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INTRAPRENEURSHIP INNOVATION STRATEGIES AND PERFORMANCE OF REAL ESTATE FIRMS IN KIAMBU COUNTY, KENYA

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ABSTRACT

The real estate sector in Kiambu County, Kenya is experiencing rapid growth due to urbanization, infrastructural development, and increased investment. However, real estate firms continue to face performance challenges, including fluctuating property demand, high operational costs, regulatory constraints, and limited access to financing. These challenges necessitate the adoption of intrapreneurial innovation strategies to enhance firm performance. This study examined the effect of intrapreneurial innovation strategies on the performance of real estate firms in Kiambu County, Kenya, focusing on market segmentation and innovation accounting. The study was anchored on Market Segmentation Theory and Signaling Theory, which provide a theoretical foundation for understanding the impact of these strategies on business performance. The study employed a descriptive research design to systematically analyze the relationship between intrapreneurial innovation strategies and firm performance. The target population consisted of 1,524 registered real estate firms in Kiambu County, with a sample size of 317 firms, determined using Yamane's (1967) formula. A stratified random sampling technique was used. Primary data was collected through structured questionnaires, which was tested for validity and reliability before data collection. Data analysis was conducted using SPSS Version 28. Content of the questionnaire was approved by the supervisors and marketing managers in the real estate sector. Findings show that; there is a strong positive and statistically significant relationship between market segmentation and performance of real estate firms in Kiambu County, Kenya, and a strong positive and statistically significant relationship between innovation accounting and performance of real estate firms in Kiambu County, Kenya. The recommendations are; real estate firms should invest in advanced data analytics tools to segment customers based on the changing demographics, psychographics, geographical, and customers' behaviours and the firms should adopt innovation accounting structures that evaluate the financial feasibility and effect of new products, services, and technologies.

Key Words: Intrapreneurial Innovation Strategies, Performance of Real Estate Firms, Market Segmentation, Innovation Accounting, Kiambu County, Kenya

Background of the Study

In today's rapidly evolving business landscape, organizations are increasingly recognizing the importance of fostering innovation and driving change from within. Intrapreneurship is generally defined as the set of innovation activities performed by employees within an organization. The purpose of such activities is to direct all efforts towards the development of new innovative products, services or practices and strategies (Escriba-Carda et al., 2020). Intrapreneurship is a concept that goes beyond traditional innovation strategies and empowers employees to act as entrepreneurs within their organizations. Intrapreneurship is not just about generating innovative ideas; it's also about creating a culture of entrepreneurship, where individuals can take risks, challenge the status quo, and drive tangible results (Hernández-Perlines et al., 2022).

Intrapreneurship goes beyond mere compliance with existing processes; it encourages employees to challenge the status quo, explore new ideas, and drive positive change. Unlike traditional hierarchical structures, intrapreneurial organizations foster a culture of creativity, risk-taking, and continuous learning (Farrukh et al., 2021). When employees are encouraged to innovate and explore new approaches, it keeps the organisation dynamic and relevant in today's fast-changing business landscape. Additionally, intrapreneurship boosts employee engagement, motivation, and job satisfaction. (Marín-García et al., 2021). Encouraging employee ownership of ideas and projects fosters a sense of purpose and pride in their work. This autonomy, combined with risk-taking and initiative, enhances organisational agility and adaptability to market changes through intrapreneurship (Huang et al., 2021).

Market segmentation consists of clustering the firms' potential consumers in groups (called market segments) that clearly differ from each other but show a great deal of homogeneity within the group. The objective is to find groups of consumers who share the same or similar preferences. Each subset may conceivably be chosen as a market target to be reached with a distinctive marketing strategy. The process begins with a basis of segmentation a product specific factor that reflects differences in customers' requirements or responsiveness to marketing variables (Abeysekera, 2023). Although so many definitions of market segmentation are given with different words, the core of market segmentation is that it's a set of potential customers alike in the way they perceive and value the product, in their purchasing behavior, and in the way they use the product (Shili, 2024).

Innovation accounting is the deliberate distortion of the communication between entities and shareholders by the activities of financial statement preparers who wish to change the content of the information being transmitted. Innovation accounting is mainly based on finding loopholes in accounting rules that enable the professional accountant to alter the financial income of companies. When no fraud is involved, innovation accounting in its strict sense involves the transformation of financial accounts using accounting choices, estimates and other practices allowed by accounting regulations (Ovharhe, 2024).

Statement of the Problem

Kiambu County has emerged as a key real estate investment hub in Kenya due to its proximity to Nairobi, rapid urbanization, and infrastructural development. However, despite the sector's growth, real estate companies in the county face significant performance challenges, including fluctuating property demand, rising construction costs, regulatory constraints, and access to financing. Despite the positive trends, the real estate sector experienced a slight deceleration, with growth slowing to 6.6% in the first quarter of 2024, down from 7.3% in the same period in 2023 (Knight Frank, 2024). In Kiambu, property sales remain high, with 76.2% of listed properties successfully sold in 2023. However, the land price appreciation has been uneven. For instance, land in Ruaka saw a surge from KSh 40 million to KSh 90 million per acre following infrastructural development, while other areas have faced stagnation (Cytonn, 2023). This has significantly affected the profit margin of the real estate firms.

Further, the developers struggle with reduced speculative investments and financing challenges. The Kenya Bankers Association (2024) reported a 3.4% drop in house prices in Q3 2024, leading to a 14.28% year-on-year decline, impacting the revenue streams of real estate firms. Kenya Bankers Association (2025) report shows that credit to the real estate sector grew slightly by 2.36%, but lending to the construction sector dropped by 13.47% due to 9.1% increase in building costs. Some developers are struggling to secure financing for new projects, which slowed down the supply of new homes. Knight Frank (2021) reported that the high cost of financing developments is leading to an unprecedented number of properties in Kenya being put up for auction. The average occupancy rate also declined by 3.5% points to 79.4% in 2022, from 82.9% that was recorded in 2016. In the residential sector, developers targeting the high-end clientele are having a hard time selling/renting out properties due to a saturation of that market (The Cytonn Q1'2021).

According to the Central Bank of Kenya (2022), the gross Non-Performing Loans (NPLs) in the Real Estate sector increased by 12.2%. The Report added that despite government's efforts to conclude various infrastructure projects in the country, there exists some areas with inadequate infrastructure services such as water, sewer, and, road networks thus hindering the optimum retail investments in the areas. Additionally, market share is under pressure, as Kiambu accounts for a growing portion of the Nairobi Metropolitan Area's industrial space (approximately 90% nationally, with Kiambu contributing notably due to developments like Tatu City), but faces risks from oversupply and economic slowdowns that could erode its competitive edge.

Various researchers have focused on intrapreneurship innovation strategies; Onea (2023) examined the role of Intrapreneurship on business growth and found that intrapreneurship has a positive effect on business growth. Otolo, Muathe, and Kimencu (2024) investigated effect of intrapreneurial strategies on performance of public universities in Kenya and concluded that the adoption of intrapreneurial strategies improves performance of public universities. There is study limitation on effect of intrapreneurship innovation strategies on performance of real estate firms in Kiambu County, Kenya. This study sought to fill the research gap by examining the effect of intrapreneurship innovation strategies and performance of real estate firms in Kiambu County, Kenya.

Objectives of the Study

General Objective

The general objective of the study was to examine the effect of intrapreneurship innovation strategies on performance of real estate firms in Kiambu County, Kenya.

Specific Objectives

i. To determine the effect of market segmentation strategy on performance of real estate firms in Kiambu County, Kenya.
ii. To establish the effect of innovation accounting strategy on performance of real estate firms in Kiambu County, Kenya.

LITERATURE REVIEW

Theoretical Review

Market Segmentation Theory

Market Segmentation Theory, developed by Wendell R. Smith (1956), posits that businesses can optimize their marketing efforts by dividing a broad market into distinct consumer groups based on shared characteristics. This segmentation allows firms to tailor their products, services, and promotional strategies to meet the unique needs of each segment, thereby improving efficiency, customer targeting, and profitability. The theory is rooted in the assumption that markets are inherently heterogeneous, meaning that consumers have different preferences, purchasing behaviors, and needs. By identifying and catering to homogeneous subgroups, businesses can enhance customer satisfaction and competitive advantage.

Over the years, market segmentation has evolved beyond traditional demographic and geographic methods to include psychographic, behavioral, and data-driven approaches. Initially, firms segmented customers based on age, income, gender, and location, but with the advent of advanced analytics, segmentation now considers lifestyle, interests, values, and purchasing habits. For example, companies today use big data, artificial intelligence, and predictive analytics to refine segmentation strategies, allowing for real-time adjustments to consumer preferences (Fuller, Hanlaw, & Wilde, 2005). This shift has made market segmentation more precise, ensuring that businesses can effectively anticipate customer needs and market trends.

Despite its benefits, Market Segmentation Theory has faced criticisms and limitations. Some scholars argue that over-segmentation can lead to inefficiencies, as firms may focus too narrowly on specific customer groups and neglect broader market opportunities (Wind & Bell, 2008). Additionally, segmentation requires extensive data collection and analysis, which can be resource-intensive and costly, particularly for small businesses. Another challenge is that consumer preferences are constantly evolving due to economic shifts, technological advancements, and cultural changes. Over-reliance on segmentation may create rigid marketing strategies that fail to adapt to emerging trends and new consumer behaviors.

In the real estate sector, Market Segmentation Theory is highly relevant due to the diverse nature of property buyers and renters. Consumers differ in income levels, lifestyle choices, property investment goals, and location preferences. For instance, high-net-worth individuals may seek luxury gated communities in Ruaka, while middle-income earners may prioritize affordable housing options in Ruiru and Juja. Real estate firms that effectively segment their target market can develop tailored property offerings, optimize pricing strategies, and enhance marketing efficiency. Furthermore, segmentation helps firms identify niche markets, such as student accommodations, expatriate housing, and retirement communities, thereby increasing revenue potential and market stability. This study explored the effect of market segmentation strategy on the performance of real estate firms in Kiambu County, Kenya. By applying Market Segmentation Theory, real estate firms can align their property developments with the specific needs of target customers, ultimately enhancing sales conversion rates, occupancy levels, and customer satisfaction. This approach not only improves firm profitability but also ensures sustainable business growth in a competitive real estate market.

Signalling Theory

Signalling Theory, introduced by Spence (1973), provides a framework for understanding how information is transmitted between parties in situations of asymmetric information. The theory explains that when one party (the signaller) has insider knowledge that is not accessible to another party (the receiver), the signaller strategically communicates information to reduce uncertainty and influence decision-making. In business and economics, signalling is a vital mechanism that helps bridge informational gaps, particularly in investment decisions, employment markets, and financial disclosures. Organizations, employees, and investors often rely on signals to make informed choices, whether about the quality of a product, the credibility of a company, or the growth potential of an innovation.

A key assumption of Signalling Theory is that signals must be credible and verifiable to be effective. If a signal is perceived as manipulative or misleading, it loses its impact and may create further information asymmetry. For example, in financial markets, firms often signal their financial health through earnings reports, dividends, or strategic partnerships. Similarly, job applicants use certifications, experience, and educational qualifications as signals to potential employers (Kirmani & Rao, 2000). This concept extends beyond finance and employment into marketing, branding, and corporate governance, where companies communicate signals to gain customer trust, attract investments, and maintain competitive advantages.

One of the critical challenges of Signalling Theory is the risk of misinterpretation. The effectiveness of a signal depends on the receiver's ability to interpret and trust the information being conveyed. Sliwka (2007) argues that in uncertain environments, people tend to imitate successful signallers, leading to herd behavior and market distortions. For example, when companies make overly optimistic projections about financial performance or innovation, investors might rush to invest, only to experience losses when the reality fails to match the signal. This phenomenon was evident in the dot-com bubble, where startups used aggressive signalling strategies to attract venture capital, often without tangible business models to back their claims. Therefore, ensuring honest, transparent, and evidence-based signalling is crucial for building long-term trust and credibility.

In the context of innovation accounting, Signalling Theory plays an essential role in conveying the progress, value, and potential of innovative projects. Unlike traditional financial accounting, innovation accounting focuses on early-stage indicators, such as customer feedback, prototype testing, and market validation metrics. These metrics act as signals to investors, executives, and customers, indicating whether an innovation is viable and scalable (Myers & Majluf, 2004). For firms to successfully raise capital or attract strategic partners, they must ensure that their innovation signals are data-driven, credible, and backed by measurable outcomes. Innovation accounting provides structured methodologies for tracking research and development progress, gauging customer adoption, and assessing long-term scalability, making it an indispensable tool in modern business strategy.

Signalling Theory is particularly relevant to the real estate sector in Kiambu County, where firms must signal their financial stability, project viability, and investment potential to attract buyers, investors, and regulatory approvals. Given the capital-intensive nature of real estate developments, firms use various signals—such as pre-sale agreements, government approvals, and partnerships with financial institutionsto instill confidence in stakeholders. In relation to this study, innovation accounting serves as a critical signalling mechanism, allowing real estate firms to communicate early-stage project milestones, cost efficiency strategies, and return-on-investment (ROI) projections. This aligns with the study’s objective of determining the effect of innovation accounting strategy on the performance of real estate firms in Kiambu County, as it highlights the importance of data transparency, investor confidence, and financial credibility in driving business success.

Conceptual Framework

A conceptual framework is a representation that shows how the variables in a study relate to each other. The framework helps the reader see at a glance the proposed relationships between the variables in the study graphically or diagrammatically (Alan, 2021). Figure 2.1, shows the conceptual framework. The independent variables are market segmentation strategy and innovation accounting strategy while the dependent variable is the performance of real estate firms in Kiambu County, Kenya.

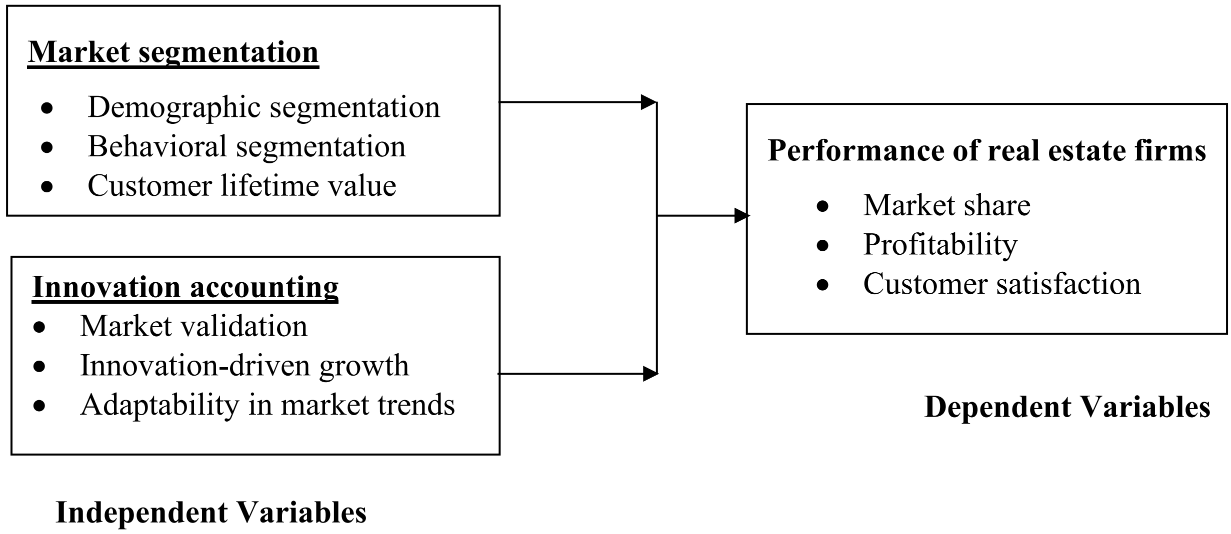

Figure 1: Conceptual Framework

Market Segmentation Strategy

Market segmentation strategy is a marketing approach that involves dividing a heterogeneous market into smaller, homogeneous segments based on shared characteristics to better meet customer needs and maximize business performance (Kotler & Keller, 2022). According to Armstrong, Kotler, and Opresnik (2021), segmentation allows companies to identify distinct groups of consumers who respond similarly to marketing stimuli, thereby enabling businesses to tailor their strategies to specific market segments. The primary goal of segmentation is to enhance customer engagement, optimize resource allocation, and improve competitive positioning. In today's data-driven business environment, companies leverage demographic, geographic, psychographic, and behavioral segmentation models to align their offerings with customer expectations (Wibowo & Hisara, 2024).

Recent research highlights the growing importance of data analytics and artificial intelligence (AI) in refining segmentation strategies. Judijanto et al. (2024) emphasize that businesses leveraging predictive analytics and machine learning models can better identify emerging consumer patterns and make real-time adjustments to their segmentation efforts. Market segmentation is no longer just about static classifications; it is now an ongoing, dynamic process that continuously evolves based on consumer behavior, technological advancements, and economic conditions. Businesses that invest in customer data platforms (CDPs) and AI-driven segmentation tools can gain deeper insights into consumer preferences and deliver personalized experiences, leading to higher customer retention and revenue growth.

One of the key benefits of market segmentation strategy is enhanced targeting and positioning. Research by Atotileto, Odonye, and Esther (2024) indicates that companies implementing well-defined segmentation approaches experience increased customer satisfaction, brand loyalty, and profitability. Segmentation allows firms to craft customized marketing messages, ensuring that each segment receives relevant and appealing communication. Additionally, effective segmentation helps companies optimize pricing strategies by aligning price points with the perceived value of each customer segment. By strategically differentiating products and services based on customer needs, income levels, and purchasing behavior, businesses can maximize their market share and long-term profitability.

Despite its advantages, market segmentation presents challenges and limitations. Kurnia et al. (2022) argue that over-segmentation can lead to excessive marketing costs, resource misallocation, and operational inefficiencies. When businesses focus on too many niche segments, they risk diluting brand identity and complicating supply chain management.

Additionally, segmentation heavily depends on accurate and reliable data, and poor data quality can lead to incorrect targeting and misguided marketing strategies. Dynamic market conditions also pose a challenge, as consumer behavior and preferences are constantly shifting due to technological, social, and economic factors. Therefore, businesses must adopt agile segmentation strategies that allow for flexibility and continuous optimization.

This study focused on market segmentation strategy and its impact on business performance. The study examined three key constructs: demographic segmentation (age, income, occupation, etc.), behavioral segmentation (consumer habits, brand loyalty), and customer lifetime value assessment (long-term profitability of customer relationships). By analyzing how these segmentation strategies influence business outcomes, the study aimed to provide insights into how firms can enhance competitiveness, efficiency, and market positioning.

Innovation Accounting Strategy

Innovation accounting strategy is a non-traditional financial measurement system that helps businesses track and evaluate the progress of their innovation activities. Unlike conventional accounting, which primarily focuses on profitability and revenue generation, innovation accounting focuses on early-stage indicators, market validation, and long-term scalability (Jemala, 2024). According to Saiz-Alvarez (2024), innovation accounting is essential for organizations that rely on continuous innovation and research-driven business models, such as technology firms, startups, and knowledge-intensive industries. This strategy provides managers and investors with relevant performance metrics that are not captured by standard financial statements, thereby enabling better decision-making in uncertain environments.

With the rise of digital transformation and technological advancements, innovation accounting has become a key component in strategic business planning. Putera, Widianingsih, and Rianto (2022) highlight that big data, machine learning, and real-time analytics have significantly enhanced firms' ability to assess and quantify innovation-driven growth. Many companies now employ innovation accounting dashboards, which track key performance indicators (KPIs) such as customer acquisition costs, product-market fit, and return on innovation investment (ROI2). These tools help businesses adjust their strategies proactively, ensuring that innovation efforts align with market demands and business objectives.

The effectiveness of innovation accounting strategy has been widely studied in the context of entrepreneurial growth, business agility, and investment decision-making. Research by Atotileto, Odonye, and Esther (2024) found that firms with structured innovation accounting practices achieved higher funding success rates, reduced time-to-market, and improved innovation project success rates. A critical advantage of this strategy is that it provides quantifiable insights into the innovation process, allowing companies to measure market validation, innovation scalability, and financial sustainability before committing significant resources. This is particularly relevant for companies in high-risk industries, such as pharmaceuticals, fintech, and artificial intelligence-driven enterprises.

However, despite its advantages, innovation accounting strategy presents challenges and limitations. Uzun (2024) argues that many businesses struggle to integrate innovation accounting into traditional financial reporting systems, leading to discrepancies in financial analysis and investor confidence. Additionally, measuring intangible assets such as intellectual property, brand equity, and customer loyalty remains complex and often subjective. Another limitation is the lack of standardized innovation accounting frameworks, making it difficult for firms to benchmark their innovation performance against competitors. To address these challenges, organizations are increasingly adopting hybrid accounting models that blend traditional financial metrics with innovation-driven KPIs.

This study focused on innovation accounting strategy and its role in business performance. The study analyzed three key constructs: market validation (ensuring innovation meets customer demand), innovation-driven growth (measuring how innovation contributes to revenue expansion), and scalability (assessing the long-term sustainability of innovation initiatives). By examining how innovation accounting influences investment decisions, business sustainability, and competitive advantage, this research aimed to provide insights into how firms can enhance their innovation capabilities and maximize long-term profitability.

Performance of Real Estate Firms

The performance of real estate firms is a crucial metric that determines the financial health, market position, and long-term sustainability of businesses operating in the real estate sector. According to Newell (2025), real estate firms' performance is evaluated based on key indicators such as market share, profitability, return on investment (ROI), and customer satisfaction. Sun et al. (2025) highlight that external factors such as macroeconomic conditions, interest rates, consumer purchasing power, and government regulations significantly influence the profitability and stability of real estate companies. The real estate sector is cyclical, meaning that firms must constantly adapt to changing market conditions to remain competitive.

Technological advancements have increasingly redefined performance metrics in the real estate industry. Farroñán et al. (2025) argue that prop-tech solutions, artificial intelligence (AI), and blockchain applications have improved operational efficiency and enhanced investment decision-making. The use of big data analytics and machine learning models allows real estate firms to accurately forecast demand, optimize pricing strategies, and streamline property management operations. Furthermore, digital platforms and virtual property tours have transformed the customer acquisition process, leading to higher sales conversions and customer engagement. These innovations contribute to higher firm efficiency, reduced operational costs, and greater investor confidence.

A critical aspect of real estate performance is the impact of sustainability and green building initiatives. Musyarofah et al. (2025) emphasize that firms investing in energy-efficient buildings, smart infrastructure, and sustainable urban developments tend to outperform traditional real estate companies in the long run. The growing demand for eco-friendly properties and adherence to environmental, social, and governance (ESG) principles has led many real estate firms to shift towards sustainable investment models. Research suggests that sustainability-focused real estate projects attract higher occupancy rates, better rental yields, and increased investor interest compared to conventional properties.

Despite these advancements, the real estate industry faces multiple challenges that affect firm performance. Bihari and Hellesen-Hansen (2024) note that market volatility, financing constraints, and regulatory uncertainties remain significant barriers to real estate sector growth. Additionally, the COVID-19 pandemic has disrupted property markets globally, causing a shift in consumer preferences, rental demand, and investment patterns (Sattar & Jalal, 2024). Some real estate firms have struggled with declining occupancy rates, increased property vacancies, and shifting commercial real estate trends. These challenges underscore the importance of risk management strategies and financial diversification in ensuring long-term resilience in the sector.

This study focused on the performance of real estate firms and its relationship with intrapreneurship innovation strategies. The study analyzed three key constructs: market share (the firm's competitive standing in the industry), profitability (financial returns and investment success), and customer satisfaction (the level of service quality and buyer experience). By examining these performance indicators, this research aimed to provide insights into how real estate firms can optimize operational efficiency, adapt to technological advancements, and enhance overall business sustainability.

Empirical Review

Market Segmentation Strategy and Firm Performance

Nur and Siregar (2024) did a study on exploring the use of cluster analysis in market segmentation for targeted advertising. This study, conducted in Indonesia, aimed to assess how cluster analysis as a market segmentation strategy enhances business performance in targeted advertising. The researchers used quantitative methodology, employing cluster analysis techniques on a dataset of 500 retail businesses that implemented digital advertising campaigns. The study utilized K-means clustering algorithms to segment consumers based on purchase behavior, online engagement, and demographic factors. The findings revealed that firms employing cluster-based segmentation experienced a 23% increase in advertising efficiency, leading to higher conversion rates and customer engagement. The study concluded that data-driven segmentation models significantly improve business performance by optimizing marketing spend and targeting high-value customer segments.

Handoyo, Suharman, and Ghani (2023) researched the impact of market segmentation on operational efficiency in manufacturing firms. This empirical study, conducted in Malaysia, explored how market segmentation influences operational efficiency and firm performance in the manufacturing sector. The research utilized mixed methods, combining quantitative surveys of 300 manufacturing firms with qualitative interviews of key executives. Data analysis was performed using multiple regression analysis to determine the effects of demographic, geographic, and psychographic segmentation on inventory management, production cycles, and customer fulfillment. The findings revealed that firms implementing sophisticated segmentation strategies reduced waste by 12%, improved production efficiency by 9%, and enhanced profitability by 15%. The study concluded that well-structured segmentation models allow firms to optimize supply chain operations and improve customer responsiveness.

Hajibaba, Grün, and Dolnicar (2020) researched the effect of market segmentation on financial performance in the hospitality industry. This study focused on the hospitality industry in Australia, assessing the financial impact of market segmentation on hotel performance. Researchers used secondary data from 150 luxury hotels and employed hierarchical cluster analysis and multiple regression analysis to establish relationships between customer segmentation and revenue growth. The findings demonstrated that hotels implementing precise psychographic and behavioral segmentation achieved a 14% increase in annual revenue per available room (RevPAR) and a 9% higher customer retention rate. The study suggested that hospitality firms leveraging personalized marketing and segmentation strategies experience better financial outcomes compared to competitors relying on broad market approaches.

Abrokwah-Larbi and Awuku-Larbi (2024) did a study on market segmentation and artificial intelligence in enhancing SME performance. Conducted in Ghana, this study investigated how artificial intelligence (AI)-driven market segmentation influences the performance of small and medium-sized enterprises (SMEs). The researchers employed an experimental design, where 200 SMEs were randomly assigned into two groups: one using AI-driven segmentation tools and another using traditional manual segmentation approaches. The study applied machine learning algorithms, including decision trees and neural networks, to analyze consumer behavior data. The results showed that firms adopting AI-driven segmentation models saw a 32% increase in revenue, a 19% reduction in customer acquisition costs, and a 27% boost in customer retention rates. The study emphasized the need for SMEs to leverage AI-powered segmentation to maximize marketing efficiency and sales performance. These empirical studies highlight the critical role of market segmentation strategy in driving business performance across various industries and geographical regions. The studies demonstrate that data-driven, AI-powered, and cluster-based segmentation models significantly enhance marketing efficiency, operational effectiveness, financial returns, and customer satisfaction.

This research provides strong evidence that market segmentation is a key determinant of competitive advantage and long-term sustainability in modern business environments.

Innovation Accounting Strategy and Performance

Sari, Pratadina, and Anugerah (2021) examined the effect of environmental management accounting practices on organizational performance. This study, conducted in the United Kingdom, focused on the impact of environmental management accounting (EMA) practices on corporate financial performance. Using a longitudinal case study approach, the research analyzed 15 multinational corporations (MNCs) that had adopted green accounting innovations. The methodology included content analysis of financial reports, sustainability disclosures, and in-depth interviews with chief financial officers (CFOs). Findings indicated that firms with robust environmental accounting strategies reported a 20% improvement in corporate reputation, an 18% increase in stakeholder trust, and a 12% rise in long-term financial performance. The study concluded that incorporating sustainability into financial reporting enhances a company's market competitiveness and operational efficiency.

Handoyo, Suharman, and Ghani, (2023) researched on the role of business strategy, operational efficiency, and innovation accounting in manufacturing firms. This study, conducted in Indonesia, explored how innovation accounting strategies affect the performance of manufacturing firms. The researchers employed a mixed-methods approach, combining quantitative surveys of 250 manufacturing firms with qualitative interviews of 30 financial managers. The study applied multiple regression analysis to examine the relationship between innovation-driven accounting systems, operational efficiency, and financial growth. Results showed that companies integrating innovation accounting systems into their business strategies recorded a 17% increase in revenue growth and a 14% reduction in cost inefficiencies. The study highlighted that real-time performance tracking and predictive financial analytics enabled firms to optimize resource allocation and enhance profitability.

Roffia, Henschel, and Getzin (2025) researched on unraveling the nexus between management accounting use and financial performance. This study, conducted in Germany, examined the role of strategic management accounting practices in improving firm performance. The researchers adopted a quantitative survey method, collecting financial data from 400 firms across different industries. Advanced econometric modeling techniques, including panel regression analysis and Granger causality tests, were used to assess the cause-and-effect relationship between accounting innovation and financial outcomes. The results revealed that companies utilizing real-time performance analytics, rolling forecasts, and data-driven budgeting models experienced 22% better financial resilience compared to firms using traditional accounting methods. The study emphasized the importance of strategic management accounting tools in enhancing financial agility and risk mitigation.The reviewed studies illustrate the positive relationship between innovation accounting strategies and business performance across various sectors. The findings emphasize that digital transformation, AI-driven financial analytics, and strategic management accounting innovations contribute to increased financial transparency, efficiency, and long-term profitability. Firms that integrate real-time performance tracking, predictive analytics, and sustainability-driven accounting into their business models experience better financial decision-making and competitive advantage.

RESEARCH METHODOLOGY

A descriptive research design was employed to examine the current state of intrapreneurial innovation strategies and their relationship with firm performance. This design was appropriate because it enables the analysis of real-world conditions, relationships among variables, and identification of existing patterns without manipulating the study environment. The approach allowed the use of both qualitative and quantitative data to assess key innovation constructs such as market segmentation, and innovation accounting.

The target population consisted of 1,524 registered real estate firms operating in Kiambu County, as documented by the Estate Agents Registration Board (EARB, 2025). The unit of analysis was the real estate firm, while the unit of observation was the marketing manager of each firm. Kiambu County was selected due to its rapid urbanization, infrastructural growth, and competitive real estate landscape, making it suitable for assessing the influence of innovation strategies on firm performance. The sampling frame comprised all 1,524 EARB-registered firms. This comprehensive frame ensured full coverage of real estate firms operating within Kiambu County and minimized selection bias.

The sample size was determined using Yamane's (1967) formula at a 5% margin of error, yielding a sample of 317 firms, representing 21% of the population. A stratified random sampling technique was used, with sub-counties in Kiambu County forming the strata. Proportionate allocation ensured each sub-county was represented based on its share of the total population, followed by simple random sampling within each stratum. This method enhanced representativeness and reduced sampling error.

Primary data was collected using a structured questionnaire divided into sections aligned with the study variables. A 5-point Likert scale captured perceptions on market segmentation, innovation accounting, and firm performance indicators such as profitability, market share, and customer satisfaction. The instrument allowed efficient, standardized, and quantifiable data collection. The researcher obtained approval from JKUAT, a NACOSTI research permit, and authorization from EARB. Questionnaires were distributed electronically to sampled firms. Online administration enhanced coverage, reduced costs, maintained confidentiality, and minimized manual data entry errors. Follow-up reminders improved response rates.

A pilot test involving 32 marketing managers (10% of the sample) was conducted to assess feasibility, clarity, and instrument performance. Feedback informed revisions to wording, structure, and item clarity. Content validity was established through expert review by supervisors and industry practitioners, ensuring alignment with the conceptual framework. Construct validity was assessed using Confirmatory Factor Analysis (CFA), with an AVE $\geq$ 0.40 considered acceptable. Internal consistency was assessed using Cronbach's Alpha, with a threshold of 0.70. Items failing to meet this standard were revised or removed.

Data was analyzed using SPSS Version 28. Descriptive statistics (means, standard deviations, frequencies) summarized the characteristics of innovation strategies and firm performance. Inferential statistics included correlation analysis and multiple regression to determine the effect of market segmentation, and innovation accounting on firm performance. Findings were presented using tables for clarity and interpretability.

RESEARCH FINDINGS AND DISCUSSIONS

The study sampled 317 marketing managers and 32 were used for piloting. Questionnaires were hence administered to 285 respondents and 235 questionnaires were successfully answered. The response rate was 82.4% which good for analysis as recommended by Babbie (2004) that the response rate of 50% is acceptable for further analysis and 60% is good.

Descriptive Analysis

Market Segmentation Strategy

The first objective sought to determine the effect of market segmentation strategy on performance of real estate firms in Kiambu County, Kenya. Respondents were asked to tick on the extent to which they agree/disagree with statements related to market segmentation strategy. Findings are shown in Table 1.

Table 1: Market Segmentation Strategy

Key: SD=Strongly disagree, D=Disagree, N=Neutral, A=Agree, SA= Strongly agree, M=Mean, Std=Standard Deviation.

Statements	SD %	D %	N %	A %	SA %	M	Std.
The firm identifies and categorizes customers into different market segments based on their preferences.	3.4	10.6	6.8	21.7	57.4	3.97	1.351
Market segmentation helps in tailoring products and services to suit different customer needs.	8.9	8.9	6.8	11.9	63.4	3.88	1.363
The firm uses geographic segmentation to target customers based on location and property demands.	13.6	2.1	8.1	29.4	46.8	3.94	1.365
Demographic factors such as age, income, and occupation influence how the firm segments its market.	2.5	8.5	8.9	27.7	52.3	3.90	1.267
The firm uses psychographic segmentation to target clients based on lifestyle and property preferences.	8.1	5.1	3.8	37.9	45.1	4.07	1.193
Behavioral segmentation, such as analyzing customer purchase behavior, is used to enhance sales strategies.	6.8	6.4	8.1	29.4	49.4	3.92	1.201
The firm regularly updates its market segmentation approach to reflect industry trends and customer needs.	4.3	5.1	6.8	11.5	72.3	4.43	1.097
Effective market segmentation has improved the firm's overall sales and customer satisfaction.	6.0	2.1	2.1	29.4	60.4	4.36	1.059
Average						**4.06**	**1.237**

N=235

The results show that; the firms identifies and categorizes customers into different market segments based on their preferences (M=3.97, Std.=1.351) as strongly agreed by 57.4%, market segmentation helps in tailoring products and services to suit different customer needs (M=3.88, Std.=1.363) as strongly agreed by 63.4%, the firms uses geographic segmentation to target customers based on location and property demands (M=3.94, Std.=1.365) as strongly agreed by 46.8%, demographic factors such as age, income, and occupation influence how the firms segments their market (M=3.90, Std.=1.267) as strongly agreed by 52.3%, the firms use psychographic segmentation to target clients based on lifestyle and property preferences (M=4.07, Std.=1.193) as strongly agreed by 45.1%, behavioral segmentation, such as analyzing customer purchase behavior, is used to enhance sales strategies (M=3.92, Std.=1.201) as strongly agreed by 49.4%, the firms regularly update their market segmentation approach to reflect industry trends and customer needs (M=4.43, Std.=1.097) as strongly agreed by 72.3%, and effective market segmentation has improved the firms overall sales and customer satisfaction (M=4.36, Std.=1.059) as strongly agreed by 60.4%.

The results imply that the respondents agree or strongly agree that market segmentation is commonly applied and valued by the real estate companies in Kaimbu County. Further, the segmentation is not just wide spread but it's also strategically integrated into the firms' operations. The firms use various segmentation strategies which aligns with the location of properties, earnings and age of the target market, and customer lifestyle demands. The companies also use analytics to understand customers' buying patterns. The results also indicate that the segmentation strategies are often updated based on the market trends and customers' needs. This ensures that the firms meet market demands through designing products that meet customers' needs. The finding also imply that the firms are adaptive and innovative which is aligned to the principle of intrapreneurship. The fact that segmentation improves sales and customer satisfaction confirms that the firms recognize that aligning services with cutomer needs results to more sales and improved firm performance. The findings are in support of Abrokwah-Larbi and Awuku-Larbi (2024) that market segmentation is a key determinant of competitive advantage and long-term sustainability in modern business environments.

Innovation Accounting Strategy

The second objective sought to establish the effect of innovation accounting strategy on performance of real estate firms in Kiambu County, Kenya. Respondents were asked to tick on the extent to which they agree/disagree with statements related to innovation accounting strategy. Findings are shown in Table 2.

Table 2: Innovation Accounting Strategy

Key: SD=Strongly disagree, D=Disagree, N=Neutral, A=Agree, SA= Strongly agree, M=Mean, Std=Standard Deviation

Statements	SD %	D %	N %	A %	SA %	M	Std.
The firm uses financial analytics tools to track innovation and performance.	2.6	6.0	2.1	33.2	56.2	4.34	0.968
Innovation accounting helps in assessing the financial impact of new projects.	3.8	6.0	2.6	32.3	55.3	4.29	1.039
The firm integrates cost-benefit analysis in its financial reporting.	4.7	14.5	6.8	35.3	38.7	3.83	1.409
The adoption of innovation accounting practices has improved financial transparency.	5.9	1.3	4.2	37.0	51.5	4.30	0.921
Financial performance reports are regularly updated using innovation accounting principles.	0.9	3.4	8.5	50.2	37.0	3.90	0.813
The firm uses predictive financial models to assess market risks and investment decisions.	7.2	3.8	8.9	28.5	51.5	3.41	0.860
Innovation accounting contributes to more accurate budgeting and resource allocation.	3.0	5.5	12.8	19.1	59.6	3.90	1.529
The application of innovation accounting enhances long-term financial sustainability.	9.8	8.5	13.6	25.1	43.0	3.83	1.329
Average						**3.98**	**1.108**

N=235

Results show that; the firms use financial analytics tools to track innovation and performance (M=4.34, Std.=0.968) as strongly agreed by 56.2%, innovation accounting helps in assessing the financial impact of new projects (M=4.29, Std.=1.039) as strongly agreed by 55.3%, the firm integrate cost-benefit analysis in its financial reporting (M=3.83, Std.=1.409) as strongly agreed by 38.7%, adoption of innovation accounting practices has improved financial transparency (M=4.30, Std.=0.921) as strongly agreed by 51.5%, financial performance reports are regularly updated using innovation accounting principles (M=3.90, Std.=0.813) as agreed by 50.2%, the firms use predictive financial models to assess market risks and investment decisions (M=3.41, Std.=0.860) as strongly agreed by 51.5%, innovation accounting contributes to more accurate budgeting and resource allocation (M=3.90, Std.=1.529) as strongly agreed by 59.6%, and the application of innovation accounting enhances long-term financial sustainability (M=3.83, Std.=1.329) as strongly agreed by 43%.

The results imply that the firms are adopting data-driven financial tracking systems to assess the innovation efforts and firm performance. This portrays a financial innovation culture in the real estate sector. The firms mainly use innovation accounting to assess the effect of the new projects, improve financial transparency, to keep tab of the financial transactions in the firms. The practices show that the firms are using transparent accounting which promotes investor confidence and internal accountability. The firms use predictive models to assess risks and investment decisions which indicates that although firms are very cautious of the risks that may cause project delays and possible customer dissatisfaction. The firms in the real estate sector acknowledge that the innovating accounting helps in budgeting and resource allocation, and cost benefit analysis. Results are in agreement with Sari, Pratadina, and Anugerah (2021) that firms with robust environmental accounting strategies reported improvement in corporate reputation, an increase in stakeholder trust, and a rise in long-term financial performance.

Firm Performance

The managers were asked to tick on the extent to which they agree/disagree with statements related to performance of the real estate firms in Kiambu County, Kenya. Findings are shown in Table 3.

Table 3: Firm Performance

Key: SD=Strongly disagree, D=Disagree, N=Neutral, A=Agree, SA= Strongly agree, M=Mean, Std=Standard Deviation

Statements	SD %	D %	N %	A %	SA %	M	Std.
The firm's overall profitability has improved over the last three years.	59.6	11.9	4.3	18.3	6.0	1.99	1.384
Market segmentation strategies have led to increased revenue generation.	8.9	2.1	5.1	14.9	68.9	4.15	1.467
The firm has experienced significant growth in customer base and market share.	66.0	8.1	2.1	11.5	12.3	2.02	1.523
Financial stability has increased due to effective innovation accounting practices.	14.5	4.3	11.9	17.4	51.9	3.79	1.531
The firm's real estate projects have consistently met customer expectations and quality standards.	5.1	5.5	8.5	26.8	54.0	4.13	1.182
Innovation and strategic planning have strengthened the firm's competitive advantage.	5.1	5.5	8.5	26.8	54.0	3.89	1.515
Average						**3.42**	**1.447**

N=235

Results show that; the firms overall profitability has not improved over the last three years (M=1.99, Std.=1.384) as strongly disagreed by 59.6%, market segmentation strategies have led to increased revenue generation (M=4.15, Std.=1.467) as strongly agreed by 68.9%, firms have not experienced significant growth in customer base and market share (M=2.02, Std.=1.523) as strongly disagreed by 66%, financial stability has increased due to effective innovation accounting practices (M=3.79, Std.=1.531) as strongly agreed by 51.9%, the firm's real estate projects have consistently met customer expectations and quality standards (M=4.13, Std.=1.182) as strongly agreed by 54%, and innovation and strategic planning have strengthened the firm's competitive advantage (M=3.89, Std.=1.515) as strongly agreed by 54%.

Results imply that the most outstanding performance areas in the real estate firms are customer satisfaction and project quality. This shows that the firms are delivering value to the customers which is essential for customers' trust and brand reputation. The managers also highlighted that market segmentation and innovation strategies have helped to improve firm performance. However, profitability, growth in customer based and market share was rated low. This shows that irrespective of the strategic innovations, market expansion and financial performance among the firms is still low. The results show that the firms are making significant efforts in innovation, customer satisfaction, and delivery of quality projects resulting to improved profits and market share.

Correlation Analysis

The study used Pearson Correlation in order to measure the strength and the relationship between intrapreneurship innovation strategies and performance of real estate firms in Kiambu County, Kenya. A correlation value of ± 0.5 shows a strong correlation, ± 0.30 to ± 0.49 moderate correlation while ± 0.29 is a weak correlation. Significance is less than α=0.05. Correlation findings are presented in Table 4.

Table 4: Coefficient of Correlation

Variables		Firm performance	Market segmentation	Innovation accounting
Firm performance	Pearson Correlation	1		
	Sig. (2-tailed)			
	N	235		
Market segmentation	Pearson Correlation	.825**	1	
	Sig. (2-tailed)	.000		
	N	235	235	
Innovation accounting	Pearson Correlation	.540**	.432	1
	Sig. (2-tailed)	.000	.000	
	N	235	235	235

The Pearson correlation coefficient market segmentation and performance of real estate firms in Kiambu County, Kenya, is 0.825, with a p-value of 0.000. This shows a strong positive and statistically significant relationship between the variables. The strong correlation shows that firms that effectively identify and target customer segments are more likely to experience higher performance. Results are in support of Nur and Siregar (2024) concluded that data-driven segmentation models significantly improve business performance by optimizing marketing spend and targeting high-value customer segments.

The Pearson correlation coefficient innovation accounting and performance of real estate firms in Kiambu County, Kenya, is 0.540, with a p-value of 0.000. This shows a strong positive and statistically significant relationship between the variables. The strong correlation implies that financial innovation tools such as analytics, budgeting, and transparency are essential for strategic decision-making and sustainable firm growth. Findings support Latifah, Setiawan, and Aryani, (2021) that firms implementing innovative accounting systems achieved higher return on assets and return on investment.

Regression Analysis

Regression analysis was conducted to understand how a unit change in the independent variable may cause a change in the dependent variable. The coefficient of determination shows how a statistical model is expected to predict future results.

Table 5: Regression Coefficients

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta		
Constant/Y Intercept	4.696	.247		19.049	.000
Market segmentation	.744	.068	.672	20.274	.000
Innovation accounting	.739	.036	.605	10.876	.000

As per the SPSS generated in Table 5,

Firm Performance = 4.696 + 0.744 (market segmentation) +0.739 (innovation accounting).

Market segmentation show a statistically significant positive coefficient ($\beta = .744$, sig = .000), indicating that changes in market segmentation result to increased performance in real estate firms in Kiambu County. Market segmentation has the greatest effect on performance of distribution firms at 67.2% (std Beta = .672). Results concur with Hajibaba, Grün, and Dolnicar (2020) that implementing precise psychographic and behavioral segmentation increases annual revenue and higher customer retention rate.

Innovation accounting show a statistically significant positive coefficient ($\beta = .739$, sig = .000), indicating that changes in innovation accounting result to increased performance in real estate firms in Kiambu County. Innovation accounting has the second greatest effect on performance of distribution firms at 60.5% (std Beta = .605). Results concur with Roffia, Henschel, and Getzin (2025) that digital transformation, AI-driven financial analytics, and strategic management accounting innovations contribute to increased financial transparency, efficiency, and long-term profitability.

Conclusions

The study concludes that market segmentation is a key driver of performance in the real estate sector. Firms that actively identify and classify customers based on demographics, psychographics, geographical, behavior, and property performance recorded better performance in terms of increased sales, improved customer satisfaction, and a higher market share. Market segmentation strategy was the strongest predictor of firm performance which shows its importance in firm performance. Segmentation also helped the firms to personalize the needs of the customers and project allocates resources efficiently leading to higher revenue and customer retention.

Innovation accounting is a strong determinant of performance in the real estate sector. Majority of the firms have adopted financial analytics, predictive models, and cost-benefit evaluations which helps the firms to assess the feasibility of the innovative projects. The firms are also able to make evidence-based investment decisions and enhance financial transparency. Innovation accounting improves long-term sustainability, budget accuracy, and enables the firms to adapt to the changing economic conditions. This strengthens general strategic implementation and firm profits.

Recommendations

Market Segmentation Strategy and Performance of Real Estate Firms

Real estate firms should invest in advanced data analytics tools to segment customers based on the changing demographics, psychographics, geographical, and customers' behaviours. The segmentation strategies should also be reviewed regularly to align with the changing market demands like the increasing demand in affordable houses, gated communities, and investment in the real estate sector. The marketing managers should as well be trained on data-driven customer profiling to enhance targeting accuracy, reduce marketing expenses, and improve on sales.

Innovation Accounting Strategy and Performance of Real Estate Firms

The firms should adopt innovation accounting structures that evaluate the financial feasibility and effect of new products, services, and technologies. They should as well use predictive financial models and cost-benefit analysis to guide on investments and resource allocation. The management should incorporate innovation accounting into the firms' budget, performance evaluation, and strategic planning to support financial stability.

Areas for Further Research

This study focused on real estate firms in Kiambu County. A similar study should hence be conducted in other counties in Kenya for comparison purposes. The study may be conducted in other urban counties such as Nairobi, Mombasa, or Nakuru County for wider generalization of findings. The same study on intrapreneurship innovation strategies can be replicated to other sectors in Kenya such as manufacturing, hospitality, or fintech for comparison purposes. A study can also be conducted to determine the role of technology innovations like artificial intelligence, blockchain, or virtual reality in the real estate sector and their effect on firm performance. A comparative study can be conducted to assess the relationship between innovation-driven real estate firms and conservative firms. The study would offer better insights into the effectiveness of innovation strategies on firm performance.

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