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Examining Determinants of Real Estate Appraisal Accuracy in Property Business

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Abstract

This study investigates the factors influencing real estate appraisal accuracy, focusing on market dynamics, technological integration, appraiser expertise, and the regulatory framework. The research aims to explore how these factors impact the accuracy of property valuations performed by real estate appraisers in Saudi Arabia. A cross-sectional survey was conducted with 161 licensed real estate appraisers, using a convenience sampling method. Data was collected through a structured questionnaire, and the responses were analyzed using structural equation modeling (SEM). The study found that market dynamics, technological integration, appraiser expertise, and regulatory frameworks significantly influence real estate appraisal accuracy. The findings highlight the importance of these factors in improving the reliability of property valuations, providing valuable insights for real estate professionals, regulators, and policymakers. The findings suggest that real estate appraisers should stay informed about market trends, enhance their technological skills, and continuously develop their expertise to improve appraisal accuracy. Regulatory bodies should strengthen guidelines and standards to ensure consistency in the appraisal process. Policymakers can use these insights to develop strategies that promote trust and stability in the real estate market.

Keywords: real estate appraisal; property; market dynamics; technological integration

1. Introduction

Real estate appraisal is a critical process in the property business, providing an objective assessment of a property's market value. Accurate property valuations are essential for a range of stakeholders, including buyers, sellers, financial institutions, investors, and developers (Yasnitsky et al., 2021). Real estate appraisers play a vital role in determining property values based on a variety of factors, including market conditions, technological tools, and regulatory frameworks (Wei et al., 2022; Wyatt, 2022). Inaccuracies in real estate appraisals can lead to significant financial losses and misinformed decision-making, making it essential to understand the key determinants that influence appraisal accuracy. The accuracy of real estate appraisals is primarily influenced by market dynamics (Migliaccio and De Palma, 2024). Market conditions such as supply and demand, economic trends, and local market conditions directly affect property values. Appraisers must account for fluctuations in the economy, changes in interest rates, and shifts in buyer preferences, which can all impact the final appraisal. In the context of a rapidly changing market, appraisers face the challenge of providing accurate valuations that reflect the current state of the property market (Khrais and Shidwan, 2023).

Technological integration is another significant factor influencing real estate appraisal accuracy. Over recent years, the real estate industry has experienced technological advancements that have transformed the way properties are appraised (Stang et al., 2023). The use of big data, geographic information systems (GIS), and

machine learning algorithms has enhanced the ability of appraisers to assess properties more accurately and efficiently. Technologies such as automated valuation models allow appraisers to analyze a large amount of market data, helping to reduce human error and increase the precision of appraisals. As technology continues to evolve, its role in improving the accuracy of real estate appraisals becomes more critical (Goldberg et al., 2024). Furthermore, the regulatory framework surrounding real estate appraisals plays a crucial role in ensuring consistency and accuracy in property valuations. In many countries, including Saudi Arabia, appraisers must adhere to established standards, codes of conduct, and legal requirements that guide the appraisal process. Regulatory bodies provide guidelines that ensure appraisers follow best practices, which helps maintain the credibility and reliability of the appraisal process (Gidwani and Upadhya, 2023). Legal frameworks also ensure that appraisals are conducted in an impartial manner, minimizing potential biases that could impact the accuracy of valuations. However, regulatory changes and evolving industry standards can pose challenges for appraisers, requiring them to stay updated and adjust their practices accordingly.

Appraiser expertise is another key determinant of appraisal accuracy. Experienced appraisers possess in-depth knowledge of local market trends, property types, and valuation techniques (Swinkels, 2023). Their expertise enables them to assess properties with a higher degree of accuracy, considering factors such as location, property condition, and comparable sales. However, a lack of experience or insufficient training can lead to inaccurate valuations, highlighting the importance of continuous professional development and education for appraisers (Hoesli and Malle, 2022). The accuracy of real estate appraisals is influenced by a complex interplay of market conditions, technological advancements, regulatory frameworks, and appraiser expertise. Understanding these determinants is essential for improving the reliability of property valuations, which in turn supports sound decision-making in the property business. This study aims to explore these key factors and assess their impact on real estate appraisal accuracy in order to provide valuable insights into the real estate valuation process.

2. Literature Review and Hypotheses Development

2.1. Real Estate Appraisal

Real estate appraisal plays an integral role in property transactions, investment analysis, and financing decisions. The process of determining the value of a property relies on the judgment and expertise of appraisers, who evaluate various factors, including property features, market conditions, and broader economic influences (Adisson and Halbert, 2022). Accurate property valuation is essential because it impacts various stakeholders, such as buyers, sellers, investors, lenders, and insurers. An inaccurate appraisal can result in financial losses, legal disputes, and missed opportunities (Chanasit et al., 2021). Consequently, several factors influence the accuracy of real estate appraisals, and understanding these factors is crucial for improving appraisal methods and ensuring reliable property valuations. Market dynamics, technological integration, appraiser expertise, and regulatory frameworks are the key factors that shape the accuracy of real estate appraisals. Market dynamics refer to the fluctuations in property values, which are influenced by supply and demand conditions, economic cycles, interest rates, and other macroeconomic factors (Gabrielli and French, 2021). The real estate market is highly sensitive to these dynamics, and appraisers must be well-versed in understanding market trends and incorporating them into their valuations. Technological integration is another important aspect, as advancements in technology, including automated valuation models and geographic information systems (GIS), have revolutionized the way appraisers gather data and assess properties. These technologies enable appraisers to use more sophisticated tools, leading to more accurate and efficient property valuations (Guliker et al., 2022). Appraiser expertise, including professional qualifications and years of experience, also plays a crucial role in ensuring the accuracy of real estate appraisals. Experienced appraisers are better equipped to navigate complex market conditions and accurately evaluate properties (Lin et al., 2021). Lastly, the regulatory framework that governs the appraisal industry provides essential guidelines and standards that promote consistency, objectivity, and reliability in the valuation process. Regulatory standards help minimize errors, biases, and subjectivity, leading to more accurate appraisals.

2.2. Market Dynamics and Real Estate Appraisal Accuracy

Market dynamics include fluctuations in property values driven by changes in supply and demand, economic conditions, interest rates, and broader market trends (Geltner et al., 2003; Wang and Li, 2019). The real estate market is highly sensitive to changes in these factors, which makes the appraisal process more complex. Accurate appraisals rely on understanding market conditions, such as price trends, the availability of comparable properties, and shifts in demand and supply (Yasnitsky et al., 2021). Changes in market conditions can impact property values, and appraisers who fail to factor these changes into their assessments may produce less accurate valuations. Market dynamics affect the way appraisers approach their valuations (Walacik, 2024). During periods of economic growth, for example, property values may increase rapidly, requiring appraisers to adjust their methodologies. Conversely, during economic downturns, appraisers might need to adopt more conservative approaches to reflect market contractions. Inaccurate assessments can result from appraisers failing to account for the rapid changes in market conditions, leading to discrepancies in valuation (Kok et al., 2017). Therefore, understanding how market dynamics influence appraisal accuracy is essential to this study. Thus, the following hypothesis is proposed.

Hypothesis 1: Market dynamics significantly influence real estate appraisal accuracy.

2.3. Technological Integration and Real Estate Appraisal Accuracy

Technological integration has significantly reshaped the real estate appraisal industry. Advancements in technology, including the use of Automated Valuation Models (AVMs), Geographic Information Systems (GIS), and big data analytics, have enhanced the accuracy and efficiency of appraisals (Al-Rimawi and Nadler, 2025). These technologies provide appraisers with access to large datasets and sophisticated tools that help refine property valuations (Droj et al., 2024). AVMs, for instance, leverage statistical models to estimate property values by analyzing various factors such as comparable sales, property features, and market trends (Cao, 2024). Technological tools like GIS and big data allow appraisers to assess properties with more precision, factoring in location, zoning laws, infrastructure, and other spatial variables that may not be easily identified through traditional methods (Lin et al., 2021). As technology continues to evolve, the reliance on manual processes decreases, enabling appraisers to perform more accurate and efficient valuations (Arcuri et al., 2020). However, the effectiveness of these tools depends on the appraiser's ability to use them effectively. Appraisers who integrate technology into their valuation processes are more likely to provide accurate appraisals, as they are equipped with better data and analysis tools. Therefore, the following hypothesis is proposed.

Hypothesis 2: Technological integration significantly influences real estate appraisal accuracy.

2.4. Appraiser Expertise and Real Estate Appraisal Accuracy

Appraiser expertise plays a pivotal role in determining the accuracy of real estate appraisals (Spence & Thorson, 1998; Vaz, 2015). Expertise encompasses a combination of knowledge, experience, and professional qualifications that help appraisers assess market conditions, evaluate property features, and apply appropriate valuation methods (Alsahan and AlZaidan, 2024). Experienced appraisers, especially those with specialized knowledge in certain types of properties or geographical regions, are more likely to provide accurate appraisals (Lee et al., 2020). Research has shown that experienced appraisers tend to produce more reliable results because they can better navigate the complexities of real estate markets, identify subtle market trends, and consider all relevant factors during the appraisal process (Bogin & Shui, 2020). Their expertise allows them to adjust valuations based on market conditions and the unique characteristics of a property. In addition, appraisers with advanced qualifications are often more familiar with the regulatory requirements and industry standards that must be followed, ensuring that their appraisals meet professional standards and are legally defensible. Thus, the following hypothesis is proposed.

Hypothesis 3: Appraiser expertise significantly influences real estate appraisal accuracy.

2.5. Regulatory Framework and Real Estate Appraisal Accuracy

A strong regulatory framework is essential for ensuring the accuracy and credibility of real estate appraisals (Crosby et al., 2018). Regulatory bodies and industry standards govern the appraisal process, providing guidelines and procedures that must be followed to ensure consistent, objective, and legally sound valuations (Agosta et al., 2024). These regulations help standardize the appraisal process, reduce subjectivity, and prevent biases that might otherwise influence the appraiser's judgment (Crosby, 2000). A well-established regulatory framework also promotes transparency in the valuation process, ensuring that appraisers adhere to ethical standards and use recognized methods and data sources. When appraisers follow established guidelines, the accuracy and reliability of their appraisals are enhanced. Moreover, regulatory bodies can enforce compliance, ensuring that appraisers maintain a high level of professionalism and accountability. The impact of regulatory frameworks on the appraisal process can therefore be significant in ensuring accurate property valuations. Therefore, the following hypothesis is proposed.

Hypothesis 4: Regulatory framework significantly influences real estate appraisal accuracy.

Figure 1 presents the research model.

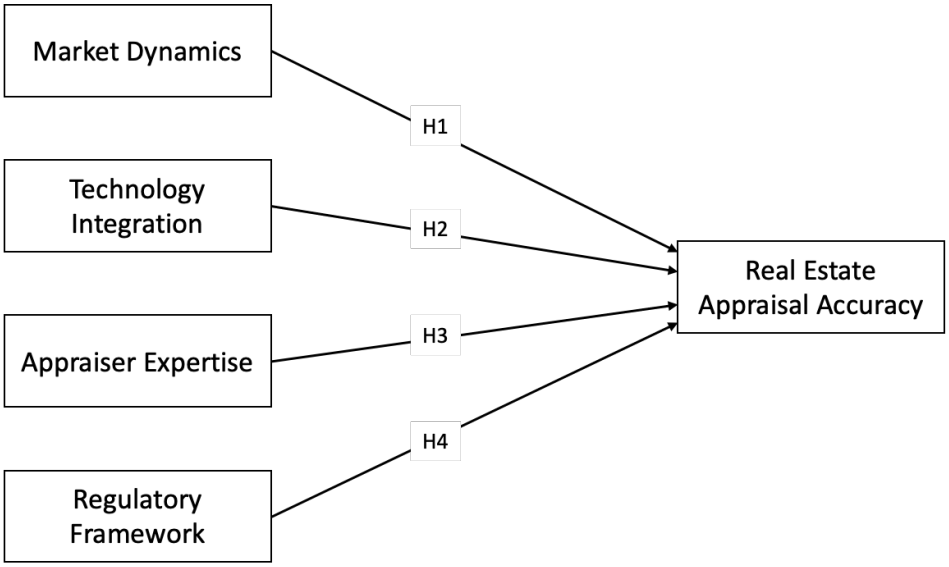

Figure 1. Research model.

3. Methodology

This study is a cross-sectional study aimed at exploring the determinants of real estate appraisal accuracy by examining the influence of market dynamics, technological integration, appraiser expertise, and regulatory frameworks. A quantitative approach was utilized, employing a survey-based questionnaire. The questionnaire was developed based on a thorough review of previous studies related to real estate appraisals, ensuring that it accurately captured the essential constructs relevant to the study. As a cross-sectional study, data were collected at a single point in time to provide a snapshot of the current state of real estate appraisal practices in Saudi Arabia. A convenience sampling technique was employed to gather responses from real estate appraisers in Saudi Arabia. The study focused on 161 real estate appraisers who met specific eligibility criteria, including having sound work experience and holding a valid professional license. This approach was chosen to ensure that the participants were knowledgeable and experienced in the field of real estate appraisal, providing reliable and relevant data for the study. The data were collected in January and February 2025.

The questionnaire consisted of five constructs, each with five items designed to measure specific aspects of the real estate appraisal process. The constructs included market dynamics, technological integration, appraiser expertise, regulatory framework, and real estate appraisal accuracy. Each item was framed to assess the

relevant dimensions of the constructs, drawing from existing scales in the literature to maintain validity. A 5-point Likert scale was used for each item, with respondents indicating their level of agreement on a scale from 1 (strongly disagree) to 5 (strongly agree). This scale enabled a comprehensive assessment of the appraisers' perceptions regarding the various factors influencing appraisal accuracy. To ensure the validity and reliability of the questionnaire, a pilot study was conducted with 30 participants prior to the full-scale data collection. The pilot study allowed for an assessment of the clarity, relevance, and reliability of the items, as well as an evaluation of whether the constructs were appropriately represented. Feedback from the pilot participants helped refine the questionnaire, leading to adjustments that improved the clarity and comprehensibility of the items.

Data collection was then conducted using an online survey distributed to the selected real estate appraisers. The survey remained open for a specified period, and the final sample consisted of 161 completed responses. Participants were assured that their responses would remain confidential, and their participation was voluntary. Once the data were collected, they were analyzed using Structural Equation Modeling (SEM), an advanced statistical technique well-suited for exploring complex relationships between multiple variables. SEM allowed for the assessment of direct effects among the constructs, as well as the evaluation of the overall fit of the proposed model. SmartPLS 4.0 software was used for the analysis, which provided the tools necessary to estimate path coefficients, assess model fit, and evaluate the reliability and validity of the constructs. To ensure the reliability of the measurement instrument, several steps were taken. The items in the questionnaire were derived from well-established scales to enhance content validity. Reliability was assessed using Cronbach's Alpha and Composite Reliability, ensuring that the items consistently measured the intended constructs. Additionally, Average Variance Extracted (AVE) was calculated to assess the convergent validity of the constructs, ensuring that each construct was adequately represented by its items.

This methodology provides a structured framework for examining the determinants of real estate appraisal accuracy. By using convenience sampling, a well-structured questionnaire, and advanced data analysis techniques like SEM, this study aims to generate valuable insights into the factors that influence appraisal accuracy in the property business. The findings will contribute to the understanding of appraisal practices and the role of key determinants in ensuring accurate property valuations.

4. Results

The demographic profile of participants provides key insights into their characteristics and professional background (Table 1). The age distribution indicates that the majority of respondents (44.10%) are 55 years or older, followed by 34.16% in the 45–54 age group. The younger age groups, 35–44 years (14.91%) and 25–34 years (6.83%), have lower representation, suggesting that the field is primarily composed of experienced professionals with substantial industry exposure. Regarding gender distribution, the sample is predominantly male, accounting for 83.23% of participants, while females constitute only 16.77%. This significant gender imbalance highlights a male-dominated industry, which may reflect broader sectoral trends or cultural factors influencing workforce composition. The educational background of respondents shows a high level of academic achievement, with 72.67% holding a master's degree and 27.33% possessing a bachelor's degree. This suggests that the industry demands advanced qualifications and specialized knowledge. Work experience data reveals that a majority of respondents (52.79%) have more than 16 years of professional experience, followed by 26.09% with 6–10 years and 18.01% with 11–15 years of experience. Only a small percentage (3.11%) have fewer than five years of experience, reinforcing the notion that the sector is largely comprised of seasoned professionals. In terms of regional distribution, the Central Region has the highest representation (36.65%), followed by the Western Region (29.19%) and the Eastern Region (22.98%). The Northern Region has the lowest participation (11.18%), indicating a concentration of professionals in more economically active areas. The type of appraisals conducted predominantly focuses on land valuation, with 81.99% of respondents engaged in this category, while residential (11.18%) and commercial (6.83%) appraisals are significantly less common. This suggests that land appraisal plays a crucial role in the industry. The number of appraisals conducted annually varies, with 45.34% of respondents handling fewer than 10 appraisals, while 32.30% conduct between 10 and 50. Only 12.42% perform more than 100 appraisals annually, indicating that most professionals deal with a moderate workload. Lastly, the primary area of appraisal work

is heavily concentrated in the government/public sector, where 63.98% of respondents are engaged. In contrast, residential (14.29%) and commercial (9.94%) real estate appraisals, as well as private sector companies (11.80%), have lower representation. This suggests that government and public sector entities are the primary clients for appraisal professionals in this sample.

Table 1. Demographic profile of participants (n=161).

Category	Subcategory	Frequency	Percentage
Age	25–34	11	6.83%
	35–44	24	14.91%
	45–54	55	34.16%
	55+	71	44.10%
Gender	Male	134	83.23%
	Female	27	16.77%
Highest Education Level	Bachelor's degree	44	27.33%
	Master's degree	117	72.67%
Years of Experience	0–5 years	5	3.11%
	6–10 years	42	26.09%
	11–15 years	29	18.01%
	16+ years	85	52.79%
Region of Practice	Central Region	59	36.65%
	Western Region	47	29.19%
	Eastern Region	37	22.98%
	Northern Region	18	11.18%
Type of Appraisals Conducted	Residential	18	11.18%
	Commercial	11	6.83%
	Land	132	81.99%
Number of Appraisals Annually	Less than 10	73	45.34%
	10–50	52	32.30%
	51–100	16	9.94%
	More than 100	20	12.42%
Primary Appraisal Work	Residential Real Estate	23	14.29%
	Commercial Real Estate	16	9.94%
	Private Sector Companies	19	11.80%
	Government/Public Sector	103	63.98%

Table 2 presents a measurement model evaluating the reliability and validity of constructs related to real estate appraisal accuracy. Each construct—Market Dynamics, Technological Integration, Appraiser Expertise, Regulatory Framework, and Real Estate Appraisal Accuracy—is assessed using key metrics such as factor loadings, Cronbach's alpha, composite reliability, and average variance extracted (AVE). These metrics ensure the items used to measure each construct are reliable, consistent, and valid. The factor loadings, which indicate the strength of the relationship between each item and its corresponding construct, are all above 0.7, demonstrating strong alignment between the items and their respective constructs. In the Market Dynamics construct, items like MD2 (supply and demand) and MD3 (interest rates and inflation) have high loadings, suggesting they are critical indicators of market dynamics. In the Technological Integration construct, items like TI1 (AI and machine learning) and TI5 (technology adoption reduces errors) show strong loadings, emphasizing the role of technology in improving appraisal accuracy. High loadings across all constructs confirm the items effectively capture the intended concepts. Cronbach's alpha values, which measure internal consistency reliability, are all above the acceptable threshold of 0.7, indicating strong reliability within each construct. Market Dynamics has a Cronbach's alpha of 0.817, while Regulatory Framework has a value of 0.826, both indicating high consistency among their items. Composite reliability values, which assess the overall reliability of a construct based on its factor loadings, are also above 0.7 for all constructs, further confirming their reliability. The AVE values, which measure the amount of variance captured by a construct relative to measurement error, are all above 0.5, indicating good convergent validity. This means each construct explains more than half of the variance in its items, reinforcing the robustness of the measurement model.

Table 2. Measurement model.

Items and Constructs	Loadings	Cronbach's alpha	Composite reliability	Average variance extracted (AVE)
Market Dynamics		0.817	0.811	0.674
MD1: Economic fluctuations impact real estate appraisal values	0.717			
MD2: The supply and demand of properties affect appraisal outcomes	0.85			
MD3: Interest rates and inflation influence valuation accuracy	0.863			
MD4: Foreign investments and government projects impact property valuation.	0.811			
MD5: Market trends and buyer preferences shape appraisal decisions	0.788			
Technological Integration		0.732	0.749	0.788
TI1: AI and machine learning improve the accuracy of property appraisals	0.859			
TI2: Big data analytics enhances real estate valuation models	0.821			
TI3: Digital property databases improve accessibility to reliable appraisal information	0.703			
TI4: Geographic Information Systems (GIS) enhance location-based valuation accuracy	0.721			
TI5: Technology adoption reduces manual errors in appraisal processes	0.824			
Appraiser Expertise		0.786	0.817	0.691
AE1: Years of experience contribute to more precise real estate valuations	0.768			
AE2: Professional certifications improve appraisers' ability to assess property values	0.872			
AE3: Continuous training and development enhance valuation accuracy	0.782			
AE4: Appraisers with knowledge of market trends provide better property estimates	0.841			
AE5: Higher education in real estate leads to more reliable property assessments	0.875			
Regulatory Framework		0.826	0.745	0.774
RF1: Government policies help standardize property valuation practices	0.895			
RF2: Legal compliance enhances the reliability of real estate appraisals	0.898			
RF3: Licensing requirements ensure appraisers maintain high professional standards	0.748			
RF4: Regulatory updates contribute to improved valuation methodologies	0.881			
RF5: Industry guidelines prevent conflicts of interest in property appraisals	0.769			
Real Estate Appraisal Accuracy		0.807	0.799	0.644
AA1: The appraised property values align closely with actual transaction prices	0.861			
AA2: The appraisal reports provide accurate and justifiable valuations	0.881			
AA3: The appraisals reflect the current market conditions	0.736			
AA4: The valuation approach minimizes subjectivity and bias	0.731			
AA5: The appraisal process leads to consistent and reproducible results	0.872			

Table 3 assesses discriminant validity using the Fornell-Larcker criterion, ensuring each construct is distinct. Diagonal values (square root of AVE) are higher than off-diagonal values (construct correlations), confirming discriminant validity. Appraiser Expertise (0.832) has higher diagonal values than its correlations with other constructs, such as Real Estate Appraisal Accuracy (0.809). Similarly, Market Dynamics (0.821) and Technological Integration (0.888) show the same pattern. Strong correlations between Appraiser Expertise and Real Estate Appraisal Accuracy (0.809) highlight their close relationship, while Technological Integration has weaker links, suggesting its indirect influence.

Table 4 presents the path coefficients from a structural model, illustrating the relationships between four independent constructs—Market Dynamics, Technological Integration, Appraiser Expertise, and Regulatory

Framework—and the dependent construct, Real Estate Appraisal Accuracy. Each path is evaluated using Beta values, standard deviation, T statistics, and p-values to assess the strength, significance, and direction of the relationships. The results indicate that all four hypotheses (H1, H2, H3, H4) are supported, meaning each independent construct significantly influences real estate appraisal accuracy. Below is a detailed interpretation of the findings.

The beta values represent the strength and direction of the relationships. Market Dynamics has a beta of 0.355, indicating a moderate positive influence on appraisal accuracy. This suggests that factors such as economic fluctuations, supply and demand, interest rates, and market trends significantly impact the accuracy of property valuations. The T statistics (4.531) and p-value (0.000) confirm that this relationship is statistically significant. Similarly, Technological Integration shows a beta of 0.346, highlighting the positive role of technologies like AI, big data, and GIS in improving appraisal accuracy. The high T statistics (6.307) and significant p-value (0.001) further validate this relationship. These findings emphasize the importance of leveraging technology to enhance the precision and reliability of real estate appraisals.

Appraiser Expertise also demonstrates a significant positive relationship with appraisal accuracy, with a beta of 0.299. This indicates that factors such as years of experience, professional certifications, continuous training, and higher education contribute to more accurate property valuations. The T statistics (3.013) and p-value (0.003) confirm the statistical significance of this relationship. The strongest influence, however, comes from the Regulatory Framework, with a beta of 0.409. This suggests that government policies, legal compliance, licensing requirements, and industry guidelines play a critical role in standardizing appraisal practices and ensuring accuracy. The T statistics (3.352) and p-value (0.001) further reinforce the importance of a robust regulatory environment in maintaining high appraisal standards.

The results highlight the relative importance of each construct in influencing real estate appraisal accuracy. Regulatory Framework has the strongest impact, underscoring the need for well-defined policies and compliance mechanisms to ensure reliable appraisals. Market Dynamics and Technological Integration follow closely, emphasizing the role of economic conditions and advanced technologies in shaping accurate valuations. While Appraiser Expertise has a slightly lower Beta, it remains a critical factor, as the skills and knowledge of appraisers directly affect the quality of their assessments. These findings provide valuable insights for stakeholders, including appraisers, policymakers, and technology providers, to develop strategies that enhance appraisal accuracy.

Table 3. Discriminant validity (Fornell-larcker criterion).

	Appraiser Expertise	Market Dynamics	Real Estate Appraisal Accuracy	Regulatory Framework	Technological Integration
Appraiser Expertise	0.832				
Market Dynamics	0.754	0.821			
Real Estate Appraisal Accuracy	0.809	0.776	0.802		
Regulatory Framework	0.796	0.786	0.731	0.88	
Technological Integration	0.785	0.716	0.675	0.663	0.888

Table 4. Path coefficients.

Paths	Beta	Standard deviation	T statistics	P values	Results
Market Dynamics -> Real Estate Appraisal Accuracy	0.355	0.078	4.531	0.000	H1 supported
Technological Integration -> Real Estate Appraisal Accuracy	0.346	0.107	6.307	0.001	H2 supported
Appraiser Expertise -> Real Estate Appraisal Accuracy	0.299	0.099	3.013	0.003	H3 supported
Regulatory Framework -> Real Estate Appraisal Accuracy	0.409	0.122	3.352	0.001	H4 supported

The R-square (R^2) value of 0.451 in Figure 2 indicates that approximately 45.1% of the variance in Real Estate Appraisal Accuracy is explained by the four independent constructs in the model: Market Dynamics, Technological Integration, Appraiser Expertise, and Regulatory Framework. This moderate level of explanatory power suggests that the model captures a significant portion of the factors influencing appraisal accuracy.

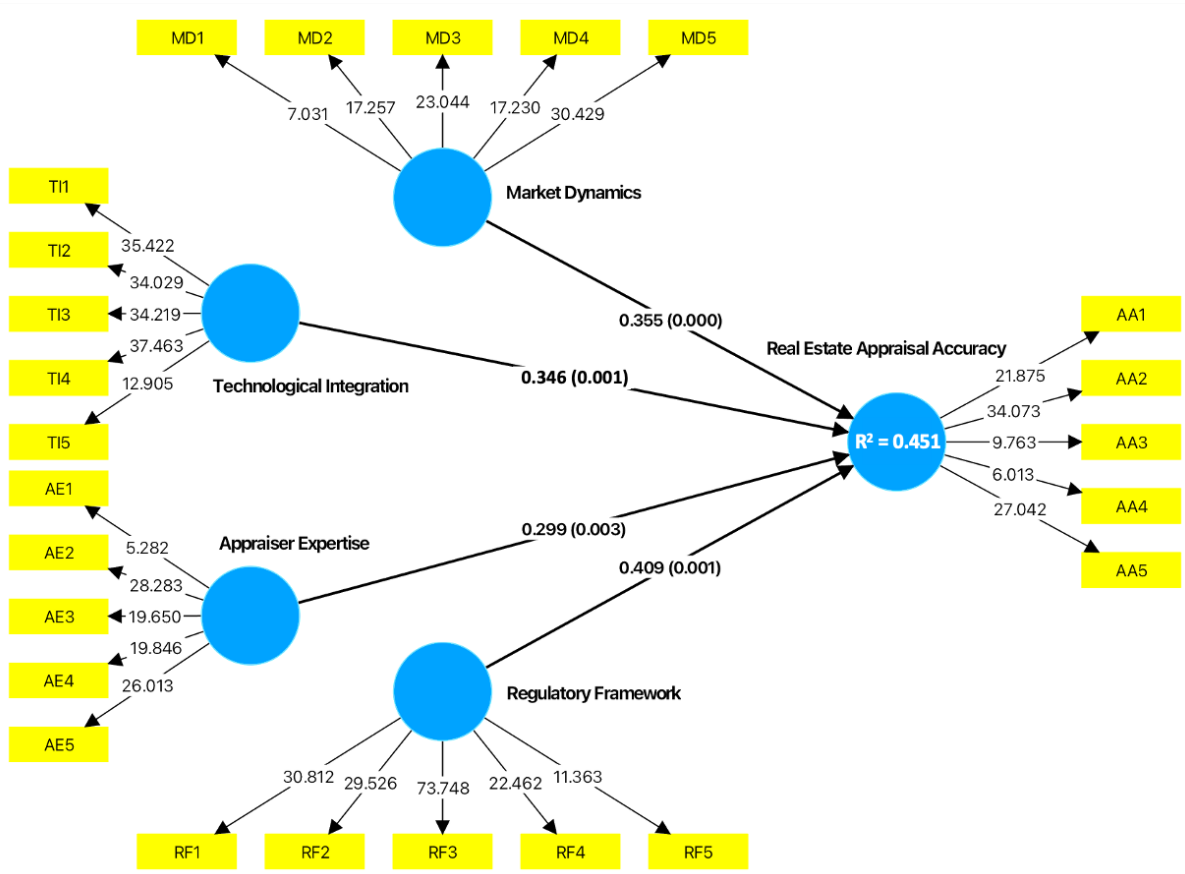

Figure 2. Structural model.

5. Discussion

The findings of this study provide valuable insights into the factors influencing real estate appraisal accuracy, specifically focusing on market dynamics, technological integration, appraiser expertise, and regulatory frameworks. The results confirmed that all four hypotheses were supported, highlighting the significant role each factor plays in enhancing the reliability of property valuations. The positive relationship between market dynamics and appraisal accuracy indicates that appraisers who are attuned to market conditions, such as economic trends, supply and demand, and market fluctuations, are more likely to produce accurate valuations. This aligns with previous research suggesting that appraisers who understand broader market forces can make more informed and precise judgments (Droj et al., 2024). It emphasizes the importance of continuous market monitoring and adaptation by appraisers to ensure that their valuations reflect current market realities.

Technological integration was also found to significantly influence appraisal accuracy. The use of advanced technological tools, such as AVMs, GIS, and data analytics, enables appraisers to enhance the precision of their evaluations (Alsahan and AlZaidan, 2024). The findings support the idea that technology can streamline the appraisal process, reduce human error, and provide more consistent and reliable results. As technology continues to evolve, appraisers must stay updated with the latest tools and software to maintain their competitive edge and improve accuracy (Bogin & Shui, 2020; Al-Rimawi and Nadler, 2025). Appraiser expertise emerged as another critical determinant of appraisal accuracy (Lee et al., 2020). The study confirms that experienced appraisers with specialized knowledge and skills are better equipped to assess property values accurately. This underscores the need for ongoing professional development, training, and certification for appraisers to keep their expertise current and ensure high-quality valuations (Vaz, 2015). Experience and expertise are crucial, particularly when valuing complex or unique properties where market data alone may not suffice. The regulatory framework was also found to play a significant role in ensuring appraisal accuracy. Regulatory standards and guidelines provide a structured approach to property valuation and ensure consistency across appraisers (Agosta et al., 2024). The study suggests that stronger enforcement of these

regulations could further improve appraisal quality by reducing discrepancies and ensuring that appraisers adhere to established best practices. This highlights the importance of regulatory bodies in maintaining trust and transparency within the real estate market.

The findings of this study have several practical implications. Real estate appraisers should prioritize staying informed about market trends, integrating technology into their practices, and continuously enhancing their expertise. Regulatory bodies must work to strengthen and enforce appraisal standards to ensure consistency and accuracy across the industry. Policymakers can also use these insights to create strategies that promote a more transparent and reliable real estate market, which ultimately benefits investors, buyers, and sellers. The study emphasizes the critical factors that impact real estate appraisal accuracy and provides actionable recommendations for improving appraisal practices. Future research could explore the impact of additional factors, such as economic instability or cultural differences, on appraisal accuracy, as well as examine the role of artificial intelligence and machine learning in transforming the appraisal process.

The findings of this study have significant implications for real estate appraisers, regulatory bodies, and policymakers in Saudi Arabia. For real estate appraisers in Saudi Arabia, the study underscores the importance of understanding the evolving market dynamics. Given the rapid growth of the Saudi real estate sector, especially with major development projects like NEOM and the Vision 2030 initiatives, staying informed about market conditions is crucial for producing accurate appraisals. Appraisers should also incorporate advanced technological tools such as GIS and AVMs into their practices to improve accuracy and efficiency. Furthermore, continuous professional development and certification will help appraisers maintain high standards and enhance their expertise, especially in complex or unique property valuations. For regulatory bodies in Saudi Arabia, such as the Saudi Authority for Accredited Valuers (TAQEEM), the study suggests the need for stronger enforcement of appraisal regulations. This includes updating appraisal guidelines to align with current market trends, technological advancements, and international best practices. By strengthening regulatory frameworks, Saudi authorities can ensure consistency, reduce biases, and maintain high standards of transparency and reliability in property valuations. The establishment of clear and enforced standards will not only improve the appraisal process but also foster trust in the Saudi real estate market.

Policymakers in Saudi Arabia can leverage these findings to design policies that support a more transparent and stable real estate market. By promoting accurate property valuations, policymakers can help ensure that the market remains attractive to local and foreign investors, contributing to economic growth and the success of Vision 2030. Additionally, fostering a reliable and trustworthy real estate market will benefit all stakeholders, including buyers, sellers, and investors. The study's insights can be used to enhance real estate appraisal practices, improve market transparency, and support Saudi Arabia's ongoing real estate development, ultimately contributing to the stability and growth of the country's property business.

6. Conclusion

This study highlights the significant role of key factors—market dynamics, technological integration, appraiser expertise, and the regulatory framework—in determining the accuracy of real estate appraisals in Saudi Arabia. The research demonstrates that each of these factors plays a crucial role in ensuring precise and reliable property valuations. The findings emphasize the importance of continuously adapting to evolving market conditions, advancing technological capabilities, and fostering professional expertise among appraisers. Real estate appraisers should prioritize staying updated with the latest market trends and technological advancements, as these elements directly affect the accuracy of their valuations. Enhancing appraiser expertise through training and certifications is also crucial in maintaining consistency and quality in appraisals. Additionally, regulatory bodies must strengthen guidelines and frameworks to ensure uniformity and transparency in the appraisal process, reducing variability and bias in property valuations. For policymakers, these findings offer valuable insights to shape strategies that promote trust and stability within the real estate market. By improving the credibility of property valuations, the overall market can experience more stability and reliability. This study contributes to the understanding of the factors influencing real estate appraisal accuracy and provides actionable recommendations for appraisers, regulators, and policymakers. Future

research could further explore these factors across different regions or delve deeper into the impact of specific market conditions or technological innovations on appraisal practices.

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