

THE IMPACT OF TSMC'S ESTABLISHMENT IN TAIBAO, CHIAYI ON LOCAL SMALL-SCALE DEVELOPERS: CHALLENGES AND STRATEGIC RESPONSES

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ABSTRACT

This study focuses on Chiayi County and explores the effects of TSMC's factory establishment on the housing market in Chiayi's core area and examines the land acquisition and marketing strategies adopted by local small-scale developers in response. Following TSMC's announcement to set up a plant, the local government actively promoted public construction and infrastructure upgrades—enhancing roads, school districts, and overall living amenities—which gradually transformed Chiayi County into a region with growing development potential, stimulating both housing demand and supply momentum. First, this study reviews the literature to explore how TSMC's presence influences regional housing prices, land use, and residential supply. Then, it analyzes the characteristics of new housing projects in recent years, including the number of projects, floor area planning, building types, and developers' marketing focuses. To gain deeper insight into the current market and developer strategies, the study builds on the above findings and adopts a qualitative approach, interviewing six professionals—including architects, appraisers, developers, and scholars—to analyze the current state and future trends of the local housing market from multiple expert perspectives.

Key findings; (1) Although TSMC brings short-term excitement, most interviewees believe more attention should be paid to the actual inflow of workers and the diverse housing needs that follow—particularly regarding expectations for housing types, quality of life, and price affordability; (2) The influx of large developers from outside the region has driven up land and housing prices in Chiayi's core areas, posing significant challenges for local developers in land acquisition and project launching. Moreover, current residential products lack differentiation and unique features, especially in the apartment market, where many projects heavily emphasize "smart homes" and "living convenience," resulting in market saturation and fatigue; (3) In terms of strategic responses, local developers must establish new market segmentation, target customer groups, and product positioning. Three strategic recommendations are proposed: (a) Segment the market based on home-buying purposes and lifestyles—such as first-time buyers, upgraders, tech professionals, and investors; (b) Offer differentiated products for each group, such as affordable high-function homes, medium-to-large smart homes, or compact units with rental potential for budget-conscious buyers; (c) Strengthen brand identity by aligning product positioning with different customer appeals—such as convenience, brand trust, investment value, and regional identity.

Keywords: TSMC, Real Estate Market, STP Theory, Product Positioning

1. INTRODUCTION

According to data from the Ministry of the Interior (2008), since Taiwan Semiconductor Manufacturing Company (TSMC) entered the Tainan Science Park in 1997, it has rapidly driven industrial development in Tainan, elevated Taiwan's semiconductor industry on the global stage, and earned the reputation of being the "Guardian of the Nation." With the ongoing global digital transformation and growing demand for semiconductors, Taiwan's role as a major hub for chip production has gained widespread international recognition. TSMC continues to expand its advanced manufacturing capacity, extending from the Southern Taiwan Science Park centred in

Tainan to Chiayi, Kaohsiung, and Pingtung—forming what is now referred to as a “semiconductor technology corridor.

In March 2024, the Executive Yuan, Chiayi County Government, and TSMC jointly announced the construction of two advanced packaging and testing plants in the Chiayi Science Park, covering approximately 20 hectares. Construction is scheduled to begin in 2024, with the first facility expected to be completed by 2026 and mass production starting in 2028. The project is anticipated to attract 3,000 to 4,000 engineers, generate an annual output value of NT\$38 billion, and draw in numerous supply chain vendors—giving a strong boost to Chiayi County’s economy and industrial development.

This rapid industrial expansion not only promotes employment and income growth but also drives both volume and price increases in the real estate market, creating a bullish trend. The past development of Tainan offers a glimpse into the potential future of Chiayi, which may help attract young people to return for work and entrepreneurship, spurring population growth and rejuvenation. In addition to inflation-driven price hikes, the wave of infrastructure development has further pushed up housing prices in Chiayi.

On the other hand, local small-scale developers face significant challenges amid the resource concentration and market reshuffling triggered by the arrival of large enterprises. These challenges include constraints in funding, technology, scale, and risk management. As the prices of buildable land continue to rise, local developers are expected to face unprecedented competitive pressure. How they can identify niche markets and survive under fierce competition from large, external developers forms the primary motivation of this research.

Following the confirmation of TSMC’s Chiayi investment in 2024, the county’s industrial economy began to rise alongside its traditional agriculture and tourism sectors. This presents an opportunity to attract a large influx of tech talent to Chiayi County, which is expected to have a substantial positive impact on the regional housing market. This study aims to provide a framework for analyzing the impact of TSMC’s presence on local small-scale developers and offer practical strategic recommendations to support the local industry in transitioning smoothly through structural change while continuing to grow.

In summary, the objectives of this research are as follows:

- 1) To explore the environmental characteristics and current development of Chiayi County and analyze the supply and demand conditions of its real estate market.
- 2) To design an interview outline and conduct in-depth interviews with experts in related fields, exploring the current status and trends of the local real estate market and analyzing its future development direction.
- 3) To propose product positioning strategies tailored for small-scale developers to meet market demands and create a differentiated competitive advantage.

The research first establishes motivation and objectives and then develops a preliminary questionnaire framework based on relevant literature review. Expert interviews are conducted with industry professionals, government officials, and academics to explore the impact of investment and development by large external developers on local builders in Chiayi, as well as corresponding land acquisition and development strategies. A flowchart of the research process is shown in Figure 1.

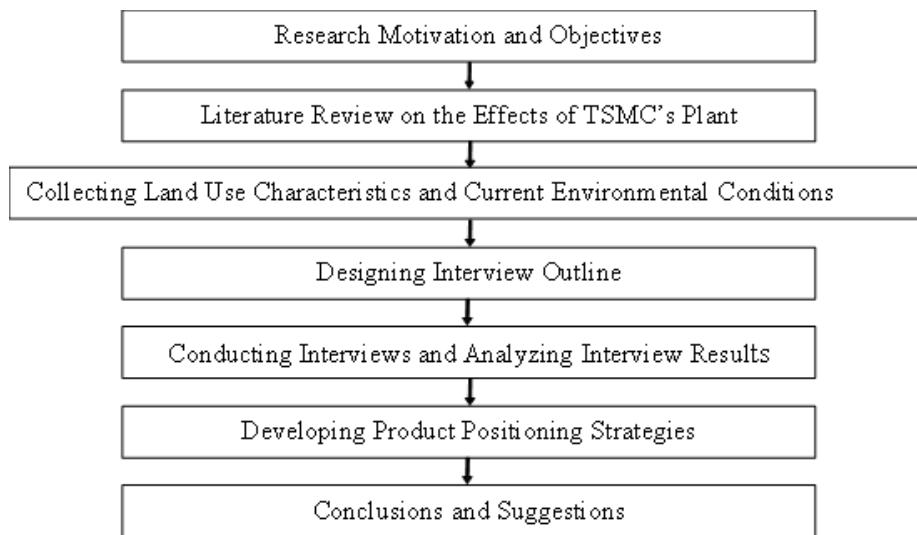


Figure 1. Research Flowchart
Source: Compiled by the authors

The development of traditional industrial zones or the establishment of large-scale NIMBY (Not In My Backyard) facilities can create more job opportunities, attract labor inflow, and stimulate housing demand, thereby promoting local economic growth. However, the operation of factories often brings with it issues such as air pollution, water contamination, and even visual pollution of the landscape. As a result, different types of industrial zones or facilities can have both positive and negative impacts on housing prices (Ke Boxu, 2011; Céline Grislain-Létrémé and Arthur Katossky, 2014; Bauer, Thomas K. et al., 2017).

Previous studies have confirmed that industrial clustering promotes industry growth and enhances competitiveness. The success of Silicon Valley in the United States has inspired many developed countries to establish science parks (Lim et al., 2022). Taiwan, taking Silicon Valley as a reference, has proactively established science parks in the northern, central, and southern regions. The success of Taiwan's science parks is especially evident in TSMC's leading position in global semiconductor manufacturing—more than 90% of the world's advanced chips are produced by the company. TSMC's growth has not only driven the flourishing development of Taiwan's high-tech industry supply chain but has also become a key engine of Taiwan's economic growth and a crucial pillar of regional economies.

The establishment of TSMC plants creates a large number of job opportunities and attracts a significant influx of highly skilled professionals. This enhances residents' purchasing power and living standards, which in turn drives up housing demand. While this trend benefits real estate investors, it may also lead to higher living costs for local residents. Pai Ren-De and Yu Zheng (2024) examined how TSMC's public announcements affect housing prices and supply in nearby areas. Their study found that after TSMC announced on May 15, 2020, that it would build a new semiconductor plant in Phoenix, Arizona, housing prices and supply increased by approximately 0.7% and 29.6%, respectively, following the location confirmation. A second announcement regarding the construction of a second plant led to a further increase in housing prices by around 1.4%, though it had no significant effect on housing supply.

Following TSMC's entry into a region, local governments often increase investments in infrastructure and public services, improving the overall living environment and attracting more

population inflow. This creates a positive cycle in the real estate market. However, the short-term influx of excessive capital can significantly drive up land and housing prices, making it unaffordable for local residents who genuinely wish to purchase homes. Hsieh Po-Ming (2024) pointed out that after TSMC expanded its plant in 2018, the price increases for mid-to-high-end housing were particularly significant. The short-term speculative trading effect and the industrial investment effect driven by TSMC's investment were both most evident in the mid-to-high-end housing segment. He also confirmed that after 2018, the housing transaction prices in the Shanhua District rose by 11.2%, with the price increase driven more by speculative effects than by industrial development effects.

2. RESEARCH METHODS

Scope of Study

This study focuses on Chiayi County as the primary area of analysis. Spatially, the county is bounded by the Alishan mountainous region to the east and coastal townships to the west, with TSMC's planned plant site located within the central plains, as illustrated in Figure 2. Historically, Chiayi County has been widely recognized for its prominent tourist attractions such as the Alishan National Scenic Area, the Aogu Wetland Forest Park, and the Southern Branch of the National Palace Museum. These destinations have drawn steady flows of visitors during holidays, and the region has seldom been associated with high housing prices.

The research framework is composed of five interrelated dimensions:



Figure 2 - Taibao Main Planning Area as the designated scope.

Source: Taibao City Hall, Chiayi County (2020)

However, data from the Ministry of the Interior's Real Estate Information Platform (2024) indicate a significant upward trend in local housing prices. Between the fourth quarter of 2020 and the third quarter of 2024, the average housing unit price in Chiayi County surged from NT\$116,400 to NT\$211,600 per ping—an increase of over 50%. This notable growth trajectory, as depicted in Figure 3, underscores a substantial shift in the county's real estate market dynamics.

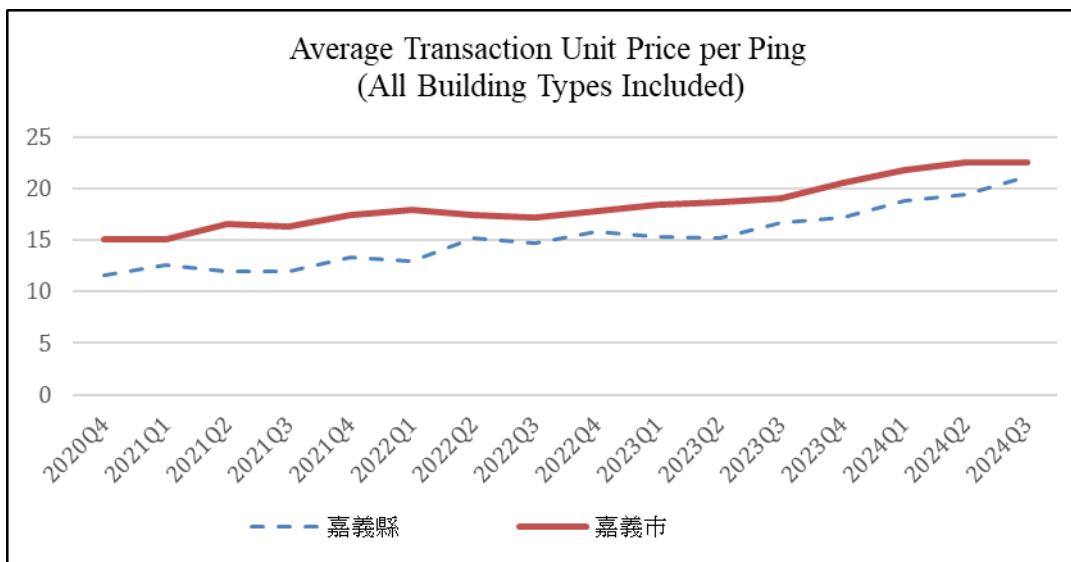


Figure 3. Average Transaction Unit Price per Ping (All Building Types Included)
Source: Compiled by the researcher for this study.

While a number of favorable factors have recently brought attention to the Chiayi County housing market, the region remains primarily an agricultural county. In addition to having one of the lower average household incomes among Taiwan's counties and cities, Chiayi County faces a pressing demographic challenge: sustained population outflow in recent years. As shown in Figure 4, the county's population stood at approximately 555,000 in 1991, dropped below 500,000 by 2020, and had declined further to under 480,000 by the end of 2024.

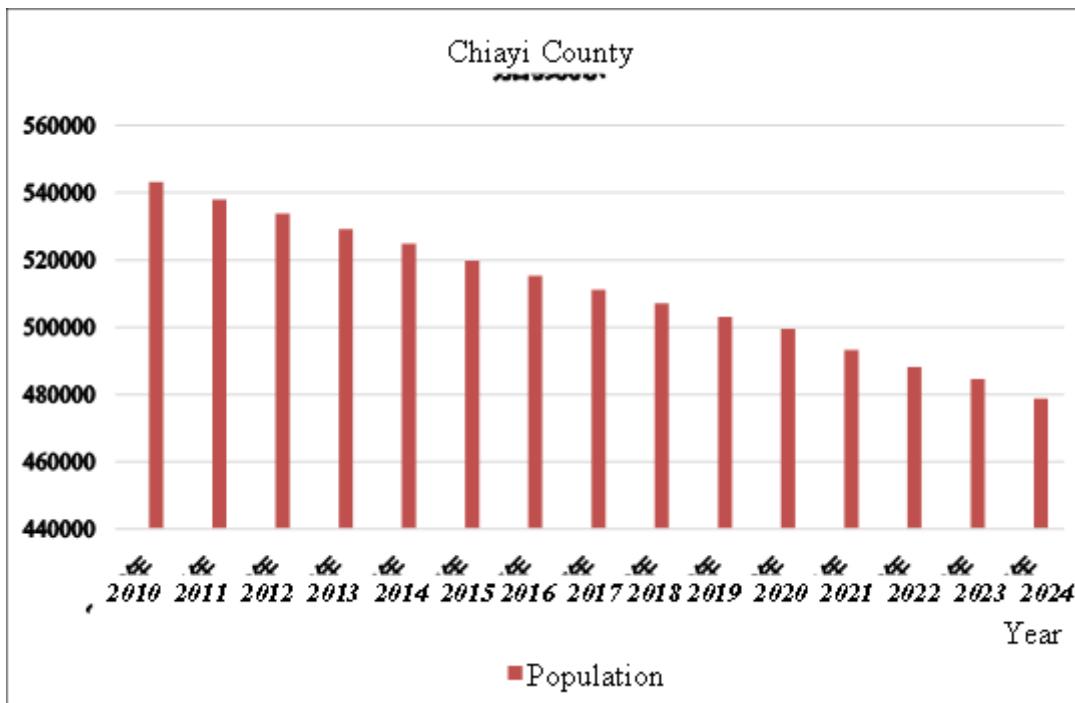


Figure 4 - Population Statistics of Chiayi County
Source: Compiled by the researcher for this study.

A comparison of Figures 3 and 4 reveals that the decline in population has not impeded the rise in housing prices. Recent large-scale infrastructure investments and the confirmed establishment of

a TSMC facility have fueled a simultaneous rise in both housing prices and transaction volumes in Chiayi County. Against this backdrop, many major developers from outside the region have begun entering Chiayi's core areas, driving up land prices significantly and appearing to influence the land acquisition strategies of local developers.

The plains area where the Chiayi Science Park (hereafter referred to as "Chiayi Park") is located encompasses several key facilities, including the Southern Branch of the National Palace Museum, the County Government Special Zone, and Chang Gung Memorial Hospital—the largest medical institution in the Yunlin–Chiayi region. The area is approximately a 7-minute drive from Chiayi High-Speed Rail Station, 10 minutes from the Machouhou Industrial Park, and 20 minutes from downtown Chiayi City. It also enjoys convenient access to the national freeway system, reachable in about 15 minutes, making it the central hub of Chiayi County. The area is home to a large number of public servants and healthcare professionals. The National Chiayi Science Park Experimental Senior High School was officially established in March 2022 and will begin enrolling its first cohort of elementary and junior high school students in August 2024. Looking ahead, the rezoning of over 380 hectares on both sides of the corridor between the County Government and the High-Speed Rail Station is set to expand the County Government Special Zone, as illustrated in Figure 5.



Figure 5 - Map of Relevant Urban Planning Areas
Source: Detail Plan for the Chiayi County Administrative Development Zone

This study begins with the collection of relevant secondary data to understand the environmental characteristics of Chiayi County and the existing real estate market features. Subsequently, in-depth interviews with experts in the real estate development sector are conducted to analyze the opportunities and impacts brought about by TSMC's plant establishment. Specifically, the research methods are as follows:

1) Market and Product Analysis

Market and Product Analysis: A comparative analysis is conducted based on statistical data of Chiayi County's population, number of households, and housing stars. Additionally, the product characteristics of owner-occupied residential housing within the study area from 2019 to 2024 are examined.

2) In-Depth Interviews

In-depth interviews are carried out with local developers and experts in related fields. The findings from these interviews are then synthesized with the previous analyses to propose appropriate residential development and marketing strategies tailored for small local developers in Chiayi County.

3.3. Questionnaire Outline and Design Rationale

1) Land Acquisition Considerations

Following the announcement of TSMC's plant establishment, Chiayi County's land and housing markets have experienced notable shifts, including price increases, changes in transaction volume, and greater difficulty in land acquisition. These developments may have significantly impacted local small- and medium-sized developers. It is essential to investigate whether and how these changes have influenced their land acquisition strategies and development decisions.

2) Types of Development Products

Given key land selection factors such as location, cost, and development potential, developers must determine suitable directions for utilizing currently buildable land. Particular attention is given to the type of residential products (e.g., townhouses, mid-rise condominiums, or gated communities), project scale, and target market segments. What specific effects has TSMC's plant announcement had on residential product planning?

3) Marketing Strategy Formulation

In light of TSMC's presence, developers are compelled to reassess their marketing strategies for residential projects, including pricing tiers, adjustments to target homebuyer groups, and promotional tactics. Effectively leveraging the TSMC-related narrative in marketing campaigns may prove critical to the success of future developments.

4) Outlook

Looking ahead to the next 3 to 5 years, how do developers envision the trajectory of the housing market? What shifts are anticipated in consumer demand and product planning? More importantly, what strategic approaches will developers adopt to navigate market fluctuations and sustain their competitiveness?

3. RESULTS AND DISCUSSIONS

This study conducted in-depth interviews with six stakeholders familiar with the Chiayi real estate market to gather their perspectives. The key findings are summarized as follows:

Market Dynamics and Strategic Adjustments

Interviewees unanimously agreed that TSMC's entry has significantly increased the heat of the housing market in Chiayi County and elevated market expectations. However, the short-term surge in land and housing prices has led to a decline in transaction volume, resulting in a "price increase but volume contraction" phenomenon. There is concern that the market may be overinterpreting

the industrial development's impact, as much of the recent development activity is not driven by actual residential demand.

Furthermore, the rise in housing prices has been largely driven by large developers from outside the region, who possess strong financial capabilities and advertising resources. While their activity has pushed prices upward, it has also crowded out small- and medium-sized local developers, limiting their opportunities for survival in the market.

Regarding residential product planning, respondents generally emphasized the need to consider multiple factors, including land costs, consumer market structure, and development returns. Due to high land prices and low floor area ratios (FAR), the efficiency of land use has become a major concern. Only high-rise apartment buildings can achieve the economies of scale necessary to support current land values. Overall, aside from a few developers still considering townhouse projects, most are now leaning toward the development of apartment-style housing that aligns with modern urban living—prioritizing functional design, flexible scale, and the maximization of land-use efficiency.

Impacts on Land Acquisition and Marketing Strategies

Most interviewees noted that soaring land prices have made it increasingly difficult to acquire land, often forcing developers to consider areas beyond the urban core, where a balance must be struck between development restrictions and market demand. Following the announcement of TSMC's plant in Chiayi, noticeable shifts have occurred in local real estate marketing strategies. While the market atmosphere has clearly heated up, respondents emphasized the need to adjust strategies in line with regional characteristics and actual housing needs.

For example, developers are encouraged to focus on first-time homebuyers and local owner-occupiers as the primary target groups, designing smaller, more affordable units (2- to 3-bedroom apartments) that align with buyers' purchasing power and practical needs. Product design now places greater emphasis on balancing price and quality, strengthening connections with the local community. From the perspective of functionality and market acceptance, residential products should feature flexible layouts and practical design to accommodate post-pandemic demands, such as working from home.

Furthermore, projects should be designed for long-term residence and stable asset investment, avoiding overly speculative housing models. Developers are advised to conduct comprehensive market research prior to launching projects.

In terms of promotional strategies, respondents widely agreed on the importance of building "trust" and "brand reputation". This includes maintaining a consistent corporate image, honoring contractual commitments, and establishing long-term credibility through sustained engagement in the local market. Strengthening relationships with existing customers and leveraging social media and digital marketing were also seen as key to reaching younger and non-local demographics.

Future Market Challenges and Risks

The current real estate boom in Chiayi, driven by news of TSMC's plant, is largely perceived by interviewees as a market response based on expectation psychology rather than actual demand. There are concerns about potential risks such as price corrections and rising vacancy rates in the

future. Moreover, if industrial development lacks supporting infrastructures such as healthcare, education, and commercial facilities—it may fail to attract long-term population inflow, limiting sustainable growth.

Although the prospect of TSMC's entry into Taibao, Chiayi offers significant development potential, it also brings underlying structural risks. Government agencies, developers, and local stakeholders must work together on careful planning to avoid the kind of housing market imbalances caused by speculative industrial hype in other regions.

As TSMC's presence brings in a wave of highly skilled, high-income tech professionals and attracts investors from across Taiwan, Chiayi's real estate market is expected to undergo significant transformation. Based on the aforementioned analysis, this study proposes a framework for future residential product positioning in Chiayi County, as illustrated in Figure 6.

For market segmentation, it is recommended to adopt “residential demand” and “location orientation” as the primary segmentation axes. Product design and marketing strategies should be tailored to location-specific conditions and housing typologies.

For target product types, the main offering should consist of “2- to 3-bedroom, affordable, high-functionality apartment buildings”, aimed at first-time buyers and residents. In parallel, larger units with reputable branding can be introduced to attract professionals and middle-class buyers. Flexible payment terms and high value-for-money (cost-performance ratio) should be emphasized to increase conversion rates.

In terms of product positioning and marketing communication, it is suggested that external messaging focus on promoting the area's transformation into a “high-tech lifestyle zone”, while internal messaging reinforces local trust and after-sales service, building comprehensive consumer confidence in both the brand and the product.

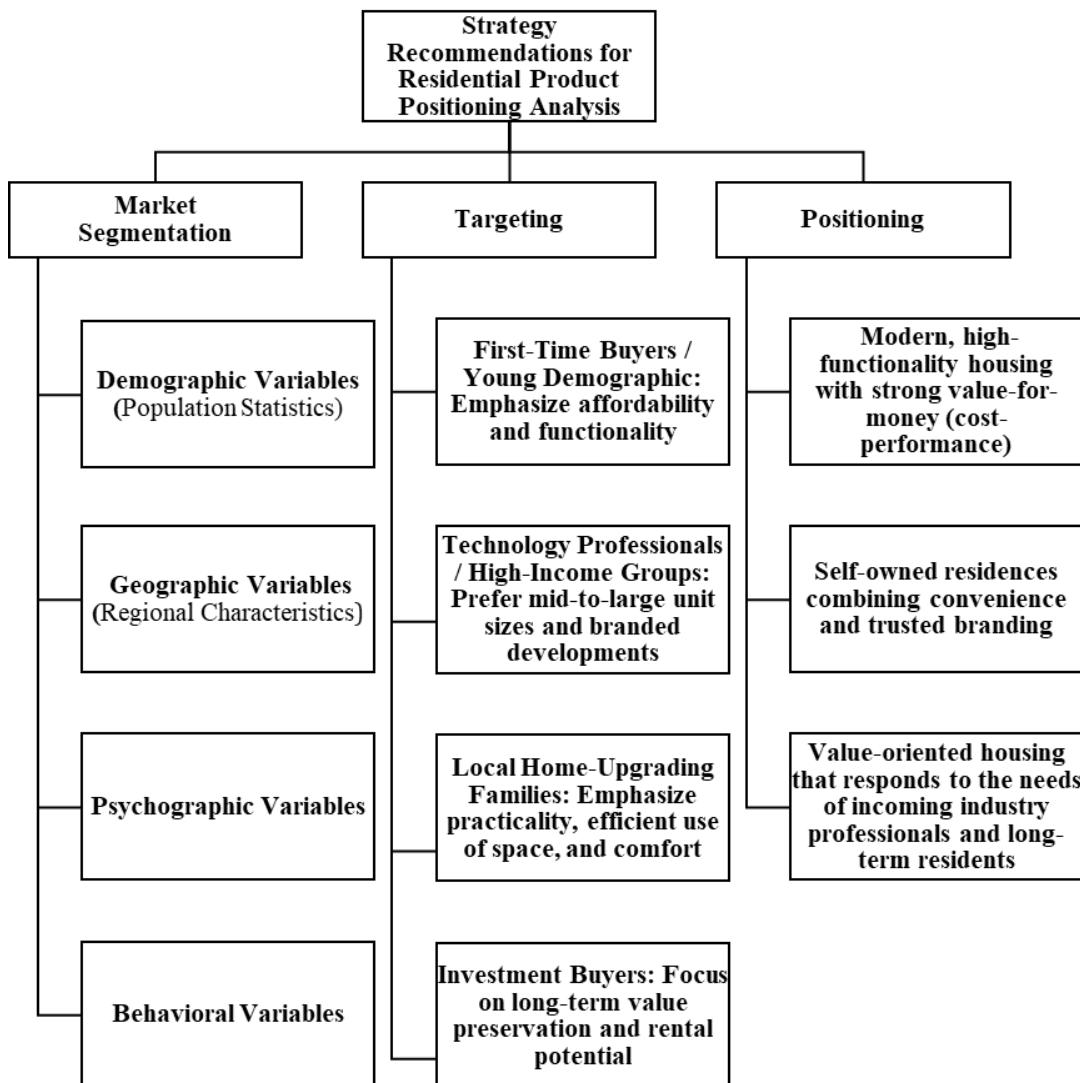


Figure 6. Strategic Analysis and Recommendations for Residential Product Positioning
 Data: Compiled by the researcher for this study

4. CONCLUSIONS AND SUGGESTIONS

With TSMC's announcement of its new plant in Chiayi, the local housing market in the county's core areas has rapidly heated up, with both property prices and development activity rising significantly. However, for small-scale developers, this wave of "industrial dividend" also comes with substantial risks. Based on the analysis conducted in this study, the following conclusions are drawn:

Large Non-Local Developers Are Driving Up Land Prices and Market Competition

Well-capitalized non-local developers, optimistic about Chiayi's prospects, have been aggressively acquiring land, which has pushed up land prices and made land acquisition increasingly difficult for small local developers. Current market demand remains largely speculative and investment-driven, with genuine end-user demand still lagging. This could eventually lead to rising sales pressure. Due to disparities in branding and marketing resources, small developers struggle to differentiate their products in a highly homogenous market. In addition, rising land and construction costs have intensified cash flow pressures. Should the market cool, small developers could face a dual crisis of falling demand and financial strain.

Small Local Developers Should Pursue Differentiation Strategies

Small developers rooted in the local market should leverage local characteristics and lifestyle needs—developing niche housing products such as multi-generational homes or green buildings—to avoid direct competition with large-scale projects. Targeting high-potential areas near transportation hubs or school districts, they can adopt a low-volume, fast-turnover approach to minimize risk. Furthermore, forming alliances—such as resource-sharing platforms with local marketers or architects—can enhance professionalism and brand presence. It is also crucial to stay informed on urban planning and policy developments to avoid high-risk zones. Ultimately, the goal should be to provide reasonably priced housing that meets local needs, breaking away from speculative logic and aiming for sustainable development.

Marketing Strategies Should Be Guided by STP (Segmentation, Targeting, Positioning) Analysis

- 1) **Market Segmentation:** Based on home-buying motivations and lifestyle preferences, identify key segments such as first-time buyers, upgraders, incoming tech workers, and investors.
- 2) **Targeting:** Develop tailored housing products for each segment—for example, affordable, high-functionality units for first-time buyers; larger smart homes for professionals; or compact units with strong rental potential for investors.
- 3) **Positioning:** Emphasize the image of “high cost-performance and strong functionality.
For owner-occupiers: Highlight convenience and trusted brands.
For tech workers: Emphasize future appreciation potential.
For local buyers: Foster regional identity and positive word-of-mouth.

Develop Integrated Strategies

Small local developers should flexibly adjust their product mix, build brand trust, and strengthen their assessments of location and rental potential. By integrating both digital and physical marketing channels, they can capitalize on Chiayi’s ongoing real estate transformation. With clear positioning and diversified planning, small developers can still find viable ground within the broader TSMC-driven development wave.

Based on the findings of this study, and in consideration of its limitations and the potential for future research, the following two recommendations are proposed for reference by subsequent researchers:

Explore Urban Planning Differences in Greater Detail

Future studies are encouraged to conduct in-depth analyses of major urban plans and detailed zoning plans within the study area. These analyses should distinguish between developed and undeveloped zones to further examine differences in land use regulations. Such differentiation may help identify potential market segments and opportunities for residential product positioning.

Incorporate Consumer Survey Data

This study did not include questionnaire surveys as part of its methodology. It is recommended that future research establishes a systematic evaluation mechanism to regularly track local housing market demand and consumer satisfaction. Insights gained from ongoing feedback and collected data could be used to refine and optimize product positioning strategies, ensuring better alignment with actual market needs and supply trends.

REFERENCES

- Bauer, T.-K. , Sebastian T.-B. & Michael, K. (2017). Nuclear power plant closures and local housing values: Evidence from Fukushima and the German housing market Journal of Urban Economics, 99, 94-106.
- Céline, G.-L. & Katossky, A. (2014), The impact of hazardous industrial facilities on housing prices: A comparison of parametric and semiparametric hedonic price models, Regional Science and Urban Economics, 49, 93-107.
- Hsieh, B.-M. (2024). Does TSMC's Factory Expansion Plan Boost Housing Prices in Adjacent Areas? A Case Study of Tainan Science Park, Journal of Housing Studies, 33(1), 29-54. (in Chinese).
- KO, P.-H. (2011). Exploring Solutions to Industrial Park Vacancy from the Perspectives of Corporate "Market Competition" and "Location Selection". Land Issues Research Quartely. 10(4), 220-226 (in Chinese).
- Lim, S.-S., Nguyen, H.-N. & Lin, C.-L. (2022), Exploring the Development Strategies of Science Parks Using the Hybrid MCDM Approach, Sustainability, 14(7), Article7.
- Pai, J.-T. & Yu, Z. (2024). The Impacts of TSMC's Plant Establishment on Housing Prices in Neighboring Areas: A Case Study of Phoenix, USA. Land Issues Research Quartely. 23(4), 39-45 (in Chinese).