ranking constraints were drought, livestock diseases, pasture inadequacy, and wildlife predation. Similarly, after the relocation, all these identified constraints were experienced. The study concluded that the community's dependence on pastoral livestock, as well as food and nutritional security, was threatened.

Duong et al. (2023) investigated the impact of the land acquisition process on the socio-economic conditions and environment of the affected communities in Vietnam. The findings indicated there was no significant change in the living conditions of the affected communities. However, the study identified participation and compensation as the two factors that lead to socio-economic and environmental effects. Notably, the authors did not consider the challenges associated with resettlement, which is the focus of this study. Sapre and Gori (2023) assessed the predicament of land acquisition, displacement, and resettlement in India. The study found

that people were adversely impacted by the developmental projects initiated by the government and that the failure to adequately implement resettlement and rehabilitation strategies and plans led to several obstacles for displaced people and the government. The study argued that the Supreme Court of India attested that there are some administrative deficiencies on the part of the state concerning land acquisition, displacement, and resettlement. However, generalising these findings to African countries like Nigeria might not be reflective of the peculiarities of resettlement practices on the continent. This is because the legal framework in India would be different from the policy adopted in African countries like Nigeria. As such, there is a compelling need to conduct this study to substantiate the findings in Nigeria.

2.4. Model for Effective Resettlement Scheme

A few studies focused on the presentation of models for resettlement schemes. Notably, Cernea (2007) developed the Impoverishment Risks and Reconstruction (IRR) model to serve as a predictor of risks and problems that could be encountered in projects and also to be used as a guide in applying strategies to counter, overcome, and mitigate the risks. The study presented eight basic risks of impoverishment during displacement and resettlement, which include landlessness, joblessness, homelessness, marginalisation, food insecurity, loss of access to common property resources, and community disarticulation. A similar study by Kurniati et al. (2013) developed a land acquisition and resettlement action plan (LARAP) for a dam project using an Analytical Hierarchical Process (AHP). The study aimed at selecting the best location for resettlement, comparing two alternatives – the dam's surrounding area and a convenient area – based on benefit-cost and risk indices. The AHP priority vector analysis showed that Mujur village, located near the dam, had a vector score of 0.1294 and was the best resettlement location. Similarly, the best resettlement location in a convenient area was Kawo village with a vector score of 1.1190. An inclusive model was proposed by Isokpan and Durojaye (2018), where the affected people were engaged from the planning stage of the resettlement process. The study highlighted the importance of meaningful engagement with persons affected by evictions in Badia East in Lagos, Nigeria. The authors showed that meaningful engagement with affected persons before an eviction occurs can mitigate human rights violations. The study emphasised the importance of engaging affected communities before land acquisition or eviction programmes.

In summary, efforts have been made to examine the activities of the government from different perspectives. However, earlier studies have not examined the adverse effects and the challenges faced by resettlers whose land is acquired for public interest. This study seeks to fill the identified gap and provide information that could inform policymakers on the need for inclusivity in land administration in African countries like Nigeria.

3. Methodology

The study adopted a survey research design where data were collected through a structured, closed-ended questionnaire. The questionnaire was administered to landowners/households affected and displaced by the Ibadan inland dry port project at Olorisaoko in the Akinyele Local Government, Ibadan, Oyo State. Records from the Ministry of Land, Housing and Urban Development, and the office of the Surveyor General of Oyo State revealed that 145 displaced landowners/households were earmarked for resettlement in the scheme. From this figure, 43 households, representing 30% of the landowners/households, were sampled. The landowners/households were sampled using the snowballing method because of the difficulty of locating resettlers. A face-to-face, closed-ended questionnaire was used to elicit information

from the 43 resettled landowners. While the first part of the questionnaire addressed the socio-demographic characteristics of the respondents, the second part asked respondents questions on the perception of compliance when dealing with government officials about the land acquisition procedure. The last section focused on the challenges associated with the relocation scheme. Data were analysed using frequency, percentages, mean, standard deviation, and mean ranking.

4. Data presentation and discussion

The data is presented in four sections. The first section considers the socio-demographic characteristics of the landowners/households, while the second section describes the land resettlement procedure. The third section shows the challenges encountered by the landowner/households in the course of resettlement, while the fourth section presents a discussion of the findings.

4.1. Socio-demographic data of landowners

The landowners were asked to indicate their socio-economic characteristics, and their response is represented in Table 1.

Table 1: Socio-demographic characteristics of the respondents

Variables	Frequency	Percentage (%)
Gender		
Male	34	79.1
Female	9	20.9
Academic qualification of the landowner		
SSC	36	83.7
ND	5	11.6
HND/BSc	2	4.7

Table 1 shows that most of the respondents (79.1%) were males, while the remaining (20.9%) were females. Similarly, 83.7% of the respondents had a secondary school certificate (SSC) as their highest certificate. While 11.6% claimed to possess a National Diploma (ND), the remaining 4.7% of them were holders of Higher National Diploma (HND)/BSc. Certificates. The high percentage of respondents with SSC as their highest certificate indicated that a substantial number of landowners had limited formal education. This is expected as the community is situated in the hinterland, occupied mostly by low-income individuals who struggled to obtain land for building owner-occupied houses. In addition, the proportion of landowners/residents who are ND holders and HND/BSc. holders represented a small proportion of the community landowners who understood the benefits of government actions on land resettlement. Overall, these socio-demographic findings highlight the diversity in the socio-economic characteristics of landowners in the community.

4.2. Land resettlement procedure

The landowners in the study area were asked to rate the perception of compliance by government officials with the land resettlement procedure using strictly complied, complied, partially complied, and not complied, as ranking variables. This was rated on a Likert scale of 1-4, and the result is contained in Table 2.

Table 2: Land resettlement procedure according to the landowner in the inland dry port project in Ibadan

Resettlement procedure	Strictly complied	Complied	Partially complied	Not complied
Acquisition Notice	0(0.00)	43(100)	0(0.00)	0(0.00)
Acquisition Gazette	0(0.00)	43(100)	0(0.00)	0(0.00)
Mapping out the affected area	0(0.00)	43(100)	0(0.00)	0(0.00)
Preparing preliminary survey	0(0.00)	43 (100)	0(0.00)	0(0.00)
Reconnaissance survey	0(0.00)	43 (100)	0(0.00)	0(0.00)
Enumeration of affected crops and Valuation of affected buildings	0(0.00)	43 (100)	0(0.00)	0(0.00)
Submission of a power of attorney	0(0.00)	32(74)	10(23)	1(2)
Compensation to affected occupants due compensation	0(0.00)	0(0.00)	34(79)	9(20)
Consultation with affected occupants/community about the resettlement action strategy	0(0.00)	0(0.00)	32(74)	11(25)

Table 2 shows in ranking order that the first action taken was to serve acquisition notice on the landowners at the inland dry port, Akinyele, Ibadan. The notice was to inform them of the intention of the state government to acquire their properties and to communicate the reason for the acquisition and the appropriate means of resettlement to them. In this acquisition, the step complied with the Land Use Act of 1978, which stipulates that the acquisition and resettlement process is incomplete if an acquisition notice is not served to the landowners. Government compliance with this requirement was to follow due process in the acquisition and resettlement of the landowners. The next step after the service of the notice, as required by the law, was for the state government to gazette the acquisition notice. This step was necessary to notify the public of the intention of the state government to acquire the parcel of land, and the purpose of the acquisition, and to serve as a means of passing the information to all the stakeholders. The government complied with the second step as a requirement for the resettlement process to get members of the public informed and convinced of the need for the project. It also served to secure the cooperation of the citizens during the acquisition and resettlement.

The mapping out of the affected area, preparation of the preliminary survey, and reconnaissance survey were done consecutively to ascertain the size of the land portion. These were necessary to determine the land area and to prevent encroachment. The mapping out of the affected area and erecting the boundary beacons were carried out by a government land surveyor who then prepared a preliminary survey of the land showing the terrain, topography, and delineation. The reconnaissance survey was done to inspect the area to identify the type of existing land use in the area and to estimate the number of affected landowners. After the preliminary survey and inspection of the area, all improvements on the land were enumerated and valued based on approved rates. The adopted rates were predetermined by the officials of the Land Ministry. This was an essential step to improve compensation to landowners. A subsequent step taken in the resettlement process was to request all landowners to submit power of attorney. This could be done personally by the landowners or, in some instances, by their representatives, who are usually estate surveying firms. Thereafter, compensation was made by the government to affected landowners through their representative estate surveying firms. The above steps were duly complied with. Compliance with the resettlement procedure was a demonstration of the commitment of the government to fairness and transparency in the land acquisition process. To

finalise the resettlement process, the government representatives arranged a consultation meeting with the affected occupants/community about the resettlement action strategy. This was to enlighten them about the intended steps to be taken. Altogether, the adopted land resettlement procedure allowed for stakeholder participation through the various stages. Their involvement largely minimised potential grievances and ensured a more equitable outcome for the affected individuals.

In addition, the adherence to the established land resettlement procedure demonstrated an orderly and organised process of acquiring land for a large project. This helped to prevent confusion, mitigate potential disputes, and maintain the integrity of the land acquisition process. At the same time, the government's compliance with the land resettlement procedure proved to the public the adherence to the relevant legal requirements and regulations governing land acquisition. By following the established procedure, the project developers confirmed their commitment to upholding legal obligations, which were necessary to avoid any possible legal complications or challenges in the future. While government compliance with the established resettlement process was found to promote a sense of accountability and trust among the project developers, the finding is at variance with Akingbehin et al. (2016) who found government failed to follow the laid down procedure in the acquisition of land responsible for the social crisis that arose from a previous state-owned project in Oyo state.

4.3. Challenges of land resettlement

The landowners in the study area were asked to rate identified challenges based on the extent to which they were affected by the resettlement exercise using strongly disagree, disagree, indifferent, agree, and strongly agree as rating indices on a Likert scale of 1 to 4.

Table 3: Challenges of resettlement

Challenges	Frequency	Percentage	Mean	Std. dev	Rank
Exposure to security and welfare issues	43	100.0	4.56	0.541	1
Loss of livelihood and decreased standard of living	35	81.4	4.45	0.611	2
Loss of shelter and ancestral homes	34	79.1	4.36	0.694	3
Loss of access to communal resources	29	67.4	4.31	0.743	4
Adequacy of compensation	25	58.1	4.27	0.885	5
Short notice of acquisition	20	46.5	4.03	0.916	6

The results in Table 3 show the types of challenges of resettlement in the study area. Exposure to security and welfare issues ranked first at 100%, followed by loss of livelihood and decrease in standard of living at 81.4%, which ranked second. Loss of shelter and ancestral homes ranked third at 79.1%, while loss of access to communal resources such as rangeland and pasture, non-timber forest resources, woodlots for timber, and fuel wood or fishing grounds ranked fourth at 67.4%. With the resettlement scheme, the African culture of communal living was destroyed. Inadequate compensation at 58.1% ranked fifth, and short notice of acquisition at 46.5% ranked last. Overall, the data showed that landowners faced challenges in the resettlement process.

The results indicated that households were mostly exposed to security and welfare issues in their new locations. As newcomers in an unfamiliar environment, many reported feelings like

strangers and experienced several security issues due to the government's compulsory acquisition of their properties. Displaced individuals claimed that they experienced increased vulnerability to crime, loss of social support networks, and a decline in their overall well-being. These outcomes may be attributed to inadequate security measures, social support systems, and access to basic services for the affected communities. The results also showed high rates of loss of livelihood and a decrease in the standard of living among landlords. As the respondents were part of a rural community, they depended on land for farming and related agricultural practices. Respondents also reported that the resettlement process affected their sense of land ownership and deprived them of their source of income. The loss of their land caused a loss of farming jobs, thereby affecting their livelihood, and decreasing their standard of living and affecting their means of survival. Additionally, many villages in the study area ranked third, lost their shelter and ancestral homes, which were spaces for practising their culture and traditional norms.

Furthermore, the results revealed that displaced individuals experienced severe disruptions to their income-generating activities, such as agricultural land, businesses, and employment opportunities. This led to economic instability, poverty, and a decline in their standard of living. This finding aligns with Abebe and Hesselberg (2013), who previously found that inadequate urban redevelopment and resettlement plans were responsible for the loss of lives and livelihood opportunities among relocated households. Another primary challenge associated with resettlement was the loss of shelter and ancestral homes, which disrupted the social and cultural fabric of the affected individuals and communities. This finding is consistent with Getu's (2021) study, which identified the loss of home or shelter as a livelihood risk. Consequently, the loss of ancestral homes diminished their sense of identity, and weakened community cohesion, and a sense of stability.

Furthermore, the resettlement process severely impacted the community's access to communal resources such as rangelands, forests, and fishing grounds, which were vital for sustenance and livelihoods. Their loss contributed to food insecurity, decreased income opportunities, and increased vulnerability. This finding is consistent with Cernea's (1997) findings that outlined key impoverishment risks such as homelessness, food insecurity, loss of access to community property, and community disarticulation. Many respondents considered inadequate compensation a critical issue that they experienced during the resettlement process. The compensation provided for lost assets, such as land, crops, or structures, was perceived to be insufficient and responsible for grievances, disputes, and further impoverishment among affected individuals. This finding aligned with the study from Akujuru and Ruddock (2014), who concluded that inadequate compensation determination rendered agricultural practices unsustainable. They recommended the adoption of valuation methods that reflect adequate compensation sums that are equivalent to market realities to sustain agricultural practices.

Lastly, the respondents identified the short notice given before land acquisition as another significant challenge. With limited time to prepare for relocation, the resettled individuals encountered logistical difficulties, emotional distress, and difficulties in finding suitable alternative housing or business locations. This finding corresponds with that of Isokpan and Durojaye (2018), who highlighted the social consequences of not engaging the affected people before the acquisition and eviction processes.

5. Conclusion and recommendation

The study evaluated the challenges associated with the resettlement of landowners/households for inland dry ports in Ibadan, Nigeria. It employed a snowball sampling method to sample and administer a questionnaire to the affected landowners/households. The findings from the study revealed that the government complied with the land acquisition procedure by issuing a notice to the affected landowners. However, consultation with the affected landowners about the resettlement strategies was partially complied with. The study also discovered that exposure to security and welfare issues was paramount on the list of the challenges faced by the resettled landowners. To help preserve the communal land-holding pattern that existed in the area, the government should integrate cultural heritage sustainability into the resettlement scheme. This would assist in replicating their cultural heritage in any new areas being proposed for resettlement. It will also provide alternative access to resources that were held in common, such as rangeland and pasture, non-timber forest resources, woodlots for timber and fuel wood or fishing grounds. It is recommended that adequate compensation practices be practised. By adopting a market value form of valuation, compensation payments will mitigate the negative impact of receiving inadequate compensation, which reduces their standard of living.

There is also a need for the government to adopt a resettlement practice that has adequate provisions for the resettled community in a new location before they are moved from their original land. It may also be necessary to plan the establishment of a new town, which will be provided with adequate infrastructure and security facilities that will guarantee the security of lives and properties of the dispossessed landowners in the new location. The study also recommends that the government should always take steps that minimise exposure to security and welfare issues and mitigate risks arising from the delay in timely resettlement. The provision of adequate modern security infrastructure will eliminate potential security and welfare threats, which could compromise their standard of living by denying them access to raw materials that they previously had. It is also recommended that sufficient notice of acquisition and resettlement will enable affected individuals to make informed decisions, plan their relocation, and minimise the disruptions caused by the resettlement process.

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Usage of Blockchain Technology in Real Estate Transactions in Lagos State, Nigeria

Oluwasola Stephen Adebisi^{*1} (<https://orcid.org/0009-0007-6336-592X>), Omolola Cecilia Afolabi² (<https://orcid.org/0009-0009-2641-7756>) and Olaniyi Kehinde Olusola³

¹ Department of Estate Management, Joseph Ayo Babalola University, Ikeji-Arakeji, Osun State

² Physical Planning Department, Ekiti State University, Ado-Ekiti, Ekiti State

³ Sola Olaniyi Consulting, Shekinah Plaza, Garki 2, Abuja

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Abstract

The study examined the use of blockchain technology in real estate transactions in Lagos State, Nigeria, by assessing the level of adoption among estate surveying and valuation firms and the factors influencing its adoption. The data for this study were collected through questionnaires administered to estate surveying and valuation firms located on Lagos Island, Lagos State. The questionnaires provided the firms' opinions on the adoption of blockchain technology, their level of awareness of blockchain technology and the factors influencing its adoption. The data analysis revealed that real estate practitioners were very aware of various blockchain applications, including fintech, cryptocurrency, smart contracts, and cross-border transactions, which are useful tools that estate surveyors and valuers can adopt in real estate practice and transactions. Furthermore, the analysis revealed that regulatory challenges, trust issues, and poor internet provision compromise the adoption and usage of blockchain technology in Lagos State. The study recommends frequent sensitisation of members by the Nigerian Institution of Estate Surveyors and Valuers and the creation of an enabling environment by the government, as the use of this emerging technology is facilitated by infrastructure such as regular internet and electricity supply.

Keywords: *assessment, blockchain, blockchain technology, real estate and transaction*

*Corresponding author's email address: osadebisi@jabu.edu.ng

1. Introduction

The real estate market is a specialised market that requires efficiency, safety, transparency, a significant capital outlay, and a high level of risk. Despite the arduous requirements of the real estate market, it remains one of the most secure investment options, with relatively higher returns compared to other options (Bello, 2005). The use of intermediaries, the involvement of a third party for authentication, the associated financial and time costs associated with management, access, and verification of records, the lack of transparency regarding property ownership, and reliance on centralised systems vulnerable to security breaches are just a few of the issues that the real estate industry faces (Ahmad et al., 2021). Furthermore, Corluka & Lindh (2017) observed that numerous inefficiencies within the real estate world result in several unexplainable challenges ranging from problems associated with transparency, liquidity, high transaction costs, personal biases, and slow transaction processes, which trigger economic crises both on a micro and macro level. The volatility and uncertainty present in the real estate world have prompted individual and institutional investors to reassess the means of transacting in the real estate business to ensure the security of their funds and that real estate transactions are free from negative encumbrances (Corluka & Lindh, 2017).

One of the methods used to enhance real estate transactions is through technology, as technological advancements are a significant driver of economic growth. They provide critical support for transformation in all major economic sectors, particularly the financial and industrial sectors (Onipede, 2010). The development of the internet, which has helped to ease and facilitate how we live and operate our enterprises, is a good example of technological advancement. However, when the internet came to Nigeria in the 1990s, the average Nigerian was extremely cautious. This caution persisted until the year 2000 when the millennium bug was allegedly going to crash the computer system (Esharenana, 2005). However, the recent reception of Nigerians towards internet use has garnered massive attention. Ijeh (2021) noted that Nigeria has approximately 136 million internet users, which accounts for 66 percent of the reported population of 205 million as of 2020. Access to the internet has influenced the use of various forms of technological innovations, including blockchain technology, in solving human problems. Singh et al. (2021) described blockchain which encompasses cryptocurrency, bitcoin, tokenisation, and Ethereum as a purely peer-to-peer version of an electronic platform for transactions, eliminating the need for financial institution involvement.

The relevance of blockchain extends beyond serving a transitional role in the real estate industry; it will create a radical change, similar to the revolutionary impact of the Internet in ushering in the digital age. Blockchain technology, as proposed by Levy (2021), offers fifteen premises for its application, one of which includes real estate businesses, thereby justifying the applicability of blockchain to real estate transactions. With the advent of blockchain technology, many of these inefficiencies in real estate transactions could be reduced or eliminated by blockchains, which provide smart contracts that eliminate several chains of third-party involvement in real estate transactions.

The blockchain ledger's immutability can offer a secure environment for the real estate industry. Additionally, blockchain technology expedites background checks and provides concerned parties with access to personal digital keys, which aids in the verification process and reduces the risk of fraud (Ekemode et al., 2019). Despite its inherent benefits, the integration of blockchain technology presents challenges for real estate practitioners working in technology-driven sectors to perform their roles effectively and reliably in serving their clients and the broader public. Property managers must keep up-to-date with technological advancements to

remain relevant in the corporate sector. However, Jimoh et al. (2019) identified the principal challenge associated with blockchain technology is a need for more awareness, especially in sectors other than the financial sector, and an extensive lack of understanding of its functionality. This limited understanding hinders investment and innovation even among real estate practitioners and perpetuates the misconception that blockchain is synonymous with Bitcoin. In the Nigerian context, the limited understanding of blockchain technology hinders its expansion and adoption (Jimoh et al., 2019). To this end, an assessment of the adoption of blockchain technology among real estate practitioners becomes imperative, as some existing studies have emphasised how to successfully integrate blockchain technology into real estate practice, highlighting the benefits derivable from its adoption and application. Hence, the objective of this research work is to assess the use of blockchain technology in real estate transactions in Lagos, Nigeria.

2. Literature Review

In recent times, the significant economic fluctuations and uncertainty surrounding real estate transactions have prompted individual and institutional investors to reassess their methods for transacting in the real estate business, all to ensure the security of their funds (Corluka & Lindh, 2017). As such, real estate professionals are expected to be academically knowledgeable and technologically competent to serve their clients and the public effectively and reliably.

Satoshi Nakamoto, the pseudonymous creator of blockchain technology, described blockchain as a pure peer-to-peer version of an electronic platform for transactions without the involvement of a financial institution. It is also known as a distributed ledger that enables the creation of unchangeable and immutable records of transactions accessible to all stakeholders, which are irreversible and time-stamped on its network. A blockchain structure would eliminate the need for paper records, which are susceptible to natural disasters, theft, and mishandling.

Tangsakul and Sureeyatanapas (2024) examined the critical barriers to the adoption of blockchain technology within a logistics context. Utilising Interpretive Structural Modelling (ISM) and MICMAC methods, the study investigated the interrelationships among the significant barriers. The results highlight seven significant barriers within the logistics sector: lack of government support, operational standards, top management support, limited public awareness, trust issues, technical challenges, and difficulties in network collaboration. Notably, the lack of public awareness and inadequate governmental support form fundamental obstacles that drive various challenges. In turn, this study aims to examine the barriers to the adoption of blockchain technology in Nigeria's real estate sector.

Owarigbo and Onah (2023) assessed the level of awareness and application of blockchain technology among librarians for effective service delivery in University Libraries in the South-South region of Nigeria. A descriptive survey design was adopted for the study. The study population consisted of 643 librarians from 10 federal and state-owned universities in South-South Nigeria. A sample of 495 librarians was selected using a multistage sampling technique. An online questionnaire was used for data collection, which was shared via the state WhatsApp group. The data collected were analysed using mean and standard deviation. Of relevance to this research study, the findings showed that the majority of librarians studied have a low level of awareness of blockchain technology and needed further training in implementing it.

Ahmad et al. (2020) investigated the impact of a decentralised blockchain platform on real estate management. This research carefully analysed the management aspect of real estate transactions and their attendant issues, some of which are fraud-related, lengthy administrative processes, and verification problems. However, as this study was carried out in another country, it is thus imperative to weigh out what is obtainable within the Nigerian system.

Academicians in Nigeria have also researched the prospects of blockchain technology in the national context and explored the process of public education initiatives regarding this rapidly evolving technology. Jimoh et al. (2019) examined the adoption of blockchain technology in Nigeria, highlighting its relevance to developing economies. The study identified the possible challenges and limitations to implementation, including technical, governance, conceptual, cost, and educational aspects. However, the scope of the study was limited by the adoption of blockchain technology in government establishments and governance without recourse to other industries within the economy, such as the real estate industry. This omission is the gap this study intends to fill.

In Lagos, Nigeria, the current property transfer process requires buyers and sellers to register their property deeds at the Land Registry within the Ministry of Lands, located at the Lagos State Secretariat, Alausa. However, with the use of blockchain technology, once the administration initiates the authentication process and the transaction is verified, ownership is transferred instantly, and the system records this change. This technological revolution is already underway in areas such as India, Dubai, Brazil, and certain parts of Sweden, where past fraudulent acts have compelled governing entities to develop blockchain networks for land title recording. Lantmäteriet et al. (2016) stated that Sweden's land registry has been experimenting with and implementing blockchain to record property transactions since June 2016. Although Torres and Brann (2019) noted that it is essential to acknowledge that some applications of blockchain are still theoretical in terms of real-world applicability, while others have been deployed for implementation in various parts of the economy.

3. Methodology

A quantitative research methodology was used in the study, focusing on a field survey among members of Lagos Island's estate surveying and valuation firms. The firms were targeted based on their official registration with the Nigerian Institution of Estate Surveyors and Valuers (NIESV), Lagos State chapter, and the Estate Surveyors and Valuers Registration Board of Nigeria (ESVARBON). The most senior estate surveyor and valuer from each firm was selected as the respondent. According to the 2022 NIESV Directory, Lagos Island has 112 estate surveying and valuation firms; thus, a total enumeration survey was adopted to ensure comprehensive data collection. Structured questionnaires were designed and administered to gather information about respondents' adoption of blockchain technology in real estate transactions and the factors influencing its use. The questionnaire was completed by 106 of the 112 estate surveying and valuation firms surveyed, representing a response rate of 94,6%. The high retrieval rate indicates a high degree of responsiveness, providing a solid foundation for further research. Weighted mean score and factor analysis were used to examine the data provided by the respondents.

4. Data analysis and discussion of results

This section of the study presents the analysis and discussion of data collected through copies of the questionnaires administered to estate surveying and valuation firms in the Lagos Island area of Lagos State. It evaluated the level of adoption of blockchain technology in real estate transactions in Lagos State, Nigeria, and the medium through which the respondents, estate surveyors and valuers, learned about it. In addition, it examined the key factors influencing the adoption and utilisation of blockchain technology, as well as the potential opportunities offered in its application in real estate transactions in the study area.

4.1. Assessment of the level of adoption of blockchain technology in Lagos State, Nigeria

To assess the level of adoption of blockchain technology in real estate transactions in Lagos State, estate surveying and valuation firms were asked to rate the level of adoption of 14 blockchain applications on a scale of 1-5, representing very low to very high. Responses were subjected to frequency distribution and weighted mean score analysis, and the results are presented in Table 1.

Respondent estate surveying and valuation firms were asked to rate their level of adoption of blockchain technology on a scale of 1-5, where 1 represents Very low to 5 represents Very high. Responses were analysed using weighted mean scores, and the results are presented in Table 1.

Table 1: Level of adoption of blockchain technology by estate surveying and valuation firms

Blockchain application	VL (1)	L (2)	A (3)	H (4)	VH (5)	WMS	Rank
Fintech	1	11	14	4	75	4.31	1 st
Cryptocurrency	13	12	25	25	31	4.09	2 nd
Smart contract	13	12	25	25	31	3.46	3 rd
Cross-border transaction	11	12	36	21	26	3.37	4 th
Internet of Things (IoT)	1	23	47	13	22	3.3	5 th
Anti-money laundering tracking system	18	10	19	44	15	3.26	6 th
Microlending payment network	5	18	57	16	10	3.08	7 th
Real estate processing platform	19	25	17	25	20	3.02	8 th
Tokenisation	27	22	11	26	20	2.91	9 th
Personal identity security	19	43	15	5	24	2.74	10 th
Property ownership transfer	15	42	22	19	8	2.65	11 th
Financial data recording and management	14	37	38	9	8	2.62	12 th
Wills and inheritances	35	21	18	22	10	2.54	13 th

Supply chain management	18	56	21	10	1	2.25	14 th
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VL – Very Low, L – Low, A – Average, H- High and VH – Very High

Source: Field Survey (2023)

Results from Table 1 revealed the perception of the estate surveying and valuation firms on the level of adoption of blockchain technology. Fintech, cryptocurrency, smart contracts, and cross-border transactions ranked 1st, 2nd, 3rd, and 4th with mean scores of 4.31, 4.09, 3.46, and 3.37, respectively. The areas of application of blockchain technologies that the estate surveying and valuation firms perceived to be least adopted are personal identity security, property ownership transfer, financial data recording and management, wills and inheritances, and supply chain management, which ranked 10th, 11th, 12th, 13th, and 14th, with mean scores of 2.74, 2.65, 2.62, 2.54 and 2.25 respectively. The perceived level of adoption of blockchain technology by estate surveying and valuation firms suggests the inherent benefits of using blockchain technology in real estate transactions. This study aligns with the submission by Corluka and Lindh (2017). They argued that blockchain has the potential to alter the real estate sector and reduce inefficiencies fundamentally. Due to lower transaction costs, inefficiencies such as personal biases can be addressed and remedied, leading to a more liquid market.

4.2. Awareness of Blockchain Applications

Respondent estate surveying and valuation firms were asked to rate the means through which they found out about blockchain technology on a scale of 1-5, where 1 represents Not at all to 5 representing Very large extent. Responses were analysed using weighted mean scores, and the results are presented in Table 2.

Table 2: Awareness of blockchain technologies by estate surveying and valuation firms

Medium of awareness	NA (1)	SE (2)	ME (3)	LA (4)	VLE (5)	WMS	Rank
Internet	8	1	15	15	67	4.25	1 st
Print Media	3	0	23	37	43	4.1	2 nd
Social media	4	15	21	8	58	3.95	3 rd
Television and radio programs	9	6	31	25	35	3.67	4 th
Mandatory Continuing Professional Development (MCPD)	15	30	13	9	39	3.25	5 th
Seminars/conferences	4	24	46	9	23	3.22	6 th
NIESV Website	10	33	39	15	9	2.81	7 th
Awareness campaigns	43	17	12	19	15	2.49	8 th
Pre-Sensitization tours	39	27	12	20	8	2.35	9 th
Organised excursions	50	22	8	15	11	2.2	10 th

NA – Not at all, SE – Small extent, ME – Moderate extent, LA – Large extent and VLE – Very large extent

Source: Field Survey (2023)

Results from Table 2 showed that most estate surveying and valuation firms discovered blockchain technology through the internet, print media, and social media; with the internet

being the most common source, ranked 1st, followed by print media (ranked second) and social media (ranked third), with mean scores of 4.25, 4.1, and 3.95, respectively. The medium through which estate surveyors and valuers became least aware of blockchain technology was through awareness campaigns, pre-sensitisation tours, and organised excursions, which ranked 8th, 9th, and 10th, with mean scores of 2.49, 2.35, and 2.2, respectively. This emphasises the complementary roles of the internet, print, and social media in enhancing awareness and understanding of blockchain. The Internet offers a dynamic and participatory platform for mass education, while print media gives authoritative insights to a more conventional audience. Social media enables reaching millions in minutes, keeping people informed in real time. These communication platforms help make blockchain technology widely known, enabling people and companies to tap into its potential.

4.3 Factors influencing the adoption of blockchain technology in the study area

Respondent estate surveying and valuation firms were asked to rate the factors influencing the usage and adoption of blockchain technology using a 5-point Likert scale, ranging from 1 (Indifferent) to 5 (Strongly agree). The results of the analysis are presented in Table 3.

Table 3: Factors influencing the adoption and usage of blockchain technology by estate surveying and valuation firms

Factors	I	SD	D	A	SA	WMS	Rank
Regulatory Challenge	8	1	15	15	67	4.25	1 st
Trust Issues	7	10	14	25	50	3.95	2 nd
Poor Internet Provision	7	10	14	25	50	3.95	3 rd
Volatility and Market Risks	0	11	31	30	34	3.82	4 th
Integration	13	17	0	25	51	3.79	5 th
Conceptual factor	13	17	0	25	51	3.79	6 th
Complexities and Dependencies	22	7	22	29	26	3.28	7 th
The decision of the firm	15	30	13	9	39	3.25	8 th
Data quality	19	20	15	24	28	3.21	9 th
Access to the credit facility	9	24	39	8	26	3.17	10 th
Infrastructure	37	6	9	33	21	2.95	11 th
Cost implications	25	23	20	19	19	2.85	12 th
Poor Investment in research	25	23	20	19	19	2.85	13 th
Privacy	50	22	8	15	11	2.2	14 th
Availability of trained personnel	50	22	8	15	11	2.2	15 th

I – Indifferent, SD – Strongly Disagree, D - Disagree, A- Agree, and SA – Strongly Agree

Source: Field Survey (2023)

Table 3's results demonstrated that the most significant factors influencing the adoption and use of blockchain technology by estate surveying and valuation firms are regulatory challenges,

trust issues, poor internet provision, volatility and market risks, and trust integration, validating the study of Tangsakul and Sureeyatanapas (2024). These factors ranked first, second, third, fourth, and fifth, respectively, with mean scores of 4.25, 3.95, 3.95, 3.82, and 3.79. The absence of clear regulations governing blockchain technology creates compliance and legal uncertainties, which can deter firms from adopting or integrating such innovations. Scepticism among stakeholders who are unfamiliar with the technology can lead to concerns about data security, potential fraud, and the irreversibility of blockchain transactions; thereby hindering trust among estate surveying and valuation firms. Additionally, in Nigeria, where internet infrastructure is inadequate, estate surveying and valuation firms may struggle to implement and utilise blockchain effectively, resulting in operational inefficiencies and increased costs.

The data in Table 3 also showed that infrastructure, cost implications, inadequate research investment, privacy concerns, and the availability of trained personnel are the least significant factors affecting the adoption and use of blockchain technologies. These factors ranked 11th, 12th, 13th, 14th, and 15th, respectively, with mean scores of 2.95, 2.85, 2.85, 2.2, and 2.2. Given the stronger focus on data reduction, the variables were subjected to further analysis using factor analysis. The most senior estate surveyors and valuers from 106 estate surveying and valuation firms provided the data for analysis. Tables 4, 5, and 6 present the findings of the analysis, respectively.

Table 4: KMO measure of sampling adequacy and Bartlett's test of sphericity

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.621
Bartlett's Test of Sphericity	Approx. Chi-Square	1283.814
	Df	300
	Sig.	.000

Source: Field Survey (2023)

The result of the Kaiser-Meyer-Olkin (KMO) adequacy test in Table 4 revealed a KMO value of 0.621, which implies an “adequate” degree of common variance (Field, 2018) and exceeds the minimum threshold of 0.60 as indicated by Norusis (1993). This study also employed Bartlett's test of sphericity (BTS) to examine the suitability of the Principal Component Analysis (PCA) for factor extraction (Field, 2018). The BTS test yielded a Chi-square value of 1283.814 and a minimal significance value ($p = 0.000$, $df = 300$), indicating, as Chan (2013) identified, that the correlation matrix is not an identity matrix. Given the above, the research data met the prerequisites; hence, factor analysis could be carried out with reliability.

Table 5: Communalities of factors influencing the adoption and usage of blockchain technology

Factors	Initial	Extraction
Conceptual factor	1	0.971
Regulatory Challenge	1	0.947
Poor Internet Provision	1	0.884
Trust Issues	1	0.848
Complexities and Dependencies	1	0.778
Volatility and Market Risks	1	0.745
Privacy	1	0.971
Infrastructure	1	0.947
Data quality	1	0.873
Integration	1	0.587
Poor Investment in research	1	0.884
Cost implications	1	0.848
Access to a credit facility	1	0.746
The decision of the firm	1	0.669
Availability of trained personnel	1	0.667

Source: Field Survey (2023)

Table 5 shows that the majority of commonalities exceed 0.70, indicating that the sample is sufficient for factor analysis (Field, 2018).

Table 6: Total variance explained by factors influencing the adoption and usage of blockchain technology

Component	Initial eigenvalues			Extraction of sums of squared loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	4.635	30.897	30.897	4.635	30.897	30.897
2	2.567	17.114	48.011	2.567	17.114	48.011
3	2.23	14.864	62.875	2.23	14.864	62.875
4	1.641	10.942	73.817	1.641	10.942	73.817
5	1.292	8.611	82.428	1.292	8.611	82.428
6	0.901	6.01	88.438			
7	0.603	4.02	92.458			
8	0.471	3.143	95.601			
9	0.433	2.231	97.832			
10	0.387	1.512	99.344			
11	0.373	1.734	100			
12	0.347	1.549	100			
13	0.296	1.49	100			
14	0.24	1.389	100			
15	0.205	1.185	100			

Source: Field Survey (2023)

The eigenvalues corresponding to each factor component are presented in Table 6, both before and after extraction and rotation. Fifteen linear components (services) were identified in the dataset before extraction. The variance explained by the linear arrangement, expressed as a percentage of variation explained, is represented by the eigenvalues corresponding to each factor. The table also demonstrates that five components with a minimum variance of 8.611 were retrieved. A cumulative total squared loading of 82.428% was achieved by clustering the services, indicating the factors that impact the adoption and utilisation of blockchain technology in the study area across the five components. This indicates that the five components represent 82.428% of the characteristics of the 15 factors. Consequently, the cumulative effect of the five extracted components explains 82.428% of the total variation of factors influencing the adoption and usage of blockchain technology in the study area. Therefore, the five components identified should be the focus of efforts to determine the factors influencing the adoption and usage of blockchain technology in the study area.

Table 7: Rotated component matrix of factors influencing the adoption and usage of blockchain technology

	Component				
	1	2	3	4	5
Infrastructure	0.465				
Poor Internet Provision	0.838				
Complexities and Dependencies	0.566				
Regulatory Challenge		0.465			
Access to a credit facility		0.546			
Poor Investment in research		0.838			
Conceptual factor			0.694		
Availability of trained personnel			0.475		
The decision of the firm			0.444		
Trust Issues				0.578	
Volatility and Market Risks				0.465	
Data quality				0.644	
Privacy					0.694
Integration					0.594
<u>Cost implications</u>					<u>0.578</u>

Source: Field Survey (2023)

Table 7 presents the factor loadings influencing the adoption and usage of blockchain technology in the study area, grouped into five principal components. Factor loadings less than 0.4 were suppressed to ensure an accurate and quality interpretation of the obtained results, consistent with Field's (2013) recommendation to suppress factor loadings of less than 0.3 and Guadagnoli and Velicer's (1988) assertion that scores greater than 0.4 are considered stable. The figures in the table represent the correlation between each variable and its respective components, with values ranging from 0 to 1. The higher the variable loading, the closer the variable is correlated with the component in question. Positive values indicate direct relationships, while negative values represent inverse relationships. These correlations help identify the most significant factors influencing the adoption of blockchain technology. Hence, the most significant factors influencing the adoption of blockchain technology are poor internet provision, poor investment in research, conceptual factor, privacy and data quality, with

correlation matrix of 0.838, 0.838, 0.694, 0.694 and 0.644, respectively, validating the findings of Tangsakul and Sureeyatanapas (2024).

Table 8: Cluster grouping of factors influencing the adoption and usage of blockchain technology

Cluster groupings	Communalities	Factor loadings	Eigenvalues	Variance (%)
Factors related to the lack of infrastructural facilities				
Infrastructure	0.947	0.465	4.635	30.897
Poor internet provision	0.884	0.838		
Complexities and dependencies	0.778	0.566		
Factors related to government policies and regulations				
Regulatory challenge	0.947	0.465	2.567	17.114
Access to a credit facility	0.746	0.546		
Poor investment in research	0.884	0.838		
Factors related to inadequate technical know-how				
Conceptual factor	0.971	0.694	2.23	14.864
Availability of trained personnel	0.667	0.475		
The decision of the firm	0.669	0.444		
Factors related to uncertainty				
Trust Issues	0.848	0.578	1.641	10.942
Volatility and market risks	0.745	0.465		
Data quality	0.873	0.644		
Security factors				
Privacy	0.971	0.694	1.292	8.611
Integration	0.587	0.594		
Cost implications	0.848	0.578		
Total variance				82.428

Source: Field Survey (2023)

The analysis of the factors influencing the adoption and usage of blockchain technology in Lagos State, Nigeria, yielded five distinct factors (presented in Table 8). Factor 1, labelled “lack of infrastructural facilities”, encompasses infrastructure, poor internet provision, and complexities and dependencies. These factors have high factor loadings, indicating they strongly influence the usage and adoption of blockchain technology in real estate transactions. The implication is that inadequate infrastructure and poor internet connectivity hinder the adoption of this technology in real estate transactions in Lagos State. Hence, addressing these infrastructural challenges is critical for leveraging blockchain’s potential to enhance transparency, security, and efficiency in real estate transactions in Lagos State. The eigenvalue for this cluster is 4.635, representing 30.897% of the total variance in the factors influencing the usage and adoption of blockchain technology in the study area.

Factor 2, considered as “government policies and regulations,” consists of regulatory challenges, access to credit facilities, and poor investment in research. These factors have high factor loadings, indicating that they influence the usage and adoption of blockchain technology

in real estate transactions in Lagos State, with a variance of 17.114%. Hence, for blockchain to be effectively adopted in Nigeria, the federal government has a crucial role to play, which includes enacting an enabling law to foster its adoption, among other measures. Agbakoba (2021) supports this perspective, arguing that the regulatory challenge surrounding blockchain stems from an inadequate knowledge about the technology and proposes enhanced awareness at all governmental levels to comprehend the emerging technology.

Factor 3 categorised “inadequate technical know-how” incorporates the conceptual factor, availability of trained personnel, and the firm's decision, with a total variance of 14.864%. Addressing both inadequate technical know-how and uncertainty is crucial for improving operational efficiency, reducing risks, and enabling better strategic decision-making.

Factor 4, labelled “uncertainty”, comprises variables related to trust issues, volatility, market risks, and data quality that account for a total variance of 10.942%. Factor 5 labelled “security,” includes privacy, integration, and cost implications, contributing 8.611% to the total variance. This suggests that one of the factors influencing the usage and adoption of blockchain technology is security. Lantmäteriet et al. (2016) found that blockchain technology significantly enhances security by minimising the risk of fraudulent possibilities and document loss, thereby leading to a faster and more secure transaction process.

4.4 The prospects of blockchain technology for real estate practice in the study area

The respondent estate surveying and valuation firms were asked to rate the potential contributions of blockchain technology to real estate transactions using a Likert scale ranging from 1-5, where 1 represents Indifferent and 5 represents Strongly Agree. Responses were analysed using weighted mean scores, and the results are presented in Table 9.

Table 9: Prospect of blockchain technology for real estate practice in Lagos State by estate surveying and valuation firms

The prospect of blockchain technology	I (1)	SD (2)	D (3)	A (4)	SA (5)	WMS	Rank
Standardised property data/ data bank	5	9	17	17	62	4.11	1 st
Means of payment, especially on cross-border transactions / real estate finance	7	10	14	25	50	3.95	2 nd
Blockchain technology reduces fraud and streamlines the title search process.	0	11	31	30	34	3.82	3 rd
Marketing of vacant properties	14	10	8	23	51	3.82	4 th
Expedite pre-lease due diligence in residential and commercial property transactions	13	17	0	25	51	3.79	5 th
Simplified property management process	22	7	22	29	26	3.28	6 th

by introducing smart contracts							
Aid facility management	19	20	15	9	28	3.21	7 th
Aid asset management	9	24	39	8	26	3.17	8 th
Aid land registration	19	25	18	20	24	3.05	9 th
Aid feasibility and viability appraisal	14	19	37	24	12	3.01	10 th
Aid real estate development	37	6	9	33	21	2.95	11 th
Token securitisation	25	23	20	19	19	2.85	12 th

I – Indifferent, SD – Strongly Disagree, D - Disagree, A- Agree, and SA – Strongly Agree

Source: Field Survey (2023)

Results from Table 9 revealed that the majority of the estate surveying and valuation firms in the study area ranked standardised property data/data bank, means of payments, especially on cross-border transactions/real estate finance; blockchain technology reduces fraud and streamlines title search process and marketing of vacant properties as 1st, 2nd, 3rd and 4th of the possible prospects of blockchain technology with mean scores of 4.11, 3.95, 3.82 and 3.82 respectively. Land registration, feasibility and viability appraisal, real estate development, and token securitisation were the least ranked with mean scores of 3.05, 3.01, 2.95, and 2.85. This finding demonstrates that blockchain technology could facilitate the creation of a standardised data bank for all real estate stakeholders, thus serving as a reference point for property information. Furthermore, it will enhance the payment process during real estate transactions without requiring a visit to another entity, which in turn will lead to a high level of privacy for real estate data. These findings corroborate the study by Rawat et al. (2020), which posited that blockchain technology can be applied in various sectors, including real estate, finance, insurance claims and payments, global payments, and cryptocurrency.

5. Conclusion and recommendations

This study examined the usage of blockchain technology in real estate transactions in Lagos State, Nigeria, to assess its level of adoption and inherent prospects. The study revealed the potential benefits of utilising blockchain technology in real estate transactions within the region. Blockchain technology adoption can create a standardised data bank from which information relating to properties can be inferred, among other benefits, in the real estate business. The study further identified regulatory challenges, trust issues, inadequate internet provision, volatility, market risks, and conceptual factors that significantly influence the use and adoption of blockchain technology in the area.

In light of the findings above, the Nigerian government should create an enabling environment through policy formulation, implementation, and operation that facilitates the use and adoption of blockchain technology. This would improve service providers' internet performance, thereby improving speed and reducing costs. Additionally, fostering an enabling environment would enhance the power supply, thus improving the efficiency of blockchain technology usage. This would further promote the platform, allowing more individuals to engage with this rapidly growing technology in the country.

The Nigerian Institution of Estate Surveyors and Valuers should create a platform to educate and further train its members on the application of blockchain technology in their daily activities, ensuring they remain on par with their colleagues worldwide. This will streamline the demanding daily transaction processes. Furthermore, the Nigerian Institution of Estate Surveyors and Valuers should collaborate with the Departments of Estate Management at higher educational institutions on research regarding the application of blockchain technology in real estate practice.

Despite the relevance and timeliness of this research, the following limitations were encountered in the course of the study:

- i. The study employed a relatively small sample size, which may not adequately represent the entire real estate ecosystem in Nigeria. This limitation affects the generalisability of the findings to a broader population within Nigeria.
- ii. Some of the Estate Surveying and Valuation firms were unwilling to share information due to confidentiality concerns, despite several assurances given.

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Analysing Students' Participation Behaviour in Professional Associations in Tanzania: The Case of Undergraduate Real Estate Students at Ardhi University

Auxanus Cornel Chambulila^{*1} (<https://orcid.org/0009-0000-7659-6064>) and Maulidi Abdallah Banyani² (<https://orcid.org/0009-0009-8707-6262>)

^{1 2} Department of Land Management and Valuation, Ardhi University, Dar es Salaam, Tanzania

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Abstract

Organisations grow organically to maturity, but if concerted efforts are not initiated to preserve the status quo, there is a danger of decline. Professional associations are required to prepare and implement succession plans for their longevity and sustainability. It has been observed that the participation of students in professional associations in Africa, particularly Tanzania, is declining. This study analysed the extent of undergraduate students' awareness, interest and participation in Real Estate Professional Associations (REPAs) in Tanzania. A quantitative approach was deployed in this study, adopting a Likert scale as a data collection method. The data collection technique yielded a response rate of 98% of the 266 respondents. The study has observed that only 1% of the undergraduate students at Ardhi University participate in the REPAs. The study analysed the relationship between students' awareness, interest and participation in REPAs using descriptive and inferential statistics. The results indicated that there is no direct relationship between the intention and participation of the students in the organisations. It also revealed that there is a mismatch between students' expectations and the services provided by the associations. Students expect the REPAs to provide direct connections to internships and graduate recruitment opportunities, which is not the case. Furthermore, the study established a lack of engagement and direct communication between REPAs and students, which limits students' motivation. The study concluded that there is a need for increased engagement and collaboration activities between REPAs, higher learning institutions offering real estate programmes and students through outreach programs and sponsorships for students to participate in annual events of REPAs. Furthermore, REPAs should coordinate with their

^{*}Corresponding author email address: anxanusc@gmail.com

corporate members to select the best-performing students for mentorship and internship programmes immediately after graduation.

Keywords: *planned behaviour theory, Real Estate Professional Associations, participation, mentorships, undergraduate*

1. Introduction

Over the past 20 years, the number of students enrolled in real estate courses in Tanzania has expanded substantially, but this is not reflected in their participation in the Association of Real Estate Professionals in Tanzania (AREPTA), which is the sole real estate professional association in the country. Evidence from Ardh University Facts and Figures shows that the courses in Land Management and Valuation (LMV), Real Estate Finance and Investment (REFI) and Property and Facilities Management (PFM) together have 852 students compared to between 60 and 120 in the early and mid-2000s. There is a limited number of active students in the AREPTA. The current situation is different from that of the late 1990s and early to mid-2000s when the Tanzania Institution of Valuers and Estate Agents (TIVEA), the predecessor of AREPTA, was in operation. Data from various sources have shown that around 38% of the members in the early years of TIVEA were students who actively volunteered and held roles in the association, and some became leaders later. It has also been observed currently that the official number of members ($n=244$)¹ is divided into three categories: fellows ($n=56$), associates ($n=156$) and students ($n=38$). The distribution indicates that the current number of student members is 16%. This raises the question of what the reasons are for the non-participation of students in the real estate professional associations (REPAs) in Tanzania.

Although academic institutions play a leading role in equipping new practitioners with the necessary knowledge and skills for their professional practice, Real Estate Professional Associations (REPAs) have emerged as a valuable alternative for developing professionalism among these individuals. For example, the Royal Institution of Chartered Surveyors (RICS) is dedicated to maintaining professional standards and regulations within the built environment and offering qualifications through training. In Africa, the African Real Estate Society (AfRES) has an important role in promoting the real estate profession and facilitating knowledge exchange across the continent. The society organises conferences and workshops, providing platforms for professionals to network, share expertise and stay updated on the latest developments in African real estate. AfRES also publishes research papers in conference proceedings and journals to contribute to the body of knowledge in the field (AfRES, 2020). Locally, Tanzania has the Association of Real Estate Professionals in Tanzania (AREPTA). AREPTA encompasses various disciplines within the sector, including valuation, land administration, real estate finance and investment, and property and facilities management (AREPTA, 2020). AfRES and AREPTA are two prominent REPAs in Tanzania that undergraduate real estate students can join and participate as members through student chapters to gain the benefits of socialisation. Kicherova et al. (2015) and Yakushko et al. (2012) emphasise that engagement in professional associations enhances students' capacity to provide exceptional services in their given professions as it increases their industrial awareness and professional identity through socialisation with other practitioners in their countries and beyond.

¹ This data is available at www.arepta.or.tz. However, the website data seems to include information lastly updated in 2019.

Researchers such as Michael et al. (2017), Warren and Wilkinson (2008), Simon and Grossman (2017), and Holm et al. (2020) have identified the benefits of student participation in associations, including professional growth and networking. In Michael et al. (2017), students acknowledged enhanced networking opportunities, access to industry resources and exposure to real-world experiences as key benefits. Warren and Wilkinson (2008) shared that students perceived REPAs as valuable platforms for knowledge exchange, professional recognition and career advancement. In the same vein, Simon and Grossman (2017) and Holm et al. (2020) highlighted the importance of mentorship and guidance from experienced professionals within the associations as a source of invaluable support in career development and skill enhancement. These advantages, which were observed in other professions, are likely to be equally applicable to students in real estate as they navigate their educational and professional journeys.

The decline and limited participation of students in REPAs have also been observed by Wilkinson and Reed (2010) and Akinsomi et al. (2020); wherein the surge in real estate programs and students' enrolment were expected to translate into increased associations' memberships as students would want to enjoy the benefits of professional socialisation. Without the effective participation of students, the sustainability of these associations is at stake. Warren and Wilkinson (2008: 8) revealed that "not knowing how to get involved", "not being invited", and "lack of institutional support" were the top challenges that hindered students from participating in activities of their respective professional associations. Seaman (2020: 57) pointed out that "lack of time, lack of financial resources and fear of failure" were other hurdles towards participation. Seaman (2020: 68) concluded that participants preferred to wait until completing their programmes as they were concerned about the "potential embarrassment caused by academic underperformance" while belonging to an association. The structure of the professional associations and students' perceived career focus have also been identified as having a negative impact on participation. Michael et al. (2017) pointed out that the perceived disconnect between the association's focus and the participants' career goals also challenged the students' participation.

As such, this research was conducted in Tanzania to elucidate evidence on real estate students' participation in REPAs. It recognises that students' motivations for participating in professional associations vary across time and geographical contexts, as observed by Wilkinson and Reed (2010), thereby limiting the applicability of findings from one setting to another. In their comparative study conducted across four different countries, Wilkinson and Reed (2010) revealed that students' perspectives on professional associations differ due to several factors, including their country of residence. It was observed, for example, that the number of students in the annual meetings organised with AREPTA was declining. This again raised the same question of why the students are not participating in REPAs in Tanzania. Therefore, the objective of this research was to analyse undergraduate students' behaviour in participating in REPAs in Tanzania, drawing inferences from the findings from the Land Management and Valuation and Business Studies departments at Ardhi University as a case study.

2. Literature review

Participation in a social organisation like REPAs can best be explained by the Theory of Planned Behaviour (TPB), developed by Ajzen to understand and predict human behaviour (Ajzen, 1991). It posits that actors are rational and make decisions in a specific pattern. The theory is founded on the reasoning that behaviours are influenced by intentions, which are determined by attitudes, subjective norms and perceived behavioural control. The theory claims that behavioural intention is the most important motivating factor that influences

behaviour. This position has been explained by Asare (2015: 47) that “the stronger the intention to engage in a given behaviour, the more likely it is to perform the behaviour”. Intentions are essential in initiating, supporting and even terminating actionable behaviour. It is conceived that intentions are generated largely by the awareness of the actor of specific behaviour and its benefits. The more aware the actor is, the more intent to act will become.

Attitude towards behaviour is the extent to which an actor holds against or for the behaviour; it could be positive or negative depending on individual assessment. Asare (2015) related attitude to belief and outcome assessments. Another component of the framework is subjective norm, which is a cohesive social pressure to either perform or not perform the behaviour. This involves the support or expectations of others for the actor’s actions or actions over a specific behaviour. Perceived behaviour is another important aspect of the theory as it focuses on the actor’s perception of the capabilities of performing the behaviour. It defines how easy or difficult it is to engage in a behaviour (Asare, 2015).

The research focused on understanding the participation behaviour of undergraduate students in REPAs in Tanzania based on TPB. The conceptual framework (Figure 1) suggests that students are likely to develop intention and participate in REPAs if they have favourable attitudes, positive subjective norms and the can-do behaviour resulting from perceived behaviour and influence on control belief. The participation pattern is assessed based on four components as depicted in Figure 1.

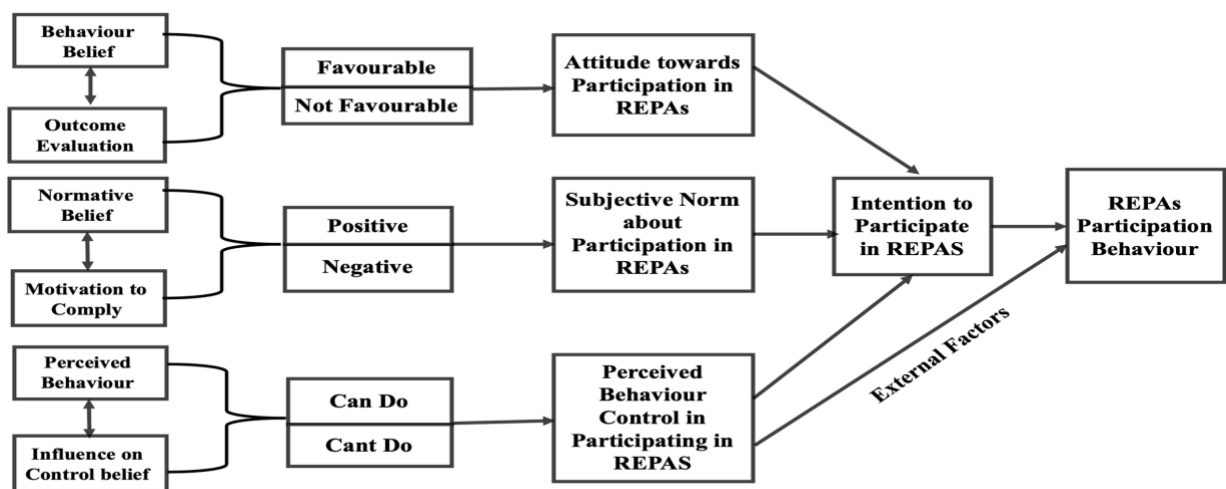


Figure 1: Conceptual framework

Source: Adapted from Asare (2015, p.44)

The first component is the students’ attitudes towards participation in REPAs, which are influenced by behaviour, belief and outcome evaluation. Students’ behaviour, beliefs and outcome evaluation are, in a way, influenced by the level of awareness about the existence and benefits of REPAs. The more aware the student is, the easier it is to develop intention and participate. The degree of awareness may vary depending on the number of years the student has spent at university. It is anticipated that first and second-year students may have little exposure compared to those in the third and fourth year of study. The research, therefore, assessed students’ awareness about the existence, purposes, activities, and resources offered by REPAs in understanding their attitudes towards participation.

The second component is a social factor based on subjective norms resulting from normative beliefs and motivation to comply (participate) in students' decisions to participate in REPAs. This includes influence from peers, faculty members and the association. These factors recognise the impact these groups of individuals have in shaping a student's attitude that leads to participation. These individuals can provide information, encouragement, or support for involvement in REPAs, thereby influencing students' decisions. An integrated effort from these stakeholders is expected to have a positive impact on students' participation but a silo approach negatively impacts participation.

The third component of the conceptual framework is perceived behaviour control. This component explores the benefits students may perceive to be attached to their involvement in REPAs, such as networking opportunities, professional development, access to industry resources and enhanced career prospects. It also acknowledges the barriers students may perceive, such as time constraints, financial costs, lack of awareness and conflicting priorities.

The fourth component, intention to participate, represents students' willingness and intention to engage in REPAs activities. The intention of students to participate in the REPAs, therefore, is the result of a positive evaluation of three components forming the core of TPB theory, which are attitude, subjective norm, and perceived behaviour control. It is postulated in the TPB that students will be willing to participate in the activities or organisations if all three components are beneficial or evaluated positively. Intentions play a crucial role as they bridge the gap between the input causes and actual participation. Finally, the last component is participation in REPAs. This component refers to the actual involvement of undergraduate students in REPAs. It encompasses various forms of engagement, including membership, attending meetings, joining committees, participating in events, or taking leadership roles within the association. For this study, participation was assessed through membership (Wilkinson and Reed, 2010; Seaman, 2020). Focusing on membership was seen as relevant and manageable, as it is the foundational form of participation that establishes a direct connection between the student and the association.

It was examined that research on students' behaviour towards participating in professional associations has been conducted in different disciplines, such as health (Asare, 2015), business and management (Wilkinson and Reed, 2010; Seaman, 2020). However, studies in real estate are still scant. Existing studies have focused mainly on graduate students rather than the foundation level of professionalism, which is undergraduate (see, for example, Akinsomi et al., 2020). These two situations have created a gap that has to be filled. This study, therefore, is conducted to add to the body of knowledge that assesses real estate undergraduate students' behaviour in participating in REPAs in Africa, with a focus on Tanzania.

3. Methodology

3.1 Study area

The study was conducted at Ardhi University (ARU), which is in Dar es Salaam, Tanzania. It is the pioneering institution in the country offering programmes on real estate-related disciplines. Until 2024, when the course in Land Management and Valuation was introduced at the Institute of Rural Development Planning (IRDP) in Dodoma, ARU was the sole dominant provider of the programme in the country since 1973. The other two programmes on real estate finance and investment and property and facilities management were only offered at ARU in 2007. The current number of students in the three real estate bachelor's degree programmes offered at the university is approximately 98% of the overall enrolment in the country, at 852

against 19 students at IRDP in the academic year 2024/2025. The university's prominent role in real estate education made it an appropriate setting to investigate undergraduate student participation with REPAs. Three programmes were considered for the study: Bachelor of Land Management and Valuation (BSc. LMV), Bachelor of Real Estate Finance and Investment (BSc. REFI), and Bachelor of Property and Facilities Management (BSc. PFM). Students in these programmes are eligible to join the student chapter in AREPTA. They can also join other regional and international REPAs such as AfRES in Africa and RICS and IFMA for those in BSc PFM.

3.2 Data sources and analysis

The study employed a cross-sectional survey, allowing the collection of data from the participants at a specific point in time. This occurred between the months of March and May 2024, corresponding to the second semester of study at the University. The timing ensured the availability of respondents to the research. To ensure a representative sample, researchers used stratified simple random sampling, where the population of 852 students were divided into distinct groups (strata) based on the year and course of study, and then random samples were drawn from each stratum using Slovin's formula and proportional representation based on the number of students. The sampling technique enabled the selection of 266 undergraduate students. Out of the (n=266) students, (n=260) responded to the questionnaire as shown in Table 1, making the response rate 98%. The composition of the participants by gender was (n=138) for male and (n=122) female students. The remaining 6 students, who comprised 2% of the population, did not return the questionnaires.

Table 1: Respondents based on the courses and years of study

Year of Study	BSc LMV	BSc PFM	BSc REFI	Total
1 st	40	16	14	70
2 nd	48	10	12	70
3 rd	36	9	15	60
4 th	38	9	13	60
Total	162	44	54	260

Source: Field survey, 2024

The questionnaire was administered to respondents face-to-face. It was divided into two parts - the first part collected demographic information such as the year, course of study and the gender of the respondents. The second part gathered information on the study's variables - awareness, attitude, perceived benefits, barriers and participation. The study, thus, collected both nominal and interval data based on the Likert scale. The assignment of values was important to ensure that data from the Likert scale, which sometimes is regarded as ordinal, is converted into a quantifiable scale, fitting the nature of the study and the research objectives.

The data collected were analysed using a variety of statistical methods. To summarise the demographic characteristics of the participants and the Likert scale responses, means and standard deviations were calculated, and ranking analysis was performed. In addition, cross-tabulation analysis and chi-square tests were employed to assess the study's validity and to determine the statistical significance of the observed results.

4. Results and discussion

The section summarises the results and discusses the outcomes in line with the results from other studies on students' behaviour towards REPAs in Tanzania. It covers students' attitudes towards REPAs: subjective norms and students' motivation, students' perceived behaviour control in participation in REPAs and students' participation levels in REPAs.

4.1 Students' attitude towards REPAs

The study assessed the students' attitude towards REPAs, specifically by analysing their level of awareness, the relationship between year of study and awareness and their formed attitude.

4.1.1 Students' awareness of REPAs

In assessing students' awareness of REPAs, respondents were asked to rate their level of awareness on a 5-point Likert scale, where 1 represented "not aware" and 5 represented "very aware". It was found that on average, students reported a moderate (somewhat aware) level of awareness with REPAs, with a mean of 2.7 out of 5 points. This implied that respondents had a moderate understanding and knowledge of the REPAs existence. It reveals that they have been exposed to some information about the associations (both local and international), but have an inadequate understanding of their purposes, roles and benefits and generally it can be inferred that their overall understanding remains limited.

4.1.2 Relationship between the year of study and awareness

The study sought to analyse whether there was a relationship between the year of study and students' awareness of REPAs. It was construed that the more the number of years the student has spent at the university, the more aware of REPAs they could become. To examine whether there was a relationship between undergraduate students' year of study and their awareness of REPAs, a cross-tabulation analysis of these two variables was conducted and the results are shown in Table 2. The table shows that year one students were 'not aware' at 18.6%, and had a 'very limited awareness' with REPAs at 55.7% which together formed 74.3% of the respondents in this stratum. The remaining 26% is divided between 'somehow aware' at 24.2% and 'aware' at only 1.5%. Respondents from year two attested to being more aware, with over 71.5% scoring 'somehow aware' and 'aware', while 28.5% recorded that they had 'very limited awareness'. This trend was also observed in the third year, where 66.7% of the respondents recorded 'somehow aware' and 'aware', while 33.3% recorded 'very limited awareness' of the REPAs. Respondents from the fourth year of the study reported higher awareness, as 51.6% reported that they were 'aware or very aware' of REPAs, while 26.7% were 'somehow aware', and the remaining 21.7% 'had very limited awareness. The analysis reveals that students in the lower levels have low awareness compared to those in the higher levels, where more students reported being "somehow aware" or "aware" of these associations.

Table 2: Year of study and awareness of REPAs

		How familiar would you say you are with Real Estate Professional Associations?					Total
		Not aware	Very limited awareness	Somehow aware	Aware	Very aware	
Year of Study	1 st year	13	39	17	1	0	70
	2 nd year	0	20	49	1	0	70
	3 rd year	0	20	34	6	0	60
	4 th year	0	13	16	29	2	60
Total		13	92	116	37	2	260

Source: Field survey, 2024

A chi-square test was conducted to evaluate the significance of the relationship. The results in Table 3 revealed a significant association between the year of study and awareness of REPAs. Table 3 shows the p-value of 0.000 (less than the typical 0.05 significance level). Therefore, the null hypothesis is rejected. The results suggest that there is a strong, statistically significant relationship between the students' academic year of study and their level of awareness of REPAs. Also, from Table 3, it was observed that as students progress through their studies, they reported being more familiar with REPAs; thus, this relationship is positive. Understanding students' awareness is useful as the prime determinant which influences their decision to participate in the associations. The results of the relationship between years of study and awareness have identified lower levels of study as specific target groups within the student population, which require more efforts in raising awareness.

Table 3: Chi-square test results

Test statistic	Value	Degree of freedom	Asymp. Sig. (2-sided)
Pearson chi-square	143.102	12	.000
Likelihood ratio	132.435	12	.000
Linear-by-linear association	72.389	1	.000
N of valid cases	260		

Source: Field survey, 2024

4.1.3 Relationship between awareness and participation

The study investigated the relationship between students' awareness of REPAs and their intention to participate in these organisations. Understanding this relationship was important as it provided additional information that helped the researchers contextualise the results and gain useful insights into them. Chi-square tests were done to evaluate the relationship. For a proper analysis, students who reported a lack of awareness and "very limited awareness" were grouped into "Not Aware", while those who reported having "moderate awareness (somehow aware), aware and very aware" were grouped into "Aware". These two groups were then related and compared to their responses on whether they plan to become members or renew their membership. The results of this test are shown in Table 4.

The Pearson chi-square test in Table 4 shows a p-value of 0.988, which is not statistically significant at the typical 0.05 significance level. Based on this information, the study failed to reject the null hypothesis. In this case, there is no significant relationship between a student's

awareness of REPAs and their intention to participate in these associations. The result does not provide enough evidence to conclude that awareness of the associations is a significant factor in creating an intention to participate; thus, other factors may be needed in the picture to influence this intention to participate among the student population.

Table 4: Chi-square test results

Test statistic	Value	Degree of freedom	Asymp. Sig. (2-sided)	Exact sig. (2-sided)	Exact sig. (1-sided)
Pearson chi-square	.323 ^a	4	.988		
Likelihood ratio	.323	4	.970		
Linear-by-linear association	.001	1	.970		
N of valid cases	260				

Source: Field survey, 2024

4.1.4 Students' attitudes towards REPAs

To assess students' attitudes towards REPAs, respondents were asked to rate their perception of the importance of REPAs to the profession to them as individuals and the likelihood of becoming a member or renewing their membership. These questions were measured on a 5-point Likert scale, with the value of 1 representing "Not at all important" and the value of 5 representing "Extremely important". The results revealed that students exhibited a positive attitude towards REPAs as indicated by a higher mean level (agreement) of 4.09 and lower standard deviation at 0.68 compared to responses to the second and third questions. For example, in the second and third questions, the means are at 3.29 and 3.3,6, which are lower than the one recorded for the first entry. Similarly, the standard deviations are in the region of 0.86 and 0.83, respectively. This demonstrates that students view associations as being more important for the profession, as a whole than to the individual. The results revealed that students recognised the broader importance and value of REPAs, but did not recognise their contributions to personal development through active participation.

4.2 Subjective norms and students' motivation

To understand the sources of knowledge and motivation about REPAs, respondents were asked to select one of the six sources listed in the questionnaire. The choice with the highest frequency was regarded as the main source of knowledge and motivation to participate in REPAs. The identification of common channels through which students receive knowledge and motivation about REPAs creates an opportunity to plan awareness campaigns and ensure that relevant information is being effectively disseminated. It is important to note that (n=13) respondents had answered that they were not aware of any REPAs and were therefore not eligible to answer this question. The total number of respondents in this category was (n=247).

Table 5: Source of knowledge

Source of knowledge	Faculty members	Peers and friends	Industrial training	Social media	University events	Direct contact w/ REPAs Rep	Total
Frequency	146	43	24	20	12	2	247
Percentage (%)	59.1	17.4	9.7	8.1	4.9	0.8	100

Source: Field data, 2024

Table 5 presents the distribution of responses regarding the source of knowledge about REPAs. The result reveals that students are relying on their faculty members (59.1%) and peers and friends (17.4%) to learn about these associations rather than having the opportunity to engage directly with REPAs representatives (0.8%). Other factors such as industrial training (9.7%), social media (8.1%) and university events (4.9%) were in the third to fifth positions, respectively. When also considered that 5% of the first-year students indicated they had never heard of REPAs; it is clear that there was a gap between the REPAs and the students. This indicates that professional associations should visit the university periodically to create an impression and raise awareness. A more proactive approach by REPAs to recruit and engage with students, especially in their first year, could help address this gap and promote greater awareness and participation from the beginning of students' academic journeys.

4.3 Students perceived behaviour control in participation in REPAs

The study also assessed students' perceived behaviour covering issues on benefits and barriers to joining REPAs. To address this objective, respondents were asked to rank six potential benefits and barriers to joining these associations. The average ranking for each factor was later calculated to determine its relative importance. The results are presented in Table 6 for benefits and Table 7 for barriers. Six benefits of joining REPAs were provided for ranking, and results are shown in Table 6. The results showed that the top-ranked benefit, with an average weight of 4.79, is access to career information and recruitment opportunities. This indicates students see the associations as a valuable resource for getting information that will kick-start their professional journey through internships and graduate jobs. This creates the intention to participate if these opportunities are introduced as awareness campaigns. These findings share a similar ranking pattern to the earlier studies by Warren and Wilkinson (2008), Wilkinson and Reed (2010) and Holm et al. (2020). REPAs should then pay attention to these interests if they are to recruit and retain student members in their associations.

Table 6: Perceived benefits ranking

Perceived barriers	Average weight	Rank
Access to career information, such as internships and graduate recruitment opportunities	4.79	1
Professional development through participating in training programs and workshops offered by the associations	4.48	2
Opportunities to network with professionals in your field and meet mentors	4.42	3
Pursue professional certificates and accreditation offered by the associations	2.73	4
Opportunities to volunteer and gain leadership experience by serving on student committees within the associations	2.39	5
Academic and research engagement by contributing to the association's research initiatives and publications	2.16	6

Source: Field survey, 2024

The second and third most important benefits show students recognise that the associations can support their career growth and development beyond just job placement, with weights of 4.48 and 4.42. The average weight for these two is quite close, indicating that students see these two

benefits as being similarly valuable and desirable. On the other hand, the significant drop-off in average weights for lower-ranked benefits suggests students view them as non-essential compared to the career-focused offerings. It is of interest to note that students ranked the factor to pursue professional certificates and accreditation offered by the associations at number 4, with an average weight of 2.73. This reflects the main interest of the students, which focuses on the recruitment opportunities instead of the short-lived connection. This is an anomaly, as these credentials can open doors of opportunity for them. Similarly, the last two items, which are linked to opportunities to volunteer and gain leadership experience by serving on student committees within the associations, and academic and research engagement by contributing to the associations' research initiatives and publications, are equally important. The results, nevertheless, revealed that students considered them to be of minimum importance and ranked them at the 5th and 6th positions, respectively. This result suggests that REPAs both locally and regionally may need to focus more on raising awareness and encouraging student involvement. The associations should not assume that these leadership and research engagement opportunities will naturally appeal to many students, especially those at the bachelor's level. It has been noted in Ankisomi et al. (2020) that AfRES, through its Futures Leaders of the African Real Estate Society is focusing on early career academics, researchers and professionals who are graduate or doctoral students and not lower-level students. In this situation, it is difficult to interest students at the masters and bachelor levels who are the majority.

The study also ranked six barriers to joining REPAs. Results are shown in Table 7. The results indicate that the key barriers to student participation are inadequate promotion and recruitment efforts by the associations, with an average weight of 4.83 and lack of awareness about the associations, with an average weight of 4.12 and ranked first and second, respectively. Students have also regarded the REPAs as irrelevant or non-beneficial to them. This barrier is ranked number three with an average weight of 3.54. The students also have a general agreement that they are not receiving enough support/encouragement/ from faculty and the university in the process of participating in the REPAs. This has an average weight score of 3.27 and is ranked number 4. The students regarded financial constraints and time constraints as the fifth and last items in the ranking processes at 2.8 and 2.41 average weights, respectively.

Table 7: Perceived barriers ranking

Perceived barriers	Average weight	Rank
Inadequate promotion and recruitment efforts by the associations	4.83	1
Lack of awareness about the associations.	4.12	2
Perceived lack of relevance or benefits.	3.54	3
Lack of encouragement/support from faculty/ university	3.27	4
Financial constraints (e.g., Membership fees, travel costs, etc.)	2.8	5
Time constraints (e.g., Due to academic workload)	2.41	6

Source: Field survey, 2024

The clear separation between the top two barriers shows students differentiate the most significant obstacles from the lesser ones. In contrast, the closer average weights for the perceived lack of relevance/benefits (3.54) and lack of encouragement/support from faculty/university (3.27) suggest students view these as having a similar level of impact. This is similar to the last two barriers, which are related to students' time of engagement and participation. These findings also indicate that university and faculty members are not

adequately encouraging students to participate in these associations. Although students primarily learn about REPAs through their lecturers, there does not appear to be a concerted effort to motivate them to join. A moderate insistence that future real estate professionals should take part in these associations' activities while they are still students could go a long way. On the other hand, factors such as lack of finances and lack of time were ranked as the least significant barriers, which differs from conclusions drawn by researchers like Seaman (2020). This may be due to the relatively affordable membership costs for students in Tanzania. However, it is important to consider that because many students who responded to the questionnaire have never been members of any REPA, they may not have proper information about the actual costs involved beyond membership fees. This could be masking the true financial barriers that students may face if they were to actively engage in activities like seminars and workshops, which may require scholarships and sponsorship from various organisations.

4.4 Students' participation levels in REPAs

Participants were required to respond to whether they were current members of any REPA or not. A follow-up question was provided for the ones who answered 'Yes' to belong to an association, while those who responded 'No' were asked if they had been members of any REPA before or never. The results revealed that only three respondents, which represented 1% of the participants (n=260), had responded 'yes' to being members of any association. It was also observed that seven students, which is 3% of the total, have not renewed their membership after expiry, and 250 participants, which is equivalent to 96% (n=260) of the total. The result is not favourable to the future of real estate associations in Tanzania because Ardhi University is the primary institution for real estate education in the country. This paints a bleak picture of student engagement with REPAs across the country. It also indicates a significant gap in the collaborative efforts between academic institutions and REPAs in supporting the professional development and socialisation of the next generation of real estate professionals. The duty to professionally develop and socialise students should not lie only with academic institutions. REPAs should also be actively involved in this responsibility.

The results further show that active students had membership in AREPTA, a Tanzanian REPA. Students find it more convenient to be part of REPAs they can easily access and participate physically. The finding aligns with that of Wilkinson and Reed (2010), who reported a preference among students for local REPAs over international ones. Nonetheless, it is important to recognise that with the advancements in information and communication technology, there is now an opportunity for students to engage with international and regional REPAs through virtual means such as online meetings. Considering that students exhibited favourable attitudes towards REPAs, efforts to improve recruitment and outreach for both local and international associations may yield more desirable results in terms of student participation when engaged in these activities.

5. Conclusion and recommendations

The study analysed undergraduate students' behaviour towards participating in REPAs in Tanzania. Theoretically, the study has assessed and demonstrated that the components and theoretical basis of the TPB can be applied in various geographical locations and contexts. The findings have shown the influence of attitudes, subjective norms and perceived behavioural control on students' intentions and participation in REPAs. Addressing these components is essential for enhancing students' engagement and participation in the REPAs in the world. In

the Tanzanian context, students are generally aware of the existence of these associations, but their actual level of participation and engagement is limited, as discussed due to a range of facilitating and hindering factors, such as the lack of motivation from stakeholders. The study also revealed that there is a mismatch between students' expectations and the services provided by the associations. Students are expecting the REPAs to provide direct connections to internship and graduate recruitment opportunities, which is not the case. The study recommends increased engagement and collaboration activities, such as online tailor-made training and continuous forums between REPAs and students. This can also be initiated and organised between the REPAs and the institutions offering real estate education in Tanzania. The REPAs should also initiate direct student sponsorships to facilitate participation in annual events. Furthermore, REPAs should coordinate with their corporate members to select the best-performing students for mentorship and internship programmes immediately after graduation. The REPAs should consider sponsoring students' membership based on certain merits, such as academic performance or active participation in student leadership in the faculties, to help push them into participation, eventually promoting greater student participation and contribution to the development, longevity, and sustainability of the real estate profession in Tanzania.

This study is not without limitations. For example, it was conducted at Ardhi University, which is just one of the institutions offering real estate education in Tanzania. It is therefore understood that the behaviour might have been affected by mentorship and the organisation's culture within the university, which were not assessed. There is a need to conduct similar studies in other institutions in Tanzania and in other African countries to observe the outcomes and trends.

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Integration of Health and Safety (H&S) into Construction Procurement System: A Systematic Review

Daramola Thompson Olapade^{*1} (<https://orcid.org/0000-0003-2277-0834>), Justus Ngala Agumba² (<https://orcid.org/0000-0003-1077-1186>), and Rudzani Glen Muthelo³ (<https://orcid.org/0000-0001-5487-6372>)

^{1 2 3}Department of Building Sciences, Tshwane University of Technology, Pretoria, South Africa

¹ Obafemi Awolowo University

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Abstract

The construction industry is a major contributor to the economy of many nations; however, the industry is bedevilled by poor health and safety (H&S) records, leading to significant human and economic losses. This study systematically reviews the integration of H&S into the construction procurement system, identifying key drivers and barriers. Using a systematic literature review approach, 71 articles were analysed out of 21,407 records that were retrieved from Scopus and Web of Science databases to uncover the drivers and barriers to H&S incorporation into the procurement system. The study discovered the ambivalent influence of procurement methods, digital technology, legislation, and project ecosystem on H&S integration. The findings reveal that traditional procurement methods, low technology adoption, inadequate legislation, and negative management actions are major barriers. Conversely, modern procurement methods, robust digital technologies, clear legislative frameworks, and positive management actions serve as drivers. The study highlights significant research gaps, including limited empirical evidence on the long-term impact of procurement methods on H&S outcomes, especially in developing countries, and proposes future research directions to enhance H&S integration in construction procurement. There is a need for the enactment and enforcement of robust legislative frameworks that mandate

*Corresponding author's email address: olapadedt@tut.ac.za

H&S considerations in the construction procurement system. Also, contractors need to adopt modern procurement methods and leverage digital technologies to enhance H&S.

Keywords: *Health and Safety (H&S), Construction Procurement System, Digital Technology, Legislative Framework, Project Ecosystem*

1. Introduction

The construction industry significantly drives socio-economic development and serves as a crucial employment multiplier in every country. Due to its high labour intensity, it is one of the largest employers and makes a substantial contribution to the economy. It is therefore not a gainsaying that the economic health of a nation depends on the success of the construction sector. For instance, in many developing countries, the construction industry accounts for up to 10% of GDP and employs approximately 10% of the formal workforce (Pheng and Hou, 2019). Similarly, in developed economies, the sector spans across primary, secondary, and tertiary industries, contributing not only through direct employment but also through its influence on infrastructure development, housing, and industrial growth (Olanrewaju, 2025). Meanwhile, numerous construction projects do not achieve the anticipated benchmarks of cost, quality and time (Rivera et al., 2016). One factor that influences such performance has been the poor health and safety (H&S) metrics within the construction sector. Umeokafor et al. (2023) opined that in many nations, the construction industry has reported more deaths and fatal injuries than in many sectors of the economy. Meanwhile, the cost of injury, such as compensation, medical bills, missed wages, and replacement training, which affect income and performance of projects, contributes to the spread of poverty and negatively impacts the achievement of the Sustainable Development Goals (SDGs) (Chigara and Smallwood, 2016). The adverse effects of H&S issues in the construction industry on society have raised significant concerns in recent years. Consequently, many nations have mandated that the construction sector protect the occupational health and safety of its workers and the public affected by its operations. This can be achieved by preventing and mitigating inherent H&S risks during the construction process and addressing hazards related to the intended activities of end users.

While numerous studies have identified various factors influencing H&S in construction, the procurement system is widely regarded as a major determinant (Umeokafor et al., 2023; Mosey, 2025). The construction procurement system, which involves activities such as identification of construction specifications, market procurement, tender selection, tender assessment, contract allocation, and management and evaluation of construction execution (Boadu et al., 20021), is perceived as a major determinant of the H&S in construction works. This is because the procurement system sets the tone for behaviours and practices that will continue through the building design, construction, occupation, and maintenance phase of a building project (Mosey, 2025). The quality of the construction procurement system is therefore related to the safety of the people's lives and property (Bu et al., 2020). How the construction procurement system is managed can determine the likelihood that a building is safe (Mosey, 2025). For instance, the Grenfell Tower disaster in the UK, where 70 people died and many others were injured, was largely attributed to the procurement practices that were adopted (Mosey, 2025). Adaku et al. (2021) argued that the seeds of fatality and ill health are often planted during the procurement stage of construction when H&S considerations are not integrated into the process. Again, Boadu et al. (2021) discovered that

the level of consideration given to H&S at the procurement stage influences H&S consideration at implementation and other stages of the construction. Meanwhile, Boadu et al. (2021; 2022) and Umeokafor et al. (2022; 2023) reported that H&S are usually not considered in the construction procurement process. While the overriding importance of human life and health ought to make H&S considerations more important than other construction project objectives, this is unfortunately not so in many construction projects (Donkoh et al., 2015; Umeokafor et al., 2023).

The exclusion or minimal consideration of H&S in the procurement of construction projects – often linked to poor H&S performance in the industry – may be a result of certain factors which either act as enablers or barriers to the incorporation of H&S into the construction procurement system. Although studies from Boadu et al. (2022), Chiagara et al. (2022), and Benviolent and Smallwood (2016) have explored aspects of health and safety (H&S) in construction procurement, these efforts are often fragmented and lack a comprehensive synthesis of the drivers and barriers. Moreover, there is limited systematic review research that consolidates findings across ambivalent factors. This study addresses this gap by providing a holistic and updated review using the PRISMA methodology by reviewing published articles between 2014 to 2025. The objective of the study is to analyse the drivers and barriers influencing the integration of H&S into the construction procurement system. The review also identifies potential areas for future research and direction. The remainder of this article is structured as follows: the next section outlines the research methodology. This is then followed by the findings section, where the results of the literature review are presented. Section four discusses the findings, and section five concludes the article.

2. Methodology

This study adopted the systematic literature review approach in accordance with the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA). The PRISMA methodology involves a structured process of identifying and retrieving relevant literature using appropriate databases, screening and selecting appropriate articles for review and synthesising and reporting on the findings (Page et al., 2021). Each of these steps, as applied in this study, is discussed in the following subsections.

2.1 Literature search

Web of Science and Scopus databases were used to search and identify relevant articles suitable for inclusion in the review. The choice of the two databases is a result of their wide coverage of Architecture, Engineering and Construction (AEC) research (Adebowale and Agumba, 2024). Search queries using the most frequent synonyms of the research concepts were utilised. Database protocols concerning the application of Boolean operators: AND, OR, and appropriate truncations (*) were employed. Specifically, the search query: TITLE-ABS-KEY (((("procurement") OR ("bid") OR ("tender*")) AND (("construct*")) AND (("Design for Safety") OR ("DfS") OR ("Safety in Design") OR ("SiD") OR ("Safety through Design") OR ("Prevention through Design") OR ("PtD") OR ("Health and Safety")))) was employed to search for Title, Abstract and Keywords from the two databases.

2.2 Article selection and eligibility criteria

Three inclusion criteria were employed to select appropriate articles from the databases. The criteria include articles published in peer-reviewed scientific journals that are in the English Language and published within the timeline of 2014 to 2025. Therefore, grey literature such as conference proceedings, theses, and policy briefs was excluded. Also, articles that were grouped in non-related fields to the subject of the research, such as articles indexed in subject areas like medicine, pharmacy, and agriculture, were excluded. The automation tools in the two databases were used to exclude articles that did not meet the inclusion criteria. In addition, duplicate papers from the two databases were removed.

2.3 Screening, retrieval, and review of relevant articles

The title, abstract and other details such as authors' names and affiliations, and year of publication of the eligible articles were exported as a Microsoft Excel spreadsheet from each of the databases. Afterwards, the screening was performed to select articles that applied to answering the study's research questions. The full text of the selected articles after screening was later retrieved. All the retrieved papers were carefully reviewed, and the necessary data from them were extracted and coded accordingly. The information extracted from the selected articles was organised into a narration to answer the study's research questions.

3. Results

Figure 1 shows the results from the literature search and the selection process. A total of 21,407 records were retrieved from the two databases: 352 and 21,055 from Scopus and Web of Science, respectively. The number of records was reduced from 21,407 to 239 after removing ineligible articles, including those that were not peer-reviewed articles in journals, not written in English or published before 2014. Additionally, 57 duplicate records from the two databases were removed, resulting in 197 articles eligible for screening. Out of the 197 records selected for screening, 125 were excluded based on their titles and abstracts, as they were not relevant to addressing the research questions of the study. This makes a total of 72 articles left for full-text retrieval. Out of this figure, only 1 article was not retrieved as a result of incomplete information provided in the database. Finally, 71 articles with full texts were retrieved and subjected to full article review, and necessary data were extracted and coded qualitatively. Specifically, information on the drivers and barriers to the incorporation of H&S into the construction procurement system was extracted from each article and analysed qualitatively using thematic analysis to inform the findings of the study. A total of 43 articles were ultimately included in the systematic review. The synthesis of the reviewed literature is presented in the next section as a discussion of the findings.

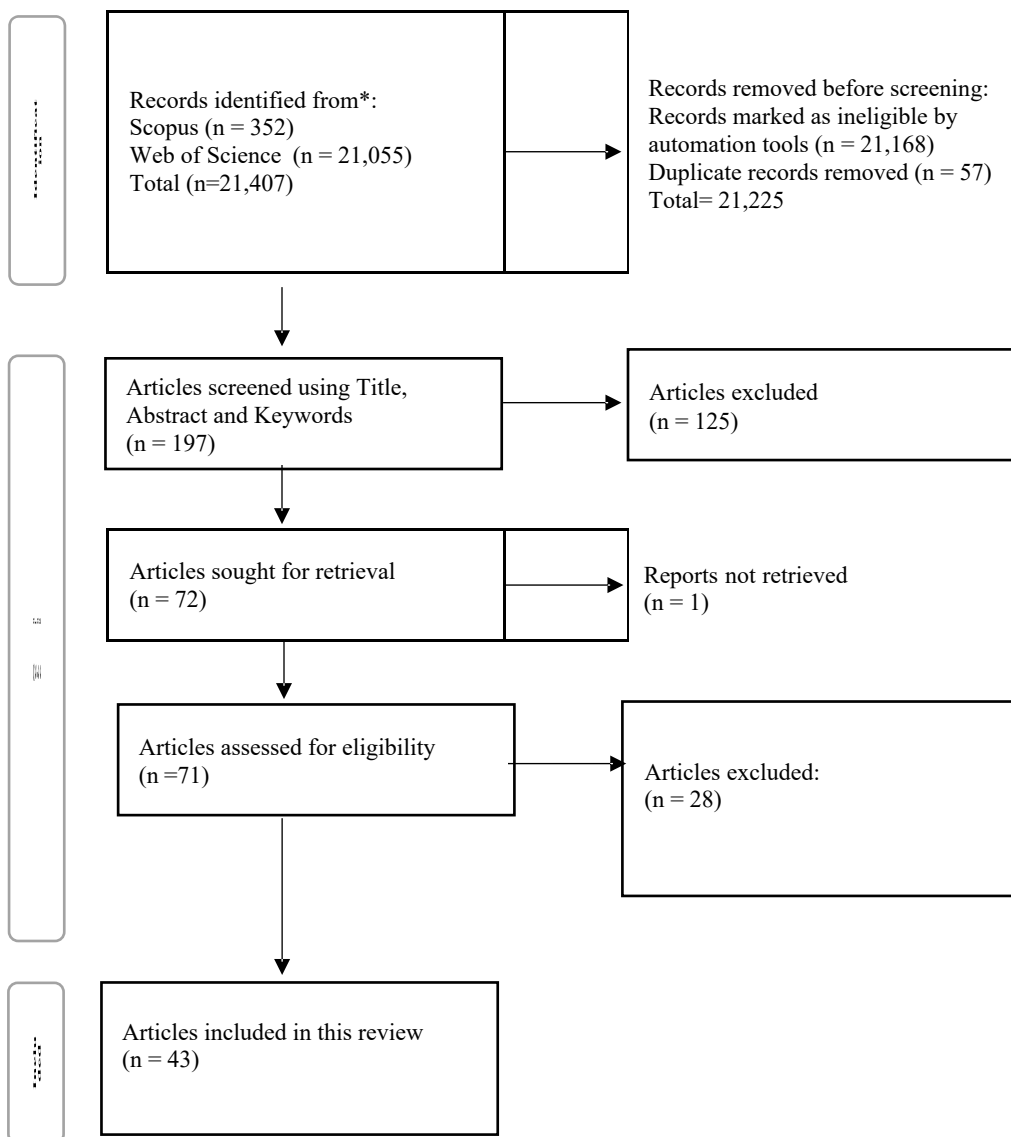


Figure 1: The results from the literature search and the selection process
Source: Author's diagram adapted from Page et al. (2021)

4. Discussion of findings

4.1 Drivers and barriers to the incorporation of H&S into the construction procurement system

From the review of the literature, the drivers and barriers to the incorporation of H&S into the construction procurement system can be categorised into four items: procurement method, digital technology, legislation and project ecosystem.

4.1.1 Procurement method

Procurement is the process of acquiring the resources required for a project. Procurement methods are approaches used to obtain construction services and coordinate construction activities (Windapo et al., 2022). There are three procurement methods: traditional, integrated and management-oriented (Windapo et al., 2022). These can be categorised into traditional and modern procurement methods, with the latter encompassing both integrated and management-oriented approaches. The procurement method adopted for a construction project is determined by the integration of H&S into the procurement system. This connotes that the chosen procurement method can either be a driver or a barrier to the incorporation of H&S within the construction procurement system.

The results of the literature review revealed that the adoption of the traditional procurement method can serve as a barrier to the incorporation of H&S in the procurement system and throughout the construction process. Studies from Umeokafor et al. (2023), Boadu et al. (2021; 2022; 2023), Lestari et al. (2020), Dissanayake et al. (2022), Benviolent and Smallwood (2016) and Zavadskas et al. (2017) have confirmed that the traditional procurement method does not support H&S. This is because, in the traditional procurement approach, the functions of design and construction are separated (Windapo et al., 2022), which results in inadequate consideration of H&S. In this approach, the contractor and the designer have minimal or no influence on the design and construction processes, respectively. This separation has been recognised as having a detrimental impact on constructability and on the extent to which H&S can be integrated into the design (Boadu et al., 2022).

In contrast, modern procurement methods – such as integrated and management-oriented procurement methods – provide a single point of responsibility for both design and construction that enables more effective management of H&S throughout the design and construction phases compared to traditional methods (Lingard et al., 2018). When procurement processes are interconnected through the selected method, all project components work together in synergy to optimise the procurement processes. This leads to collaboration across all levels and improves H&S. The integration allows stakeholders to collaborate more effectively throughout the construction process (Zhang et al., 2022; Lingard et al., 2018). This strategy has been described as an integrated framework (Boadu et al., 2023), a holistic approach (Jain et al., 2024), an analytical network approach (Hasnain et al., 2018), and collaborative procurement (Zhang et al., 2022; Lingard et al., 2018).

Apart from the separation of design and construction in the traditional procurement approach, other issues can jeopardise H&S in the traditional procurement approach. For instance, Mosey (2025) contends that issues such as inadequate specifications, an excessive focus on cost, and adversarial contracting, because of the procurement model implemented, can make it difficult to consider H&S in building projects. Regarding cost, when a traditional procurement approach uses an arm's length single procurement approach, it can encourage inappropriate behaviours. This is because the emphasis often shifts toward meeting the minimum standards of materials and workmanship, thereby undermining H&S. This phenomenon, referred to as “race to the bottom” in Judith Hackitt’s report, is detrimental to H&S outcomes (Mosey, 2025).

In addition, management-oriented procurement methods possess the capacity to integrate H&S more effectively than other methods because of the timely engagement of experts within the project team. According to Boadu et al. (2022), certain variants of this method are characterised by substantial overlap between project phases, which can introduce challenges. The collaboration of multiple consultants as a temporary management organisation may lead to conflicts arising from differing perspectives on H&S among the participating firms. The involvement of multiple layers of subcontractors in this procurement method may hinder the achievement of the project's H&S goals. As Boadu et al. (2021) noted, subcontracting in construction projects can compromise work quality and, in turn, negatively affect H&S protocols. Furthermore, the employment of labour-only subcontractors may result in insufficient training and education around H&S, thereby impeding the achievement of H&S objectives (Umeokafor et al., 2023).

Another issue associated with the traditional procurement system is the evaluation of tenders and the selection of contractors. While various criteria can be used in contractor selection, the traditional procurement approach tends to rely on price/cost attributes (Boadu et al., 2022). However, the lowest tender price does not inherently represent the best solution. Yao et al. (2022) discovered there is a relationship between low-price bids, general sub-contracting management and unsafe behaviours that compromise H&S. It can therefore be argued that clients should minimise the emphasis on traditional project objectives and instead prioritise H&S within the project. Securing a low tender price for the client could come at the expense of employee H&S (Mosey, 2025).

Windapo et al (2022) argued that cost-saving approaches in contractor selection might be detrimental to the H&S objectives of the project. Similarly, Lestari et al. (2020) showed that an improved tendering process reduces hazards on construction site and improves H&S. Furthermore, Jain et al. (2024) noted that an effective contractor selection is crucial for successful execution and meeting the project objectives including H&S. The study recommended a holistic approach of contractor selection as a precursor to an effective contractor selection.

Further considerations regarding contractor selection include Hasnain et al's (2018) proposition for the use of an analytical network process as an alternative to traditional procurement strategies in order to enhance H&S in construction projects. Given the importance of tender evaluation and contractor selection to H&S performance, Wells and Hawkins (2011) advocated that one of the criteria for tender evaluation should be whether the contractor includes H&S items in the bill of quantities. They further argued that if these H&S items do not meet the client's requirements, the tender may be deemed non-conforming or invalid and subsequently rejected. The expense associated with fulfilling the project's H&S objective may be excluded from the competitive tendering process (Chan et al., 2010).

Another challenge is the consideration given to H&S in the traditional procurement approaches. For instance, Dissanayake et al. (2022) found that H&S ranked fifth among the criteria used for contractor selection. Similarly, Benviolent and Smallwood (2016) observed that in public construction project procurement, factors like bid amount, the contractor's financial status, and project delivery time are prioritised over H&S. In the same instance, Kukoyi et al. (2020) noted

that H&S is not viewed as a vital pre-qualification criterion for contractor selection in a public project within developing countries.

Collectively, these findings underscore that adequate weighting of H&S could be a factor affecting the integration of H&S into the construction procurement system. However, studies from Zavadskas et al. (2017) and Acheamfour et al. (2019) have shown that project success correlates more strongly with a contractor's technical ability, H&S record and management experience than the bid price.

Unlike the traditional procurement method, which focuses primarily on cost, a more robust approach can be used for contractor selection. Research by Ying et al. (2022) and Zubair et al. (2022) demonstrated that using the Best Value Procurement (BVP) results in better H&S performance than the traditional procurement approach based on using project cost. BVP is a procurement approach that evaluates vendors based on multiple criteria beyond just price, such as quality, reliability, and expertise. It incorporates both price and non-price attributes such as contractor qualifications, demonstrable experience and technological capability to improve the effectiveness and efficiency of the construction procurement (Ying et al., 2022). Therefore, the use of modern contractor selection approaches like BVP can be a driver of the integration of H&S into the construction procurement system.

4.1.2 Digital technology

Digital technology provides the golden thread that integrates design, construction and operation to support building safely (Mosey, 2025; Azmy and Mohd Zain, 2016). One digital technology that has been widely recommended is Building Information Modelling (BIM) (Pan and Zang, 2023; Zhang et al., 2022). BIM is characterised as a digital and virtual representation of a project within a unified virtual model, facilitating a collaborative environment among all project teams (Porwal and Hewage, 2012). The process entails developing a digital parametric model of a building alongside a database infrastructure that facilitates shared knowledge and decision-making throughout the building project's life cycle (Olapade and Ekemode, 2018). Some of the benefits BIM offers for construction procurement and H&S include risk identification and mitigation, enhanced communication (Nnaji and Karakhan, 2020), training and simulation (Abina et al., 2023), and automated safety check, real-time monitoring (Rane, 2023) and improved decision making (Brandel, 2024). Zhang et al. (2022) argued that BIM enables collaborative procurement, allowing stakeholders to access real-time data. Similarly, Collinge et al. (2022) demonstrated the use of digital tools and safety libraries to assist designers in addressing H&S within the BIM digital environment, thereby enhancing the integration of H&S into the procurement system.

Despite the enabling role and benefits that digital technology brings to the integration of H&S into the construction procurement system, its adoption within the construction industry remains relatively low (Agarwal et al., 2016; Nnaji and Karakhan, 2020). For instance, Nnaji and Karakhan (2020) noted that the construction industry is among the least digitalised industries in many countries. In addition to the low level of technology adoption, there are also technical challenges associated with the implementation of digital technologies. Compatibility issues across different platforms can impede the effectiveness of technology in supporting H&S objectives (Daniel et al., 2024). Furthermore, the performance of digital tools can be compromised due to poor internet

connectivity on construction sites, software bugs and hardware malfunctioning (Daniel et al., 2024; Nnaji and Karakhan, 2020). Collectively, these issues reinforce the argument that while digital technology holds great potential, it can also be a barrier to the integration of H&S into the construction procurement system.

4.1.3 Legislation

Legislation plays a critical role in promoting H&S within construction projects. Martínez-Aires et al. (2016) highlighted the importance and positive influence of the EU Directive 92/57/EC on H&S in the project design phase. When legal frameworks recognise client and designer responsibility towards H&S practices, it impacts H&S specification (Boadu et al., 2022). Furthermore, Martínez-Aires et al. (2016) discovered that when H&S regulations explicitly assign roles and obligations to project stakeholders, it becomes easier to integrate H&S requirements into the construction procurement system. In this regard, Donkoh et al. (2015) advocated that clear H&S criteria should be embedded in tender assessments and bid pricing. However, in defective institutional environments, the risk of non-compliance increases (Lu et al., 2024). Umeokafor et al. (2023) noted that the lack of strong H&S legislation might be a barrier to client involvement in H&S.

In the same instance, Donkoh et al. (2015) noted that when procurement laws do not address H&S practices, these are unlikely to be factored into evaluating the tender and subsequent contractual requirements. The authors therefore recommended the inclusion of a non-ambiguous H&S requirement in the tender process and the pricing of H&S items into the Bill of Quantities (BoQ) to ensure their inclusion in the tender evaluation process.

Adebowale and Agumba (2024) further emphasised that the lack of a well-defined safety regulations framework is a key factor affecting the performance of H&S in construction projects across African countries. Moreover, Liu et al. (2022) stressed that even when regulations exist, inadequate enforcement mechanisms make it difficult to integrate H&S into the construction procurement system.

4.1.4 Project ecosystem

The factors categorised under the project ecosystem represent the comprehensive environment in which a construction project operates, encompassing all the interacting elements that influence the incorporation of H&S within the procurement system. These include management actions, attitudes toward H&S, project types and funding sources. As such, the project ecosystem can function either as a driver or barrier to the incorporation of H&S. For example, Boadu et al. (2022) contended that positive management actions – such as establishing clear H&S objectives, appointing qualified designers and including H&S practices in project estimates – can facilitate the integration of H&S into the construction procurement system. Conversely, negative management behaviours can be a barrier to this integration. For example, these can be poor attitudes (Boadu et al. 2023), failure to treat H&S as a vital contractual element (Kukoyi et al., 2022) and a lack of H&S knowledge (Boadu et al. 2023). Another aspect of the project ecosystem that could serve as either an enabler or barrier to the integration of H&S includes the client type and funding sources (Boadu et al., 2022; Onubi et al., 2022). Boadu et al. (2022) found in their study conducted in Ghana that the extent of H&S integration into the procurement process was

prioritised for public projects funded by international organisations but ignored for projects funded by the government.

4.2 Framework for integrating H&S into the construction procurement system

Considering the interdependence and ambivalent nature of the drivers and barriers to the integration of H&S into the procurement system, a visual conceptual framework is presented in Figure 2.

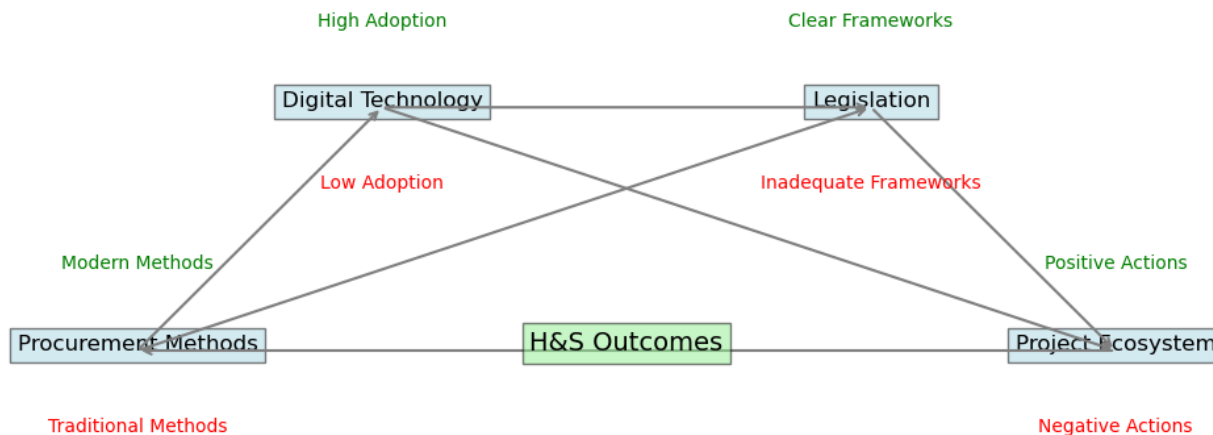


Figure 2. A multi-dimensional framework for integrating health and safety into construction procurement systems

Figure 2 illustrates the interdependencies among the four key dimensions: procurement method, digital technology, legislation, and project ecosystem. The framework emphasises that improvements in one dimension can reinforce progress in others, thereby contributing to positive H&S outcomes. For instance, the adoption of modern procurement methods, widespread use of digital technologies, the presence of a clear legislative framework, and proactive management practices within the project ecosystem can collectively enhance H&S's performance. Conversely, reliance on traditional procurement approaches, low levels of technology adoption, inadequate legislative provisions, and negative organisational behaviours can lead to poor H&S outcomes. These interconnections highlight the criticality to adopting a holistic and integrated approach that simultaneously strengthens all four dimensions to ensure sustainable and effective H&S integration within construction procurement systems.

5. Conclusion

This study presented a comprehensive review of the integration of H&S into the construction procurement system, identifying key drivers and barriers. The findings indicated that traditional procurement methods, low technology adoption, inadequate legislative support, and negative management actions are significant barriers to H&S integration. In contrast, modern procurement

methods, the adoption of robust digital technologies, the introduction of clear legislative frameworks, and positive management actions serve as drivers. This study advances the existing body of knowledge by synthesising the literature into a four-dimensional framework that categorises the drivers and barriers influencing H&S integration. Unlike previous studies that examined these factors in isolation, this review revealed the interconnections between procurement methods, digital technologies, legislative frameworks, and project ecosystem dynamics.

The study underscores the critical role of procurement methods in shaping H&S outcomes in the construction industry. Traditional procurement methods, marked by the separation of design and construction phases, often fail to effectively integrate H&S considerations. In contrast, modern procurement methods, such as integrated and management-oriented approaches, facilitate better collaboration and centralise responsibility, thereby enhancing H&S performance. In addition, digital technologies, particularly BIM, offer significant potential to improve H&S integration within construction procurement processes. However, low levels of technology adoption across the construction industry, coupled with technical challenges such as compatibility issues and poor internet connectivity, remain significant barriers. Legislation also plays a vital role in promoting H&S in construction projects. Clear and enforceable legislative frameworks that embed H&S considerations in procurement processes can drive better H&S outcomes. However, in many regions, the lack of well-defined safety regulations and inadequate enforcement mechanisms hinders effective H&S integration. Finally, management practices within the project life cycle are important: positive and informed management actions can drive H&S outcomes, while negative management actions, such as poor attitude and lack of H&S knowledge, can act as barriers.

Furthermore, the findings of this study carry significant implications for policy, practice, and research. For policymakers, the results highlighted the need for robust legislative frameworks that mandate H&S considerations in construction procurement, supported by clear regulations and enforcement mechanisms. For industry practitioners, the adoption of modern procurement methods and digital technologies is essential, alongside investments in training and capacity building. For researchers, the study identified critical areas for further investigation, including the impact of procurement methods, digital technologies, legislative frameworks, and management actions on H&S outcomes. These insights can inform the development of targeted interventions and policy reforms, such as integrating H&S metrics into contractor selection and offering incentives for technology adoption.

While this study offers a comprehensive synthesis of the literature on H&S integration in construction procurement, several research gaps remain. There is a need for more empirical and longitudinal studies to assess the long-term, individual and combined effects of procurement methods, legislative frameworks, digital technologies, and project ecosystem dynamics on H&S performance. Additionally, although this study employed the PRISMA methodology to consolidate fragmented evidence, it did not include a bibliometric analysis to examine publication trends across regions or over time. Future research could complement this work by mapping scholarly output, identifying influential contributors, and exploring regional or temporal trends in H&S-related procurement research.

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Probing Relationships Between Real Estate Agents: The Case of the Competitive Potchefstroom Real Estate Industry

Iliz-Mari De Beer^{*1} (<https://orcid.org/0000-0002-2825-4630>), Antonise Migquette de Wet² (<https://orcid.org/0000-0003-2528-2000>) and Lucinda Bella-May Sutton³ (<https://orcid.org/0000-0001-8134-3141>)

^{1,2,3} School of Communication, North-West University, Potchefstroom, South Africa

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Abstract

Relationships between real estate agents are crucial for their success in a competitive market. However, limited research is available about these relationships. This qualitative study probes the factors that influence these relationships. Semi-structured interviews were conducted with 18 real estate agents working in the town of Potchefstroom in the North-West Province of South Africa, which has no centralised listing system to collect data on their perceptions of inter-agent relationships. An inductive analysis generated six themes that influenced their relationships: (1) lack of timely information, communication and feedback; (2) unethical conduct and limited transparency; (3) selfishness and unbalanced collaboration; (4) trust issues; (5) pre-established relationships; and (6) networks and communities. A conceptual framework is proposed as a first step towards developing a holistic relationship model for real estate agents to address these issues, making a practical and theoretical contribution. The study fills a gap in the stakeholder relationship management literature in the context of the real estate industry. Further research in other regions is recommended to extend the body of knowledge regarding relationships between real estate agents.

Keywords: *Potchefstroom, real estate agents, real estate industry, relationships, stakeholder relationship management*

^{*} Author's email address: ilizmaridebeer@gmail.com

1. Introduction

The property market in South Africa has recovered since the Covid-19 pandemic, particularly since the national election in May 2024, which resulted in a Government of National Unity (GNU), the reduction in load shedding in the past year (South African Government News Agency, 2024) and a drop in interest rates (Fraser, 2024). Property24 (2024a) reported 175,208 sales registered with the Deeds Office in the first half of 2024, of which 1,219 were in the Potchefstroom area. The number of sales is roughly in line with those of the previous year (Lightstone, 2024).

Potchefstroom, located in South Africa's North West Province, is an academic hub anchored by the North-West University's Potchefstroom Campus, the city's largest employer and economic driver (Municipalities of South Africa, 2024). Its proximity to Gauteng – about 120km from Johannesburg and 170km from Pretoria – makes it an attractive destination for inward migration, offering access to urban centres while providing a quieter lifestyle (Lightstone, 2023). Additionally, the region's strong mining sector, contributing over 50% of the province's GDP, and a thriving student housing market (Lightstone, 2023; Municipalities of South Africa, 2024) make it appealing for both residents and investors.

Most of the sales in Potchefstroom, as mentioned above, were initiated and managed by real estate agents (hereafter, simply "estate agents"). Although they are often attached to a real estate agency (REBOSA, 2019), an estate agent is an independent contractor who works on a commission basis, which means that they do not earn an income if they do not sell properties. They therefore tend to compete for exclusive mandates, giving them the sole right to market those properties or financial benefits when another agent sells the property.

According to the Property Practitioners Regulatory Authority (PPRA) (2024), there are about 50,000 registered real estate agents in South Africa. Those in Potchefstroom are experiencing increased market pressure due to the constant growth in the number of real estate agencies and agents operating in the area. There are currently 116 registered agencies selling property in this small university town (Property24, 2024b), with more than 1,100 agents (PPRA, 2024) competing for the same buyers and sellers.

Notably, Potchefstroom is one of the few towns in South Africa that does not have a centralised or automated property listing system in place, probably because agents in this town do not want to split their commission. Estate agents in most regions of the country utilise a Real Estate Network System, National Listing System or Multi-listing System. These centralised automated property listing systems, which are available to all estate agents operating within the area, provide space for any listing agent to upload the details of properties and sellers. This enables all estate agents to attempt to sell the property and earn a percentage of the commission. The percentage of commission split between listing and selling agents depends on the agreement between the centralised listing system and agents in the community. In Potchefstroom, however, all contact with property owners is made only through the listing agent. Consequently, real estate agents experience even more competition and pressure to obtain listings. This situation would be alleviated if the estate agents in Potchefstroom worked together to sell properties. This would necessitate good working relationships with other estate agents in town because, even though they are seen as competition, other agents could play an integral role in the selling process. However, it is not known to what extent the estate agents in Potchefstroom cultivate such relationships.

In light of the abovementioned issues, this study aimed to probe the relationships between the estate agents in Potchefstroom. This study might be the first in the stakeholder relationship management literature to describe the relationships between these stakeholders.

2. Stakeholder relationship management in the real estate industry

There is no shortage of studies demonstrating the importance of stakeholder relationship management for organisations' sustainability (Cheng, 2018; Ki et al., 2023). Several studies have confirmed that building and maintaining strong relationships with stakeholders is directly linked to client retention and gaining a competitive advantage (Rajhans, 2018; Buttle and Maklan, 2019; Kim et al., 2020; Jaiyeoba et al., 2024). Having determined that such relationships are important, many relationship management scholars have turned their attention toward understanding the facets of these relationships (Seltzer and Zhang, 2010; Waymer, 2013).

Hon and Grunig's (1999) seminal work on stakeholder relationship management is used as a theoretical framework in many of these studies (Morehouse, 2021). Hon and Grunig (1999), Grunig and Huang (2000) and Grunig (2002) first introduced relationship-building strategies, which are centred on access, openness or disclosure, positivity, assurances of legitimacy, sharing of tasks, networking, cooperating, being unconditionally constructive, stipulating "win-win or no deal", keeping promises and dual concern. Waters et al. (2009) built on the latter by developing virtual strategies, namely, disclosure, information dissemination and involvement, to cultivate and maintain relationships in the online and digital environment. Waters (2009) added stewardship as a strategy in fundraising relationships, while Slabbert (2012) contributed a stakeholder-relationship framework for building organisation-stakeholder partnerships. More recently, Sutton et al. (2024) added the strategies of availability and understanding for small communication and marketing agencies to build and maintain relationships with their clients.

Additionally, Mills and Clark (1994), Hon and Grunig (1999) and Hung (2005) focused on the types of relationships organisations cultivate with stakeholders. In a communal relationship, both parties give benefits to the other because they genuinely care about the well-being of the other party, without expecting anything in return (Grunig, 2002; Hung, 2007). In an exchange relationship, one party gives benefits to the other party in response to the party having provided benefits in the past or in anticipation of them doing so in the future (Grunig, 2002; Hung, 2007).

Lastly, Hon and Grunig (1999) and Grunig and Huang (2000) identified the outcomes of quality relationships with stakeholders, namely, mutual control, trust, commitment, relationship satisfaction and goal attainment. Coombs (2000) added the history of a relationship as an extra indicator of quality relationships and extended the original stakeholder relationship dimensions.

These guiding relationship management principles have been applied to many contexts, such as internal relationship management (Lee and Kim, 2021; Shen and Jiang, 2021), culture, diversity and change (Ni et al., 2022; Daboun et al., 2023), relationship management via online, digital and social channels (Lee and Kim, 2020; Tong, 2022; Men et al., 2023), international public relations (Labarca et al., 2020; Labarca and Ampuero Ruiz, 2021), donor or volunteer retention in the non-profit and non-government sectors (Iannaccone, 2021; Pressgrove et al.,

2022) and managing relationships with stakeholders during a crisis (Babatunde, 2022; Wang et al., 2022; Steenkamp and Dhanesh, 2023).

However, few researchers have explored relationship management in the real estate industry (McCarty et al., 2006; Benites-Gambirazio, 2020; Singh and Gupta, 2020; Antão et al., 2022) and even fewer in the South African real estate market (Rudansky-Kloppers and Strydom, 2004; Serfontein et al., 2013). The few scholarly studies conducted within the real estate market have emphasised agents' relationships with clients and property investors, and considered a marketing and business management perspective, focusing mostly on customer service and customer satisfaction.

Most of the stakeholder relationship management literature focuses on the relationship between organisations and stakeholders such as clients and customers (Haigh and Dardis, 2012), employees (Kim, 2007), constituents (Seltzer and Zhang, 2010), donors (Sisson, 2017), volunteers (Bortree, 2010) or activists (Taylor et al., 2001). Firstly, these scholars tend to overlook relationships between individuals within the same stakeholder group, such as estate agents. While some public relations scholars have hinted that relationships between stakeholders occur in studies on community identification, none have identified these stakeholder relationships as a strategic goal for such communities (Men and Tsai, 2015) or explored the relationships between estate agents (as competitors but co-dependants and part of a community) as a topic of study.

Secondly, the scant relationship management studies on the real estate industry do not specify aspects that influence the relationships between estate agents in a competitive environment. One American study was conducted to identify the factors that influenced the failures of such relationships, with a focus on donors in non-profit stewardship (Harrison, 2023). However, the sector in America is vastly different to that of South Africa; thus, it is unlikely that the same relationship indicators would apply to the real estate sector in this country. Mersham et al. (2011) argued that stakeholder relationship management theories from the Global North are not always applicable to the Global South or African contexts. Furthermore, several scholars have called for more research in the field to generate a deeper understanding of stakeholder relationship management in African contexts and to build theory in this regard (Harrison, 2023; Nutsugah and Anani-Bossman, 2023; Sutton, 2023). This study comprises an answer to that call.

Given the exploratory nature of the study, and to fill the abovementioned gap in the literature, the study was guided by the following overarching **research question**: *What influences the relationships between real estate agents in the Potchefstroom area?*

3. Methodology

3.1. Qualitative research approach

A qualitative approach to data collection and analysis was followed and semi-structured interviews were conducted to gain in-depth insight into the perceptions of the participants (Babbie and Mouton, 2001; Du Plooy, 2009; Hesse-Biber and Leavy, 2011), namely estate agents in Potchefstroom (units of analysis) regarding their relationships with other agents. This qualitative data collection method enables researchers to obtain data in a way that is authentic and to ask follow-up questions to gain rich insights into the phenomenon under study (Hocking et al., 2003). As Lindlof and Taylor (2019) stated, qualitative data collection is not about

generalisability or the validity of the data, but rather about understanding the phenomenon in question. This does not make the findings any less valuable. Instead, it should be seen as a starting point for theory development within the local real estate market and between stakeholders of the same industry.

3.2. *Purposive sampling*

The participants were purposively selected (Patton, 2015) to include experienced estate agents who were doing well in the market. The latter were targeted because they were familiar with the area and real estate market of Potchefstroom, and they could speak accurately about their long-term experiences with other estate agents over time. The following criteria were applied: the estate agents had to have been working in the Potchefstroom real estate market for a minimum of five years; be registered with the PPRA as full-status or principal agents (not interns); and were successful based on the highest number of listings and sales at the agency they worked for. Furthermore, they had to be either from large agencies, which we defined as those with more than 20 agents, or smaller agencies, that is, those with fewer than five agents. The agencies could be attached to franchises or be non-franchised. Those from the largest real estate agencies were chosen because they not only competed with external agents from other agencies, but also with their internal agency peers for listings and sales. The focus of the interviews with these participants was therefore on both their internal and external relationships with other agents. The focus on agents from Potchefstroom's smaller agencies was based on the competition they faced from agents from larger agencies. The identified participants were invited to participate in the study via email, and those who were willing to participate could select a day and time that best suited them. The sampling ceased when saturation was reached (Lindlof and Taylor, 2019). Data saturation in qualitative research refers to the point in data collection when no additional issues or insights are identified and data begin to repeat so that further data collection is redundant, signifying that an adequate sample size is reached (Hennink and Kaiser, 2022). In this study, the final sample was 18 estate agents who all fitted the above description at the point of saturation. It included 10 male and eight female participants. All identified as white, except for one who identified as Indian. Their ages ranged from 29 to 72 years, with the average age being 46. Please see Table 1 below for an overview of the participants' demographics.

Table 1: Overview of the participants

Pseudonym	Large or small agency	Franchised or non-franchised agency	Years in the industry	PPRA status
Agent 1	Large	Franchise	5–10 years	Full-status
Agent 2	Large	Franchise	5–10 years	Full-status
Agent 3	Large	Franchise	10–15 years	Full-status
Agent 4	Large	Franchise	5–10 years	Full-status
Agent 5	Large	Non-franchise	10–15 years	Principal
Agent 6	Large	Non-franchise	20–25 years	Principal
Agent 7	Large	Non-franchise	5–10 years	Full-status
Agent 8	Large	Non-franchise	5–10 years	Full-status
Agent 9	Large	Franchise	20–25 years	Full-status
Agent 10	Large	Franchise	20–25 years	Full-status
Agent 11	Large	Franchise	5–10 years	Full-status
Agent 12	Large	Non-franchise	5–10 years	Full-status
Agent 13	Small	Non-franchise	5–10 years	Principal
Agent 14	Small	Non-franchise	25–30 years	Full-status
Agent 15	Small	Non-franchise	10–15 years	Principal
Agent 16	Small	Non-franchise	10–15 years	Full-status
Agent 17	Small	Non-franchise	10 – 15 years	Full-status
Agent 18	Small	Non-franchise	15–20 years	Principal

3.3. Semi-structured interviews and an inductive data analysis process

The interviews took place at the participants' offices. They were all informed in advance about the purpose of the research. Their participation was voluntary, and they signed informed consent forms to indicate their willingness to participate in the study. In reporting the findings, privacy and anonymity were ensured by protecting the identities of the participants and the agencies they worked for. These steps adhered to the ethical approval obtained by the Basic and Social Sciences Research Ethics Committee (BaSSREC) and the Arts Research Ethics Committee (AREC) with the following approval numbers: NWU-00658-21-A7 and NWU-01030-20-A7.

The semi-structured interviews were guided by an interview schedule, with general questions about their relationships with other estate agents in town, with a focus on factors that influenced these relationships. As an inductive approach was followed (Babbie and Mouton, 2001), the participants were able, when answering open-ended questions, to steer the conversation in the direction they saw fit. Therefore, the conversation was often directed by the participants' responses.

Each interview took 50 to 60 minutes and was audio-recorded. Most of the recordings were transcribed verbatim. However, seven of the interviews were conducted in Afrikaans and translated into English by the authors, who are fluent in both languages. The transcripts were inductively analysed so that themes could emerge from the responses without being lost due to the data being forced into a pre-established framework or theory (Lindlof and Taylor, 2019). This is an appropriate strategy when examining a phenomenon for the first time (Lindlof and Taylor, 2019), as was the case with this study. Themes emerged through constant comparison of related aspects. These were then reduced to the aspects that influenced the relationships between estate agents most by clustering similar aspects together in overarching categories called "axial codes" (Hesse-Biber and Leavy, 2011). The researchers continuously discussed the interpretation of the findings and compared the identified themes to improve the validity and trustworthiness of the findings (Wolcott, 2001; Hesse-Biber and Leavy, 2011).

4. Findings

The participants agreed that it was necessary for their professional survival to maintain healthy relationships with other agents in Potchefstroom. Agent 17 noted: "relationships with other real estate agents in Potchefstroom are not only rare but also very important and helpful within the competitive real estate market in our town and can have a direct influence on the success of transactions." Agent 18 added that "if you have relationships in place with other agents, it also makes your life easier and indirectly leads to your success within the industry". Agent 2 emphasised the importance of collaboration:

As a real estate agent, you are on your own. Whether you are part of a large agency or not, the work is still your responsibility", but if you do not build relationships with other agents and "think you are better and can do it yourself, you are going to realise very quickly just how difficult this industry is.

Likewise, Agent 1 confirmed these sentiments: "Whether we [...] want to admit it or not, we need each other and we need to cooperate, especially within this extremely competitive real estate market."

Thus, the estate agents understood the value of relationships with each other and acknowledged the importance of these relationships for their survival in the competitive real estate environment they function in. However, they also emphasised that it was difficult to build these relationships. Agent 10 mentioned that “relationships are a difficult concept in our industry because real estate agents do not really have eyes for one another and can too easily deceive each other”. Similarly, Agent 2 noted that “it is very difficult to build relationships with other estate agents in the extremely competitive market of Potchefstroom”.

4.1. Factors that influence relationships between estate agents

Six themes were identified regarding the factors that influenced the participants’ relationships with other estate agents: (1) a lack of timely information, communication and feedback; (2) unethical conduct and limited transparency; (3) selfishness and unbalanced collaboration; (4) trust issues; (5) pre-established relationships; and (6) networks and communities.

Theme 1: Lack of timely information, communication and feedback

The participants indicated that open communication between agents was a problem. It appears that they were afraid to share information. For example, Agent 9 explained that “some agents simply do not respond to inquiries”, and Agent 12 added that “they tend to never answer a phone or take days to get back to me”. Agent 8 confirmed that “when it comes to sharing information or arranging appointments on behalf of other agents to view an exclusive mandate”, not all agents were “open or accessible” and information is often withheld to “protect their listing or to put themselves in a better position” as substantiated by Agent 10. Agents 4 and 16 also confirmed this situation.

There were instances where information was shared and feedback provided strategically, often with the expectation of possible financial gain, such as when an agent with an exclusive mandate struggled to sell property. Agent 2 explained:

“Agents only freely share information when it comes to something like an exclusive mandate, where another agent has to work through the specific listing agent [...] when that mandate almost expires and the agent didn't get the property sold [...] That agent then asks other agents to help and, all of a sudden, the information they have been asking for weeks is shared [...] because that agent wants to keep 50% of the commission”.

Another instance was when two estate agents were involved with a property deal and had to communicate about the transaction. Agent 13 shared:

“In most cases, the listing agent does not sell the property [...] another sales agent is also involved in the transaction. In this process, there is a lot of negotiation [...] between the two agents, as each represents their buyer or seller in the transaction. Dialogue and feedback take place during negotiations because then money is involved and the purchase agreement is established”.

Communication and feedback between agents from the same agency were more likely because they functioned together, and their behaviour affected the agency’s reputation. Agent 5 argued:

“It is also to my advantage [...] if the majority or even half the agents of the same agency provide their clients with a good service, the clients tend to speak well of the agency and show their appreciation by leaving comments on social media, giving a good review or recommending the agency to their friends and family”.

Similarly, Agent 2 said that open communication took place, “especially between agents within the same agency because they contribute to the success of the agency’s reputation and indirectly also contribute to the agent’s marketing and branding because he is linked to the agency”. In short, the participants felt that communication flowed more easily between agents, especially internally, when it was “to the benefit of both” as stated by Agent 3. If there was no mutual benefit, the estate agents avoided sharing information or providing other agents with feedback.

Theme 2: Unethical conduct and limited transparency

Most of the participants indicated that the relationships between the agents in Potchefstroom were not based on pure motives. Agent 3 mentioned that ethical behaviour “is an illusion within the real estate industry”, while Agent 7 said that “moral values are a rare quality among agents in Potchefstroom.” Agent 11 explained, “The real estate market is a very competitive market, and most agents only focus on their prosperity and success and do not care about distorting the truth and acting unethically.” Agent 5 noted that agents are “not always ethical, honest or sincere”.

The perceived unethical behaviour of estate agents was linked to their seemingly non-transparent communication with each other. When asked what they saw as ethics and transparency, Agent 13 mentioned “ethical and responsible communication”, Agent 15 believed “it is that we will be sincere, respectful and constant within our actions and communication with each other”; whereas Agent 6 stressed “it goes hand in hand with the agent’s moral compass”; and Agent 2 emphasised “it depends on the agent’s agenda and personal values”. However, they felt that other agents did not share information with them in open and honest ways. Agent 6 mentioned that transparency in the real estate industry was “a relative term”, and Agent 10 stated that “ethics and transparency do not mean the same thing to every agent”.

Furthermore, the participants stated that most agencies had some type of ethical code in place, but that these codes related to their treatment of clients, not their behaviour towards other agents. Agent 5 also noted that an agency having a code of ethics did not mean that all the agents followed that code. Agent 11 argued that if the principal of the agency “does not apply it, the code of ethics is in any case only a meaningless document”. It was also difficult to apply the same ethical standards in interactions with other estate agents because not all agencies operated according to the same rules and codes of ethics.

Moreover, PPRA is a council to which all estate agents in the country must belong and follow their code of conduct. Worryingly, the participants, such as Agent 13, mentioned that many estate agents in Potchefstroom were not registered with the council, “and this in itself does not indicate ethical conduct”. When a real estate agent enters the industry, they must obtain a Fidelity Fund Certificate (FFC) from the PPRA. No agent may market or sell a property or earn a commission without an FFC. Furthermore, in South Africa, to become a full-status estate agent, an intern must complete a 12-month internship period. During this time, they need to complete the Further Education and Training Certificate (FETC) in Real Estate (NQF 4). After the internship, they must also pass the Professional Designation Examination for non-principal

estate agents (PDE 4). The PPRA mandates that all interns must upgrade to full status within 24 months of their initial registration, failing which their intern status will be revoked. The participants indicated that most estate agents in Potchefstroom did not do this. Many estate agents operate with an intern agent status for much longer than a year. No intern can remain an intern beyond a total of 24 months from their first intern FFC. However, Agent 15 revealed that “there are hundreds of agents in our town who practise illegally”. Agent 9 further claimed that “you cannot trust what these agents tell you because they are not even legit agents”. Most of the agents pointed out that the real estate industry in Potchefstroom was operated in an unethical manner and that agents, as Agent 18 described, viewed each other as “dishonest”. It seems that many intern estate agents, who operate for prolonged periods without upgrading to full status, get their principals to sign contracts on their behalf. Therefore, the PPRA is not always aware of these agents' operations. Furthermore, it seems that sellers and buyers are not aware of the PPRA's regulations and do not necessarily ask estate agents for their status or FFCs before entering into a mandate or offer to purchase contracts with agents in the area.

Agent 2 summarised the influence that the lack of ethics and transparency had on the relationships between agents: “Ethical conduct, transparency, as well as honesty in our industry is rarely a reality and it is very sad, especially because we all depend on each other's help to make a living”.

Theme 3: Selfishness and unbalanced collaboration

Selfishness and unbalanced collaboration between agents seemed to contribute to the failure of their relationships. Agent 10 stated:

“With the competition being so high in town, there are many agents who are so selfish and self-centred that they sometimes shoot themselves in the foot. If you have been in the industry long enough, you quickly learn that sometimes taking another agent's interests into account can be very beneficial for you in the future. There are agents in town with whom I will not work unless it is an absolute must, but I also have good relationships with many other agents, for whom I will roll a stone out of the way any time, and I know they will help me when needed.”

Agent 3 asserted that “estate agents are mostly self-focused” and Agent 15 called them “self-centred”. Likewise, Agent 9 said that “real estate agents do not always take each other's needs into account, act self-centred and step on toes”, which often leads to discontent and conflict between the parties. Agent 4 also argued that “real estate agents in Potchefstroom will never have strong relationships until they put their own selfish needs aside and start taking other estate agents' needs into account.”

Agent 4 explained that there were estate agents with whom she would want to have good relationships, but “in this industry, selfishness is a very big and real thing, and not many real estate agents are that open to relationship building because they think you are going to cheat them, or they have been deceived by other real estate agents previously.” Agent 13 provided an example:

“There is an agency in town that does not split the commission with other agents in the 50/50 manner, as is the unspoken agreement in the town between all agents. This agency's agents want to share commissions on their exclusive mandates in an 80/20 manner if another agent sells the property.”

Consequently, most of the agents in town did not want to do business with them. Agent 13 commented: “

What other estate agents do not realise is that estate agents talk [...] if you build a good relationship with them, you will automatically be well-spoken of, which means that you are classified as a good and honest estate agent. If you focus only on your own interests and gain and do not consider the needs of other agents, you will be labelled by other agents as self-centred and untrustworthy.”

Theme 4: Trust issues

Broken trust was one of the main reasons for which relationships between estate agents were unsuccessful. Most of the participants, such as Agent 12, mentioned that they did not trust other agents: “In our industry, there is little trust because everyone looks after their own interests”.

Some participants, like Agent 13, shared that they “do not even trust all the real estate agents” in their own offices, with whom they work every day. Agent 6 went so far as to say that there were agents in her agency that she would not work with or turn to for advice because they did not demonstrate sincerity and honesty: “I will not reach out to those agents for help or cooperation again, because my trust in them is broken.” Agent 9 also stated that “it happens a lot that, even in the same agency, there is not necessarily trust and agents are also sometimes hostile towards each other”.

Agent 10 commented that untrustworthy agents could have a financial or reputational impact, “Because not all real estate agents are honest or open, and this leads to misunderstandings and has also caused me to lose a deal in the past. So, it is not just trust that is broken [...] it makes you never want to work with the particular agent or agency again, because it often costs you money and your reputation”. Agent 15 went as far as to say: “Trust in this industry sometimes costs you your daily bread.”

In particular, Agent 1 shared they were particularly “wary” of estate agents who conducted business without an FFC or who were not registered with the PPRA again, and some estate agents such as Agent 13 and Agent 16 emphasised that they did “not trust them at all” and “rather stay away from them”.

Theme 5: Pre-established relationships

Nearly every participant noted that their past experiences with other estate agents had significantly influenced their subsequent relationships. They felt that they would do business with other agents only if there was a pre-existing relationship in place. Agent 13 stated, “in my opinion, I have pretty good relationships with some other agents with whom I have already walked the journey.” Agent 17 explained that she worked well with other agents “when a form of relationship already exists”, and Agent 4 also said she tried to do business only with other agents “with whom there is an already-existing relationship” in place.

The theme of pre-established relationships was linked to that of trust. For example, Agent 4 explained that there was a positive relationship between her and the agents of both small and large agencies with whom she had worked “several times” because they “respect each other” and she knew “they are reliable”. Similarly, Agent 18 said that there were mostly positive

relationships between agents “who had worked together before, respect each other and consider each other trustworthy”. Likewise, Agents 9 and 11 shared similar perceptions.

Theme 6: Networks and communities

The agents at small agencies considered forming networks important for fostering relationships with other agents. However, they mostly built networks with each other, rather than with agents from large agencies. Agent 15 stated:

“As an agent of a small agency in Potchefstroom, I am more likely to work with agents from other smaller agencies [...] help out or ask for help [...] because I know how difficult the industry is and already had an unpleasant experience, more than once, by trying to work together with agents from large agencies.”

Agent 16 corroborated this supposition, “cooperation often takes place between our agents who come from small agencies. We have a group where we help each other when we might not sell an exclusive mandate ourselves or have clients [buyers] but not the stock [listings].” Agent 18 said that agents of smaller agencies “look out for each other” and “encourage and support each other”. Agent 17, mentioned a WhatsApp group to which most of the agents from the small real estate agencies in Potchefstroom belonged: “These WhatsApp groups are constantly used to support each other.” The WhatsApp group, Agent 18 confirmed provided a platform “where agents can ask for advice on things such as which bond originator or transfer attorney is recommended in town”. No similar WhatsApp group had been established between the agents from large agencies.

It was also noteworthy that some estate agents connected support to community groups and charities as a form of competition between the estate agencies, rather than building networks between them. Agent 18 explained that the WhatsApp group between agents from smaller agencies was often used to “support a good cause or NPO [non-profit organisation] such as PAWS [Potchefstroom Animal Welfare Society]”. However, Agent 13 noted that even these endeavours became competitive, probably because there was a marketing element attached. He commented that “when an agent or agency, for example, gets involved in a community project or charity event, it is not long before the other agents and agencies in town [...] get involved”. Agent 12 stated, similarly: “Most agents are copycats [...] if one agency, for example, makes a donation to PAWS or to repair the potholes in town, it is not long before another agency does the same.” Agent 14 argued that “when it comes to networks”, the estate agents in Potchefstroom belonged to “many of the same networks” because the real estate market was “so competitive and, as an agent, you have to market yourself within the community”.

5. Discussion

The participants effectively agreed with the literature regarding the importance of organisations maintaining relationships with stakeholders for survival in a competitive environment (Rajhans, 2018; Buttle and Maklan, 2019; Kim et al., 2020; Sutton et al., 2024). In particular, their understanding of the value of relationships with each other as necessary for their survival aligns with the assumptions of stakeholder relationship management theory (Hon and Grunig, 1999). However, their behaviour was largely contrary to the best practices indicated in the stakeholder relationship management literature. For instance, the reported lack of timely information sharing, communication and feedback sharply contradicts the recommendation of stakeholder relationship management scholars that two-way symmetrical communication

(Grunig et al., 2002) or dialogical communication (Kent and Lane, 2021) should be normative in building quality relationships. These communication issues, which appear to be due to the competitive nature of the industry, and which were attributed to selfishness, along with the unbalanced collaboration between the real estate agents, are also in opposition to the seminal relationship-building strategy of collaboration (Hon and Grunig, 1999; Grunig and Huang, 2000; Grunig, 2002).

These findings call into question whether symmetrical communication and dialogue are appropriate for all situations. It seems that the normative communication models to foster mutually beneficial relationships between organisations and stakeholders (Ciszek and Logan, 2018) cannot be applied to the estate agents in our study, partly due to the competition between them and especially due to the perceived unethical conduct and limited transparency. Huang (2004) and Crestani and Taylor (2021) demonstrated that symmetrical communication must be built on honest, transparent and equal communication, and is therefore inherently ethical. As Capizzo (2018) and Madden and Alt (2021) argued, ethical conduct and balanced relationships should be pursued only when possible.

The seeming lack of ethics and transparency led to trust issues, which also negatively affected the relationships between the estate agents. According to the seminal stakeholder relationship management literature, trust is an outcome and indicator of healthy relationships (Hon and Grunig, 1999; Grunig and Huang, 2000). It is based on integrity, dependability and competence (Hon and Grunig, 1999), which flows from honesty, ethics and transparency in the relationship. The importance of pre-established relationships was evident in the context of our study, which aligned with Coombs' (2000) addition of the history of a relationship as an indicator of quality relationships. Moreover, in the literature, collaboration is seen as a strategy to build a relationship, and trust is an outcome (Hon and Grunig, 1999; Grunig and Huang, 2000). With the majority of agents in the current study (13 out of 18), however, collaboration had led to a breakdown of trust. Therefore, in this study, the relationship-building strategy (collaboration) did not lead to the outcome of trust, but rather contradicts the seminal work indicated above. The question then becomes: what form can collaboration take that facilitates trust being re-established in the broader estate agent community of Potchefstroom?

5.1. Recommended framework

In light of the above question, the following conceptual framework is proposed in Figure 1 as a first step towards developing a holistic relationship model for estate agents.

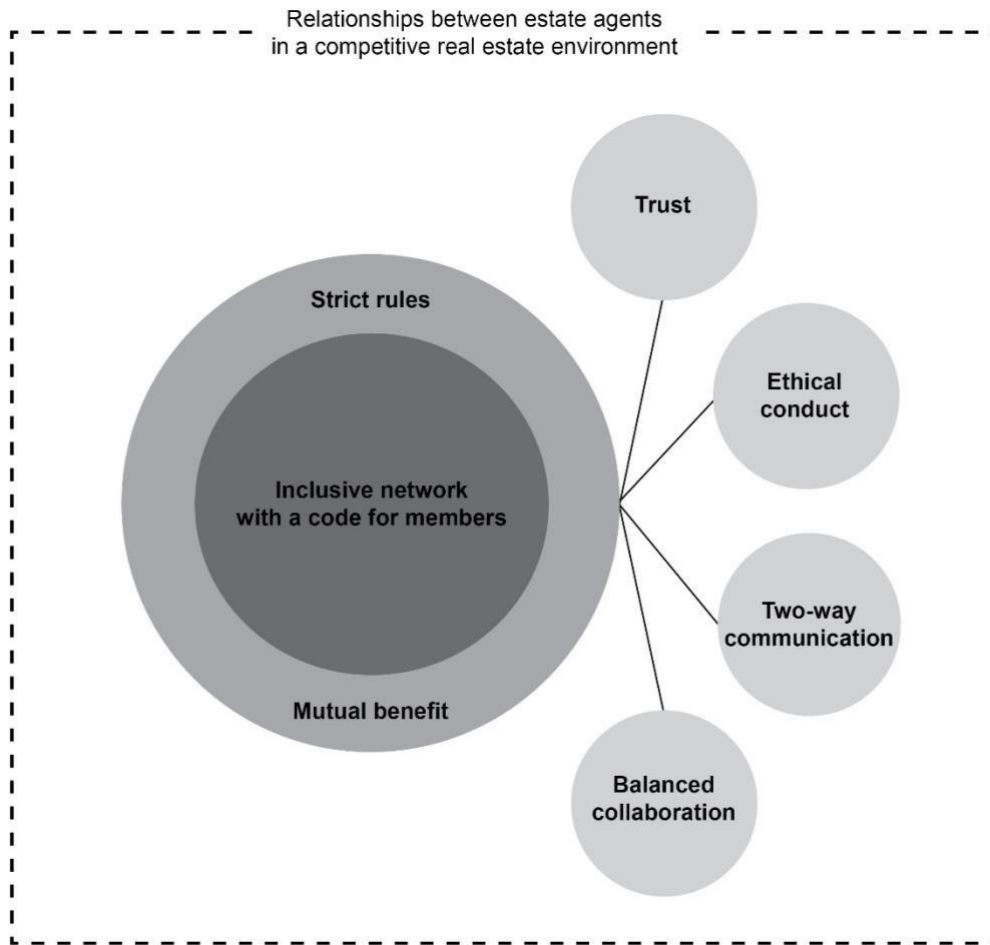


Figure 1: Proposed conceptual framework

Considering the unethical behaviour and selfishness that appear to characterise the real estate industry in Potchefstroom (fundamental issues that have to be dealt with for these relationships to be fostered), the proposed framework is premised on *mutual benefit* and *strict rules*.

The findings indicated that the estate agents are willing to collaborate if pre-existing relationships are in place, whereas, in this context, broken relationships need to be re-established and previously excluded agents need to be brought into established networks. Therefore, it is recommended that the estate agents attempt to establish a broad *network* that all the agents in the area are invited to join. As part of establishing an inclusive network, a *code* to which all the members are obliged to adhere should be formulated to indirectly address the ethical issues, with consequences for not doing so, such as being banned from the network. It is noted that the latter is already happening, which is why an attempt needs to be made to get a wider group of agents to agree to a code. Then, ostracisation would be by the collective rather than by small groups of agents. However, the aim should rather be to incentivise those to join the network and be good members of society.

If *collaboration* for mutual benefit with strict rules is established, it should lead to *ethical conduct*, timely *two-way communication* and the re-establishment of *trust*, at least among most of the estate agents conducting business in the area.

6. Conclusion

The research question posed for this article was: *What influences the relationships between real estate agents in Potchefstroom?* It was found that, although the estate agents in Potchefstroom acknowledged the need for good relations with other agents, the latter was compromised by poor communication, unethical conduct, limited transparency, selfishness, unbalanced collaboration and a lack of trust. This situation was mitigated by good relations within some pre-established relationships, networks and communities. A framework was proposed to address the negative issues and to offer all the estate agents in Potchefstroom the opportunity to be part of a more comprehensive network characterised by healthy relations.

The findings of this study are limited to the perspective of estate agents in Potchefstroom. Future researchers could broaden the scope of research to determine the perceptions of estate agents in other contexts, including those in which centralised listing systems are in place. A second limitation is that the proposed framework has not been empirically tested. Future researchers could investigate how the proposed inclusive network should be established and how the code of rules should be formulated, and test its practical application and improve on it where necessary.

Moreover, scholars should continue to examine how the stakeholder relationship management literature might better reflect the realities of relationships between estate agents and other co-dependent relationships in different contexts.

This is the first local study to investigate estate agents' perspectives on managing relationships with one another in the real estate environment and to identify the factors that influence these relationships, specifically in Potchefstroom. Therefore, it contributes to the body of knowledge on relationship management theory and fills the gap in the stakeholder relationship management literature in the context of the real estate industry, stakeholder relationship management scholarship on the African continent and relationships between stakeholders, as opposed to taking an organisation-stakeholder approach.

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