國立臺灣大學管理學院企業管理碩士專班

碩士論文

Global MBA

College of Management

National Taiwan University

Master’s Thesis

臺灣豪華房地產企業之策略轉型研究：

從奢華到永續-以中悅建設機構為例

Strategic Transformation of Luxury Real Estate Enterprises in Taiwan: The Shift from Luxury to Sustainable Luxury – A Case Study of Chung-Yuet Group

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中華民國 113 年 6 月

June 2024

doi:10.6342/NTU202402174

國立臺灣大學碩(博)士學位論文
口試委員會審定書
MASTER'S THESIS (DOCTORAL DISSERTATION) ACCEPTANCE CERTIFICATE
NATIONAL TAIWAN UNIVERSITY

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本論文係＿李亞璘＿君（R10749015）在國立臺灣大學企業管理碩士專班完成之碩士學位論文，於民國 113 年 6 月 28 日承下列考試委員審查通過及口試及格，特此證明

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Acknowledgment

I would like to express my deepest gratitude to my advisor, Professor Chialin Chen, for his invaluable guidance and unwavering support throughout the thesis writing process. His expertise, dedication, and valuable advice have greatly helped me both in theoretical concepts and practical applications in the real world. Besides, I would like to extend my sincere thanks to the committee members, Professor Ruey-Jer Jean, Professor Hang Lee, and Professor Leon van Jaarsveldt, for taking time to review my thesis and giving valuable suggestions to make the thesis more refined.

In addition, I would like to thank the top management of my current company, Chung-Yuet Group, for their support in participating as interviewees and contributing valuable information to my case study. I would also like to thank the GMBA Office and my classmate, Jessica Pan, for patiently answering my questions and guiding me through a smooth graduation process.

Most importantly, I would like to thank my wife, Lillian Tsao, and my parents Hsien-ming Lee and Ching-shu Yeh, for their unconditional support during my GMBA journey. Especially my wife—her intelligence and emotional support helped me through difficult times and made me a better version of myself every day.

doi:10.6342/NTU202402174

中文摘要

聯合國環境規劃署（UNEP）2022 年出版的《全球建築及營建現況》指出，建築業的碳排放量及能源消耗量皆分別占全球量體的三分之一以上，因此氣候環境議題是建築產業不可迴避的責任；近年由於政府政的策實施、市場動態變化、及 COVID-19 的劇烈影響，台灣豪宅建設公司正面臨極大的挑戰。

中悅建設機構是桃園大眾公認的豪宅第一品牌，過去三十年以獨創的古典歐風建築及一系列飯店式管理的建築規劃，獲得客戶高度的肯定與支持，並長年穩居桃園豪宅龍頭開發商的地位，近年來，中悅亦數度躋身台灣十大開發商之列，因此，本研究以中悅機構為例，探討台灣豪華房地產企業的策略轉型，具有相當程度的代表性。

本研究旨在探討中悅建設機構推動從奢華到永續的策略轉型模式，透過文獻回顧，說明豪華房地產、策略管理、策略轉型、及永續奢華房地產等相關詞彙之定義；接著套用理論(PEST 架構、波特五力模型、產品定位地圖)進行外部環境分析，找出推動企業策略轉型的關鍵外部環境因素；再透過深度訪談法，瞭解推動轉型的內部動因及企業永續轉型之策略實施；並運用理論模型(VRIO 模型、商業模式圖(Business Model Canvas))分析訪談結果，再依據商業模式圖的分析，建立中悅的永續轉型模型；最後作者將予以總結，同時進一步探討豪華房地產企業推動永續轉型過程中面臨之挑戰，並根據研究結果提供相關的建議。

關鍵字：豪華房地產，永續轉型，數位轉型，學生轉型，永續轉型模式

doi:10.6342/NTU202402174

Abstract

The luxury real estate sector in Taiwan stands at a pivotal juncture because of the macro-environmental changes, and the concept of luxury has transcended mere physical products. This importance is further highlighted by the 2022 Global Status Report for Buildings and Construction, which indicated that the buildings and construction sectors accounted for about one-third of energy consumption and CO2 emissions, respectively. Therefore, luxury developers should now prioritize sustainability and ethical considerations in their decision-making. The thesis aims to analyze the strategic transformation process of luxury real estate enterprises in Taiwan, focusing on the shift from conventional luxury to sustainable luxury exemplified by the Chung-Yuet Group. Through a literature review, definitions of terms such as luxury real estate, strategic transformation, and sustainable luxury real estate are clarified. Next, the external environmental analysis, including PEST analysis, Porter's Five Forces analysis, and the positioning map is applied to identify key external factors driving the strategic transformation. Then, an in-depth interview is employed to explore internal motivations influencing the transformation and implementation of the Group’s strategy packages. Subsequently, VRIO model and Business Model Canvas are applied to analyze interview results. Based on the analysis from the Business Model Canvas, a sustainable transformation model for Chung-Yuet Group is created. Finally, the author concludes and

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further discusses the challenges luxury real estate enterprises face in promoting sustainable transformation. Practical recommendations based on the research findings are also provided.

Keywords: ESG, BIM, twin transformation, sustainable transformation model

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Chapter 1 Introduction

1.1 Research Background

The luxury real estate sector in Taiwan stands at a pivotal juncture, influenced by macro-environment changes such as evolving consumer preferences, government policies, the impact of COVID-19, and growing environmental consciousness. This shift is further highlighted by the 2022 Global Status Report for Buildings and Construction, unveiled at the recent COP27 climate talks in Egypt, which reveals that the sector was responsible for more than 34% of energy consumption and approximately 37% of CO2 emissions related to energy and processes in 2021 (Buildings, G. a. F., 2022). Consequently, the concept of luxury in real estate has moved beyond the physical product. Today, more discerning consumers prioritize sustainability, environmental responsibility, and ethical considerations in their purchasing decisions, reflecting a broader trend towards sustainable development in the industry. This shift towards sustainable luxury presents both challenges and opportunities for luxury real estate enterprises, prompting a reconsideration of traditional business models, practices, and values in this dynamic landscape. This study aims to investigate the strategic transformation of luxury real estate enterprises in Taiwan and focuses on the renowned Chung-Yuet Group as a case study because it navigates the transition from conventional luxury to sustainable luxury.

doi:10.6342/NTU202402174

The Chung-Yuet Group, recognized as the leading luxury property developer in Taoyuan City, serves as an exemplary subject for this study due to its longstanding reputation, forward-thinking approach, and current business transformation. As such, this thesis endeavors to examine how Chung-Yuet navigates the complexities of transitioning from conventional luxury to sustainable luxury in response to internal and external pressures. By employing a case study approach, it seeks to unravel the nuanced strategies, challenges, and outcomes encountered by the Group during its transformation journey towards sustainable luxury. It provides valuable insights into how the company addresses issues such as green building practices, energy efficiency, carbon footprint reduction, and community engagement.

1.2 Motivation of Research

While sustainability and luxury may initially appear as conflicting concepts, it is indeed possible for property developers to prioritize sustainable luxury properties. In fact, sustainability has become increasingly integral to the luxury real estate sector, making it imperative to evaluate how industry players respond to this paradigm shift. Thus, the motivation behind this master's thesis lies in understanding and analyzing the strategic transformation of luxury real estate enterprises in Taiwan as they navigate the shift from conventional luxury to sustainable luxury in response to these challenges.

doi:10.6342/NTU202402174

Chung-Yuet Group, renowned as the premier luxury developer in Taoyuan City, presents an exemplary case study for several reasons. Firstly, the Group's longstanding presence and prominence spanning over 30 years in the luxury real estate market render it a significant subject for analysis. Secondly, having been an employee at the company for seven years and witnessing its adaptation of business models to changing environments, the author can perfectly organize the information gained regarding the evolution of the Chung-Yuet Group in a dynamic environment. Lastly, the strategic initiatives and transformational journey undertaken by the Chung-Yuet Group offer a rich context for examining the challenges, strategies, and outcomes associated with adapting to market dynamics.

By delving into the strategic transformation of the Chung-Yuet in the luxury real estate domain, this research seeks to contribute valuable insights to both academic discourse and practical implications for industry stakeholders. The findings of this research have the potential to inform strategic decision-making, foster innovation, and drive sustainable growth within the luxury real estate industry in Taiwan. Moreover, by elucidating the strategies implemented by the Chung-Yuet Group and evaluating their effectiveness, this study seeks to offer actionable recommendations for luxury real estate enterprises embarking on similar transformational endeavors in their pursuit of long-term success.

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1.3 Research Objective

The primary objective of this master's thesis is to comprehensively analyze the strategic transformation process of luxury real estate enterprises in Taiwan, focusing on the shift from conventional luxury to sustainable luxury, as exemplified by the Chung-Yuet Group. To achieve this objective, the research is structured into five stages of discussion. Firstly, the research identifies external key drivers and internal motivations behind the strategic transformation of luxury real estate enterprises towards sustainability in Taiwan. In the second stage, it intends to analyze the strategies employed by luxury real estate enterprises, particularly the Chung-Yuet Group, in response to evolving consumer preferences, market dynamics, and regulatory changes related to sustainability. Thirdly, it seeks to assess the effectiveness and outcomes of the strategic transformation initiatives implemented by luxury real estate enterprises, with a focus on sustainability practices, business models, and market positioning. Conversely, the fourth stage explores the challenges faced by luxury real estate firms during the transition to sustainable luxury and aims to identify best practices and lessons learned. Lastly, the study aims to provide actionable recommendations for luxury real estate enterprises in Taiwan and beyond, drawing insights from the strategic transformation journey of the Chung-Yuet Group.

1.4 Research Process Flow

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The research process flow includes conducting a literature review, analyzing the external environment, conducting in-depth interviews, and concluding with recommendations in the following order. For a literature review, the author conducts an extensive review of literature related to strategic transformation in the luxury real estate sector, focusing on topics such as the luxury real estate industry, strategic transformation, and sustainable luxury to identify key theories and concepts relevant to the research topic. Regarding the external environment, the author aims to analyze the external environment affecting luxury real estate enterprises in Taiwan by applying the PEST analysis framework, Porter's five forces model, and positioning map. After that, the author conducts in-depth interviews in a semi-structured format with top management of the Chung-Yuet Group to gather insights into their strategic transformation journey, and organizes the interview contents via the VRIO framework. Furthermore, the study highlights the transformation blocks based on Business Model Transformation Canvas, and thus creates a Strategic Transformation Model based on previous analysis. Finally, the author draws conclusions based on the findings from the previous process, and provides recommendations for luxury real estate enterprises in Taiwan in terms of the research on Chung-Yuet Group.

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Chapter 2 Literature Review

In this part, the author conducts an extensive review of literature related to strategic transformation in the luxury real estate sector, focusing on topics including the luxury real estate industry, strategic management, strategic transformation, and sustainable luxury to identify key theories, concepts, and frameworks relevant to the research topic.

2.1 Luxury Real Estate Industry

2.1.1 Real Estate Industry

Based on the definition written on Statistical Classification of Industries (Rev.11 , 2021) published by Directorate General of Budget, Accounting and Statistics, Executive Yuan, real estate industrial sectors are categorized into Real Estate Development Activities and Real Estate Operation & Related Activities. And the study will focus more on Real Estate Development Activities.

1. *Real Estate Development Activities:*

This category includes industries involved in the value creation of real estate properties. It encompasses the acquisition of land, the construction of buildings, and the subdivision of land into lots, and all these sequent activities are mainly for sales purposes.

2. *Real Estate Operation & Related Activities:*

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This category involves the ongoing management, utilization, and transactions related to already-developed real estate properties.

2.1.1.1 Real estate industry status in Taiwan

The real estate industry is important to the entire business world, and this can be seen in several ways. According to the Directorate General of Budget, Accounting and Statistics, Executive Yuan, R.O.C., this industry annually contributes approximately 8% to the GDP, and real estate-related lending also constitutes a primary focus for the banking industry (張金鶚, n.d.). In addition, the industrial activities derived from real estate are extensive; for example, land development, architectural design, brokerage, advertising, property management, furniture and interior design, etc. On another note, almost all businesses' operations and the wealth management of over 80% of households are directly linked to real estate investment, operation, and management. Besides, based on the statistics from the Ministry of Finance, in terms of the total sales and the number of developers in the market, though some fluctuation happened, overall the total sales and the number of developers grew slowly over the past decade. In 2022, there were 18,231 real estate development companies with total sales of 1,137 billion NT dollars. The statistics are shown in Figure 1.

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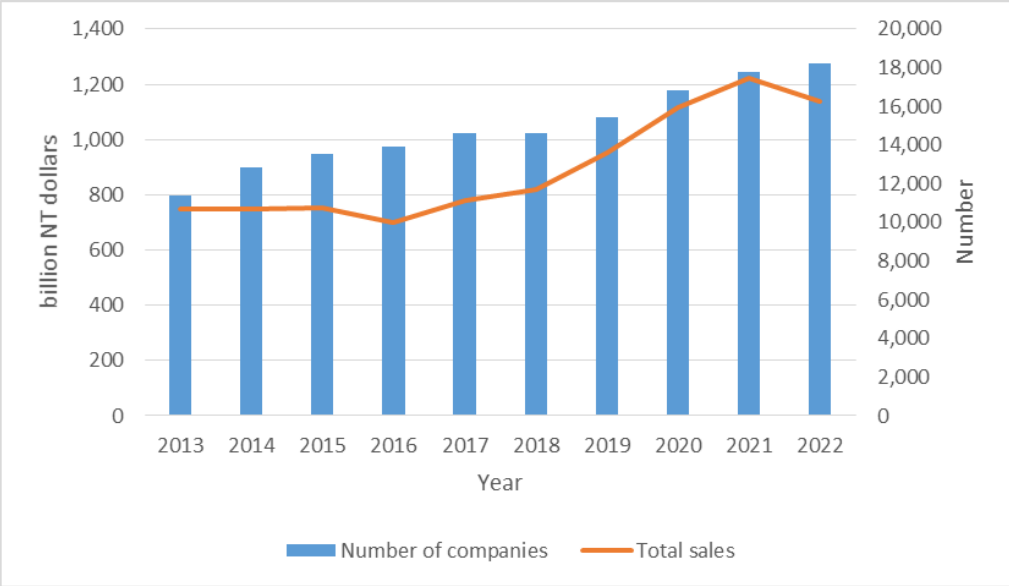

Figure 1: Real estate companies statistics in Taiwan

Source: Self-made for this thesis, data from public information provided by Ministry of Finance, R.O.C.

2.1.1.2 Real estate development value chain and supply chain

According to Feller et al. (2006), the main distinction between a value chain and a supply chain is the basic change in emphasis from the supply base to the customer (Figure 2). Supply chains concentrate upstream on integrating producer and supplier operations, increasing productivity, and cutting waste, whereas value chains concentrate downstream on adding value from the perspective of the customer. The following paragraph explains the application of value chain and supply chain in the real estate development industry.

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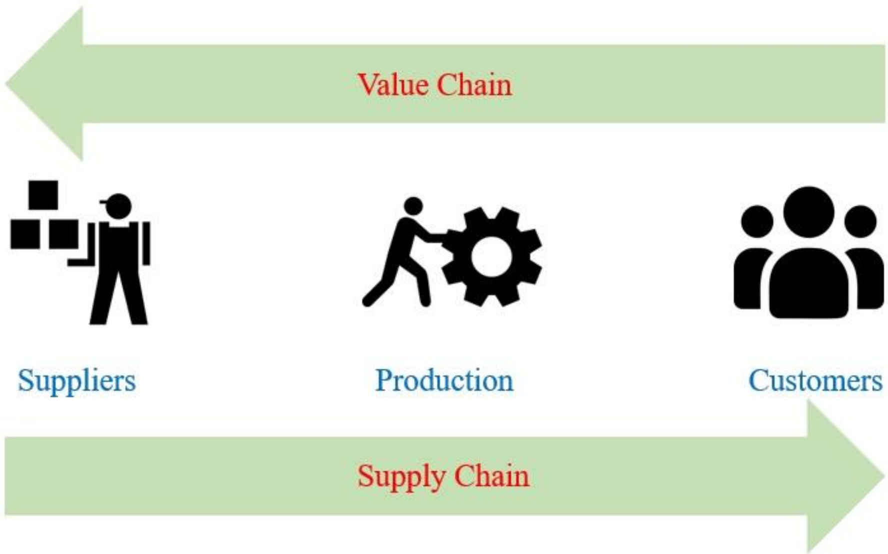

Figure 2: Value chain versus supply chain

Source: Self-made for this thesis

1. *Real Estate Development Value Chain*

Michael Porter stated that value chain is a collection of linked activities that are performed by a company to create value for its customers. The value chain focuses on systems, and concentrates on the process from inputs changing into outputs purchased by consumers (Porter, 2011). From this perspective, Porter divided a chain of activities into primary activities and support activities. According to 鍾懿萍、張孟秋 (2009), each activity in the value chain aims to lower overall costs for both businesses and customers while raising the overall value for customers. The application of Porter's value chain regarding real estate development industry is shown in Figure 3.

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Figure 3: Porter's real estate development value chain model

Source: Self-made for this thesis, date provided by 鍾懿萍、張孟秋（2009）

2. *Real Estate Development Supply Chain*

To visualize the process of a building project, the author utilizes supply chain mapping out the various stages and stakeholders involved in the project. The process includes Land Acquisition and Development, Product Positioning, Architecture Planning and Designing, Architecture Construction, Real Estate Marketing and Sales, Real Estate Handover, and After-sales Service (游伯湖, 2022), as shown in Figure 4.

Figure 4: Real estate development supply chain model

Source: Self-made for this thesis

1. *Land Acquisition and Development*

Land acquisition and development is a significant phase in the real estate development process for developers. The life cycle of this stage includes acquiring land

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for a specific purpose, gaining necessary approvals, transforming the raw land into a developed property, and receiving sales revenue from sales of products. 呂鳳珠 (2022) stated the top 4 factors to ensure a successful project are population density, transportation, location, and finance (sorted by order of importance). Firstly, population density is the most critical factor among the four because it guides developers in identifying areas with high market demand, growth potential, and opportunities for various real estate projects. Additionally, house prices in urban areas are less likely to be significantly affected, even during economic stagnation. Secondly, the efficiency of transportation is also an important consideration because the road network in the vicinity of the land and accessibility to public transportation facilitate the movement of people and goods, contributing to the success of residential and commercial developments. Thirdly, the availability of public facilities such as educational institutions and healthcare services in the vicinity may appeal to residents who need the services. However, there are alternatives for the inconvenience of these public facilities, such as driving to hospitals instead of walking to adjacent clinics, so the choice of location ranks third. Lastly, the financial aspects of land acquisition also impact the profitability of a development project because the upfront cost of acquiring land is usually high in Taiwan. Therefore, developers often obtain land financing from a bank and weigh the expected returns against the overall investment to make decisions.

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2. Product Positioning

After acquiring land, developers need to strategize the product positioning for the real estate project they plan to develop on that land. Product positioning refers to how the developer wants the project to be perceived in the minds of the target market, and the STP (Segmentation, Targeting, and Positioning) marketing model plays a crucial role in the success of a building project. According to a study by Camilleri (2018), which was referenced by Uktolseja and Furinto (2022), segmentation is the process of separating a large client base into smaller groups made up of both current and potential customers. Targeting means determining what demands exist in the market, and product positioning outlines the space that the business wants to take up in the minds of its target audience.

3. Architecture Planning and Designing

After product positioning, developers hire architectural firms to do architecture planning and designing. Architects start by understanding the client's needs, budget, and the purpose of the building. They assess the site, considering environmental factors, local regulations, and the surrounding context. Especially, architects should make sure their plans meet the requirements of the Regulations on Land Use Control and some other regulations. For example, the urban plan for the commercial district may set up a maximum allowable building coverage ratio and a maximum permissible building volume ratio to control the density and scale of development within the area. Based on

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the gathered information, architects create preliminary design concepts and then hone the idea that they have selected. Architects then work with certified professional engineers to prepare precise drawings, plans, and specifications, taking into account building materials, other accessibility requirements, geological conditions, structural systems, electrical, plumbing, and HVAC systems. As a result, architects provide value by designing safe, useful, and effective structures that satisfy client demands, legal requirements, and architectural vision.

4. Architecture Construction

After planning and designing, developers hire construction companies to bring the architectural designs and development plans to life. Construction firms oversee the entire construction process and utilize professional knowledge of construction technology to coordinate various aspects such as construction budgeting, construction planning, procurement and contracting, construction work, construction supervision, financing, real estate handover, and after-sales service. They implement construction management methods to ensure five objectives: progress as scheduled, quality as planned, cost as estimated, safety as assured, and compliance with environmental standards. Regarding the detailed discussion in terms of construction work phase, in the case of a building project, it typically involves several stages as shown in figure 5, such as Site preparation,

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Earthworks, Foundation work, Structure erection, Interior and exterior finishing, Utilities installation, Remaining works, and Landscaping works (林慶福, 2018).

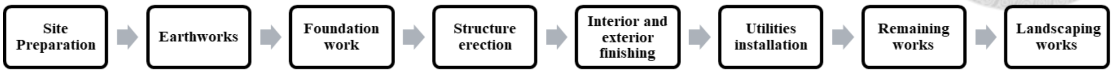

Figure 5: Construction work stages

Source: Self-made for this thesis

a. Site preparation: This part includes clearing the land, setting up temporary facilities like fences or offices, and preparing the ground for construction.

b. Earthworks: Excavation is the most common earthwork in the typical type of building construction. It is the process of removing earth to create space for foundations, utilities, or basement levels. This involves digging, trenching, or cutting the soil to the required depth and shape.

c. Foundation work: This stage covers excavation and laying the foundation, which might involve concrete pouring, footings, or piling, depending on the building's design and soil conditions.

d. Structure erection: This refers to assembling the structural elements, including columns, beams, walls, and floors. This stage involves setting up the skeletal framework of the building.

e. Interior and exterior finishing: The interior part includes adding interior walls, installing flooring, painting, and finishing touches like cabinetry, fixtures, and fittings.

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Exterior finishing covers cladding, siding, and painting to enhance the building's aesthetics.

f. Utilities installation: This stage concentrates on setting up essential systems like plumbing, electrical, HVAC (heating, ventilation, and air conditioning), and any other required utilities.

g. Remaining works: This stage centers on clearing the site, dismantling scaffolding, removing construction equipment and remaining materials, and leveling the surrounding area.

h. Landscaping works: This part concentrates on beautification works, such as planting flowers and trees and arranging landscape features and decorations to present the building in its best appearance.

5. *Real Estate Marketing and Sales*

After construction stage, marketing and sales teams within the development companies will maximize property value and facilitate successful transactions. In essence, real estate marketing and sales in the real estate value chain align with the 4Ps and 4Cs. To be more specific, this phase emphasizes the property features to cater to the consumer's needs (Product-Customer) while ensuring a fair and competitive price that matches both the property's value and the buyer's financial capability (Price-Cost). Moreover, it focuses on providing convenience through accessible information and locations by making

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property information easily accessible (Place-Convenience), and ensuring effective communication to engage and inform potential buyers or tenants (Promotion-Communication). This holistic approach, blending both the marketing mix and consumer-centric concepts, aims to create value and facilitate successful real estate transactions.

Furthermore, some studies have extended the 4Ps & 4Cs idea to 6Ps & 6Cs. The concept incorporates the additional elements of Packaging & CIS (Corporate Identity System) and People & CSR (Corporate Social Responsibility) into the context of real estate marketing and sales within the real estate value chain (謝佳璋, 2016). For Packaging & CIS, developers implement a cohesive corporate identity system that reflects the values and image of the real estate firm, creating a recognizable and consistent brand in the market. Regarding the People & CSR, the focus lies in emphasizing corporate social responsibility through positive community contributions, environmentally mindful property development, and advocating ethical practices within the real estate sector.

6. Real Estate Handover

After completion of the construction work and the implementation of marketing and sales, the "real estate handover" will be executed by developers. This is the critical phase in the real estate value chain, where the property is officially transferred from the seller or developer to the buyer or tenant. To safeguard the rights of both buyers and sellers (especially buyers), the Ministry of the Interior provides the "Model Contract of

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Sales and Purchase of Real Estate" to establish standardized contract documents to ensure developers act in compliance with relevant regulations.

7. After-sales Service

After the property transaction is completed, developers will provide assistance and support to buyers or tenants to enhance customer satisfaction. According to the study, the service quality provided by after-sales service staff has a greater impact on customer satisfaction compared to the facility quality of the building (張秋煌, 2019). Specifically, if after-sales service staff can respond professionally and accurately complete service tasks, it not only builds trust with customers but also increases the likelihood of customers making repeat purchases.

2.1.2 Luxury Real Estate

This section explores the definition of luxury real estate. It discusses the attributes of general luxury brands and then focuses on luxury properties.

2.1.2.1 Luxury brand

The expansion of the global luxury market has sparked growing curiosity among researchers. However, scholars across various disciplines have not yet achieved a clear consensus on the definition of what constitutes a luxury brand (Ko et al., 2019). The discussion in this section may go through the frameworks proposed by different scholars,

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and the following study may select Wiedmann’s et al. (2009) four-dimensional model as the base to describe the attributes of luxury in this research.

According to the conceptual model of luxury value put forward by Wiedmann et al. (2009), there are four aspects that collectively affect people's perceptions: the financial, functional, individual, and social dimensions (Figure 6). (1) The financial dimension of luxury value refers to the product's declared value and deals with explicit financial factors including price, resale cost, discount, and investment. (2) The functional dimension of luxury value encompasses fundamental product benefits and necessities like durability, quality, distinctiveness, usability, and dependability. (3) The individual dimension of luxury value tackles issues like materialism, hedonism, and self-identity and centers on a client's particular orientation toward luxury spending. (4) Lastly, the social dimension of luxury value describes the perceived utility that people obtain from goods and services that are valued in their own social circles. This includes things like conspicuousness and prestige value, which can have a big impact on people's perceptions of and inclinations to buy or use luxury brands. Despite the fact that these value dimensions function independently, they interact and have varied effects on people's perceptions of and behaviors related to luxury values, which can be utilized to further categorize and identify different kinds of luxury audiences.

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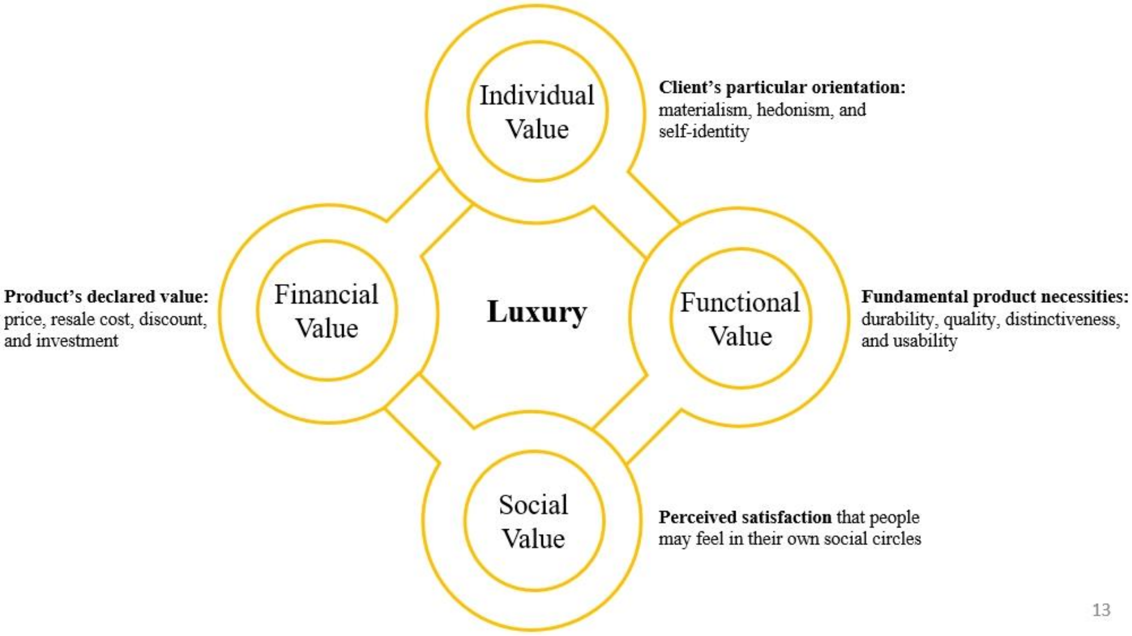

Figure 6: Conceptual model of luxury value

Source: Self-made for this thesis, information from Wiedmann et al. (2009)

According to Berthon et al. (2009), the difference between luxury goods and non-luxury goods is situated on a three-dimensional value model, which consists of functional, experiential, and symbolic dimensions. (1) The luxury value of the functional dimension pertains to the attributes, physical features, fundamental benefits, and basic utilities of products or services that motivate consumers to spend based on their perceived luxury value, including factors such as superior quality, uniqueness, usability, and durability. (2) The experiential dimension of luxury justifies an individual subjective value, which represents a status experience and an idea of sensorial pleasure when an individual owns a luxury good. (3) The symbolic dimension of luxury is the realm of the social collective, representing the self-satisfaction of the consumers through the

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recognition obtained from their own social groups when they consume luxury goods that come with conspicuousness value and prestige value.

2.1.2.2 Luxury property

The defining characteristics of luxury properties may vary depending on various factors, provided that the properties meet the criteria outlined in the four-dimensional model. While there are several types of property, this section of the study focuses on two typical types of buildings: luxury residences and luxury commercial buildings.

1. Luxury Residential Property

Typically, luxury residential properties are available in diverse types, such as luxury condominiums, luxury apartments, and luxury vacation homes. Each is designed with distinctive features, amenities, and lifestyle offerings that cater to the preferences and requirements of affluent buyers. In Taiwan, the official definition of luxury homes is simply based on the house price, which varies depending on the city and county. According to the policy announced by the Central Bank, luxury homes in Taipei City are those valued at 70 million NT dollars or above, in New Taipei City at 60 million NT dollars or above, and in the rest of the cities such as Taoyuan, Hsinchu, Kaohsiung, and Tainan at 40 million NT dollars or above. The Taiwanese government sets up the upper limit of the loan-to-value ratio for luxury homes to be 40% instead of 80% for general

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cases (中央銀行, n.d.). On the other hand, Chuon et al. (2017) stated that there is no universal standard outlining the minimum requirements of luxury residential property, as the concept of luxury can vary depending on individual perspectives and contexts. But still, the study combines the concept of a four-dimensional model of luxury (the financial, functional, individual, and social dimensions) with residential property in terms of marketing to elaborate on the idea of luxury residential property.

2. Luxury Commercial Property

Regarding luxury commercial real estate, there is no official definition in Taiwan's policy implementation. Luxury commercial real estate can encompass various property types, including office buildings, retail malls, and hotels (Roberts, 2023). Luxury office buildings are typically found in prominent locations and feature upscale finishes and amenities like private balconies, onsite gyms, and high-speed internet. Luxury retail malls are often located in affluent neighborhoods, offering a selection of upscale retailers and dining options, along with services such as parking, concierge assistance, and exclusive events. Similarly, luxury hotels and resorts are situated in attractive destinations and provide a range of high-end amenities, such as spacious guest rooms, fine dining establishments, and spa facilities.

2.2 Strategic Management and Strategic Transformation

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This section presents the concepts of strategic management and strategic transformation and provides reviews of related theories and frameworks. Additionally, this part includes discussions on luxury and real estate aspects based on theoretical models so as to identify the key focuses on strategic management in luxury, strategic management in real estate, strategic transformation in luxury, and strategic transformation in real estate.

2.2.1 Strategic Management

Ali & Anwar (2021) highlighted that strategic management entails formulating a strategy and putting it into action while taking the internal and external environments in the marketplace into consideration. To enhance the organizational performance and competitiveness of businesses, numerous scholars propose effective analytical models such as PEST analysis, Porter's Five Forces model, and Business Model Canvas that are widely adopted in various business contexts. PEST analysis serves as a framework for grasping the external macro-environmental elements that influence an organization. It encompasses political, economic, social, and technological factors. Michael E. Porter, a renowned economist and professor, introduced Porter's Five Forces Model in his 1979 book "Competitive Strategy: Techniques for Analyzing Industries and Competitors." This model analyzes the five key forces (rivalry competition, threat of new entrants, threat of substitutes, bargaining power of buyers, and bargaining power of suppliers) that shape an industry and influence its profitability, and the framework can be used to help discover

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an industry's weaknesses and strengths. Regarding the Business Model Canvas, Alexander Osterwalder and Yves Pigneur introduced a framework consisting of nine parts: Customer Segments, Value Proposition, Channels, Customer Relationships, Revenue Streams, Key Resources, Key Activities, Key Partners, and Cost Structure, to visualize, analyze, and innovate business models.

2.2.1.1 Strategic management in luxury industry

When it comes to luxury business, inevitably, the main focus is to explore the ability and skills needed to build a successful branding strategy (Carcano, 2013). Numerous scholars have paid attention to strategic management regarding the branding part. Firstly, Ko et al. (2019) pointed out the importance of brand management in luxury, including the best way to build brand equity, the pricing of luxury brands, segmentation strategies, and social media marketing. Chuon et al. (2017) developed a conceptual framework integrating the three dimensions (functional, experiential, and symbolic) model for the purpose of luxury residential property marketing, and the study integrates the marketing 4Ps covering physical and non-physical housing aspects. Additionally, Cavender & Kincade (2015) developed a luxury brand management (LBM) framework that contributes to the decision-making of luxury companies on strategic brand management by structuring the relationship between three major components: the macro-

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environmental dimension (i.e., determinants and the zeitgeist), the micro-environmental dimension (i.e., corporate environment and brand management variables), and the strategic management response. In summary, effective strategic management of branding and marketing is the key focus in luxury businesses.

2.2.1.2 Strategic management in real estate industry

Pareek & Mukherjee (2021) utilized the Balance Score Card (BSC) as a guide to develop a strategic plan to ensure four perspectives—financial, customer, internal process, learning, and growth—align with the vision and goal of a real estate company. Particularly, the research highlighted the importance of prioritizing financial and customer perspectives. The financial quadrant directly measures the company's performance, while customer relations are linked to profitability. Ali & Anwar (2021) indicated that the most effective strategy for real estate businesses in Erbil is the cost leadership strategy in terms of Porter's generic strategy (cost leadership, differentiation, and focus), because Erbil is currently experiencing a severe economic and financial crisis. Dobre's (n.d.) study stated that the competitive advantage of a real estate developer can be either cost leadership or differentiation. It may have extensive knowledge of specific customer needs within its operational market niche, or it could outperform competitors in terms of economic insight. Also, a developer should implement an efficient human

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resource strategy to facilitate knowledge transfer within the firm. To summarize, the author contends that regardless of the specific generic strategy (cost leadership, differentiation, or focus) adopted in varying situations, it is the strategic consistency of the company that determines the success of a real estate property in strategic management. To elaborate, strategies across different aspects should add value to the company's vision and mission, particularly concerning financial considerations and knowledge of customer needs.

2.2.2 Strategic Transformation

Pearce & Robbins (2008) argued that strategic transformation represents an ambitious method for reshaping the strategies of a reemerging company toward a more promising competitive position. This strategic transformation approach serves as the essential final step in the business turnaround process, and it involves strategy reformulation for the sake of cultivating company growth in strong or emerging markets. There are some models that can be applied to analyze the strategic transformation of a business, such as VRIO analysis and the Business Model Canvas.

1. VRIO Framework

The VRIO framework introduced by Jay Barney in his 1991 article can be utilized as a strategic management tool to assess the internal resources and capabilities of a company and determine their potential to provide a sustainable competitive advantage.

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VRIO stands for Value, Rarity, Imitability, and Organization, and the explanation regarding the model is shown below. (1) Value: Does the resource or capability add value to the business and its customers? (2) Rarity: Is the resource or capability rare or unique within the industry? (3) Imitability: Is the resource or capability difficult to imitate or replicate? (4) Organization: Is the company organized and able to leverage the resource or capability effectively? Regarding the past implementation of this framework, 李瑛珺 (2020) proposed a quantitative model based on the VRIO framework to help top managers diagnose what dynamic capabilities a firm needs to address the demands of a rapidly changing environment. That thesis utilizes the VRIO model to analyze the internal factors of real estate business in China regarding strategic transformation.

1. Business Model Canvas

When analyzing the strategic transformation of a business, the Business Model Canvas can serve as a valuable tool to assess how each of these nine building blocks may need to change or evolve to support the new strategic direction. For example, Das et al. (2021) utilized a business model canvas (BMC) for strategy reformulation in incumbent construction enterprises to ensure their competitiveness in Industry 4.0. In addition, öhlin, J. (2019) applied the Business Model Canvas to discover how a retail incumbent may change its business model to do a digital transformation in response to the increased level of digitization in the retail sector.

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2.2.2.1 Strategic transformation in luxury

This section highlights the trends of strategic transformation in luxury domain. Therefore, the shift towards sustainability and digital transformation are paid attention to by numerous scholars.

1. Sustainable Transformation

The transformation of luxury and luxury's contributions to well-being in the post-COVID era reflects the need for sustainable requirements and harmony as well (Cristini et al., 2022). That is, the transformation of the luxury concept can be experienced in two distinct ways: as one enjoys the luxurious experience for themselves while simultaneously embracing the idea that their experience of luxury is not negatively impacting others. Besides, the pandemic has accelerated a significant change in the luxury sector towards aligning with the 2030 United Nations Agenda in order to meet the expectations of younger generations who seek transparency regarding the social and environmental initiatives of luxury brands (Ranfagni & Ozuem, 2022).

2. Digital Transformation

Regarding the digital transformation, Pantano et al. (2022) contended that luxury brands have traditionally resisted technology in the past, as they perceived it to be contradictory to their luxury values. However, due to increasing competitive pressures

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and market demands, as well as the impact of the global pandemic, luxury organizations are now adopting significant technological innovations to enhance their customer experience, mostly on an ad hoc basis (Pantano et al., 2022). Also, Aiolfi and Sabbadin (2019) highlighted that the luxury and fashion industries are currently facing the challenge of updating their business models to adapt to changes in consumer purchasing. This is because the competition in the business world is played in the ability to create multi- and omnichannel business models rather than traditional retailing.

2.2.2.2 Strategic transformation in real estate

This section emphasizes the trends of strategic transformation in the real estate sector. Similarly, the transformation paths toward sustainability and digitalization are focal points that attract the attention of numerous researchers, thereby pushing real estate enterprises to implement transformation strategies.

1. Sustainable Transformation

Regarding sustainability, the real estate sector accounts for more than a third of global greenhouse gas emissions and thus offers great potential for carbon abatement (Bauer et al., 2011). In response to the increasing pressures of climate change, real estate businesses have transformed in a more sustainable way, i.e., to place greater emphasis on environmental, social, and governance (ESG) concerns. There are some international

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environmental initiatives, such as the United Nations Sustainable Development Goals (SDGs) and the U.S. Green Building Council's Leadership in Energy and Environmental Design (LEED). Additionally, there are domestic sustainable initiatives in Taiwan, such as the Taiwan Green Building Label, which focuses on ecology, energy saving, waste reduction, and health (EEWH), along with the Taiwan Intelligent Building Label. All these initiatives aim to promote sustainability transformation in the real estate sector. Building projects with these labels must meet certain sustainable criteria, as shown in Figure 7, to score in each item and will gain a certain level of certification based on the total score. As financial efficiency was generally the core motivation for real estate investors to adopt green building certification and standards in the past, the market is now witnessing noteworthy transitions beyond this cost-saving stimulation (Walker & Goubran, 2020).

System	Taiwan Green Building Label (EEWH)	Taiwan Intelligent Building Label	LEED certification
Image			
Organization	Taiwan Green Building Council	Taiwan Intelligent Building Association	U.S. Green Building Council
Criteria	1. Biodiversity 2. Greenery 3. On-site water retention 4. Daily energy saving 5. Indoor environment 6. Water resource 7. Sewage & garbage improvement 8. CO2 reduction 9. Construction waste reduction	1. Integrated wiring 2. Information and communication 3. System integration 4. Facility management 5. Safety and disaster prevention 6. Energy-saving management 7. Health and comfort 8. Smart innovation	1. Sustainable sites 2. Water efficiency 3. Energy and atmosphere 4. Materials and resources 5. Indoor environmental quality 6. Regional priority 7. Innovation in design
Certification Level	1. Diamond 2. Gold 3. Silver 4. Bronze 5. Certified	1. Diamond 2. Gold 3. Silver 4. Bronze 5. Certified	1. Platinum 2. Gold 3. Silver 4. Certified

Figure 7: Sustainable certifications

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Source: Self-made for this thesis, information provided by Taiwan Green Building Council, Taiwan Intelligent Building Association, and U.S. Green Building Council

2. Digital Transformation

As for the digital transformation, Siniak et al. (2020) stated that real estate businesses can adopt the following strategies to succeed in the long run by embracing digital transformation: (1) enhancing consumer experiences through rich media visualization; (2) collecting property data through IoT devices; (3) implementing Building Information Modeling (BIM); (4) using AI-powered data analytics to obtain groundbreaking insights; and (5) streamlining workflows by classifying digital photos and associated procedures. Apart from that, Moro et al. (2022) validated that there was a noticeable improvement in the view of the significance of digital technology on Brazilian real estate websites following the start of the COVID-19 pandemic. Managers created a new competitive environment by offering consumers specialized services by taking advantage of the pandemic and the availability of digital technologies. This research specifically focuses on the case company's introduction of Building Information Modeling (BIM). BIM technology has a completely different modeling logic compared to the traditional drawing tool, AutoCAD, which is still being used by most real estate companies in Taiwan. However, BIM is now commonly adopted in the U.S. because the software offers a more integrated approach to building design and construction management.

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2.2.2.3 Twin transformation

Knowing that both the luxury industry and the real estate industry have been facing trends of sustainable transformation and digital transformation, respectively, the author infers that the luxury real estate industry is now undergoing a sustainable and digital transformation, also known as a twin transformation (Figure 8). According to Christmann et al. (2024), "twin transformation" is the term for the value-adding interaction between sustainability and digital transformation initiatives, which enhance a business by utilizing digital technology to enable sustainability and utilizing sustainability to direct digital advancement.

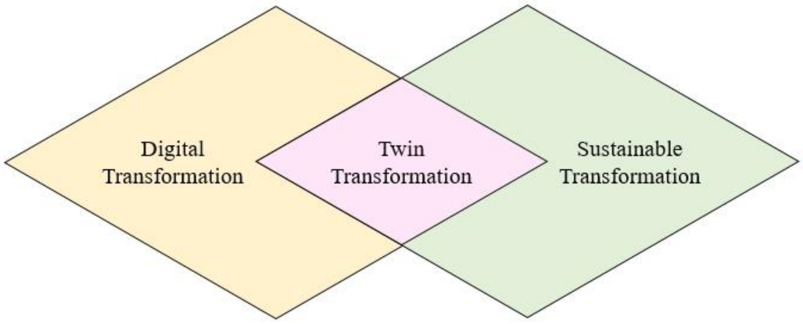

Figure 8: Twin transformation

Source: Self-made for this thesis, information from Christmann et al. (2024)

To be more specific, on the one hand, digital transformation can work as an enabler for sustainability transformation in two ways. Firstly, ‘‘sustainability of digital technology’’ focuses on making digital technologies more sustainable, and it aims to implement sustainable IT life cycle management such as green data centers and sustainability management systems. Secondly, “sustainability through digital

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technologies" refers to the advantageous effects of leveraging these tools to increase organizational sustainability by transparently producing innovative data that serves as a foundation for monitoring. On the other hand, sustainability transformation guides digital transformation in two ways as well. To begin with, sustainability transformation guides the design of adequate digital transformation solutions to appropriately address technological, organizational, and cultural aspects to change the way of creating value. Secondly, because sustainable transformation promotes the ongoing transition from the "old" to the "new", it raises employees' general acceptance of digital transformation.

2.3 Sustainable Luxury in Real Estate

This section discusses past research on sustainable luxury and sustainable luxury real estate. On the one hand, it explores the conceptual model for sustainable luxury, the framework for research streams on sustainable luxury, and consumers' concerns in the realm of sustainable luxury. On the other hand, the remainder of this section focuses on previous studies concerning sustainable luxury real estate, particularly those related to consumers' purchasing behavior.

2.3.1 Sustainable Luxury

Hennigs et al. (2013) integrated value-based sustainability excellence in luxury brand management with the model of customer perceived luxury value proposed by Wiedmann et al. (2009) based on four latent luxury value dimensions: the financial,

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functional, individual, and social dimensions of luxury value (Figure 9). For the financial aspect, when compared to other products in the same category, people are willing to pay substantial premiums for luxury brands since they are typically regarded as having better levels of quality, exclusivity, taste, and aspiration. And a luxury brand's premium pricing strategy can increase the desirability of a particular product and generate large margins that may then be utilized to support manufacturing that is more socially and environmentally conscious. For functional aspect, although excess and wastefulness are frequently linked to luxury, a sizable aftermarket exists for a variety of luxury products, such as Porsche vehicles, and luxury items like jewelry and artwork are frequently passed down through the generations (Wiedmann et al., 2009). As a result, durability is essential to both sustainable development and luxury. For individual value, sustainable consumerism has become more and more important in consumers' lives in the last few decades. Typically, a large portion of luxury buyers belong to an affluent, global elite that is becoming more knowledgeable and conscious of social and environmental issues. For social aspect, long-standing evidence has linked luxury products to the widening wealth gap; today, sustainable luxury(SL) allows consumers to express their most profound ideals while gaining elite status and experience from products made and exchanged without causing suffering to others.

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Figure 9: Sustainability excellence model

Source: Self-made for the thesis, information from Hennigs et al. (2013)

Kunz et al. (2020) provided a structural overview regarding sustainable luxury to identify the main research streams, as shown in Figure 10. The streams consist of three major topics: brands and products, CSR and sustainable activities, and the impact of stakeholders. First, the prospect of using sustainability as a means of introducing innovations into luxury brands and products is being investigated by a number of scholars who focus on concerns related to the harm, supply chain, and communication of brands and products. Secondly, regarding CSR and sustainable endeavors, researchers examine how these actions affect customer behavior, while on the other hand, they go over instances of best practices for these kinds of exercises. Third, a significant portion of the literature on stakeholders focuses on consumers and how their traits affect their decision

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to purchase sustainable luxury, as well as how they perceive the contradiction between consumerism and sustainability.

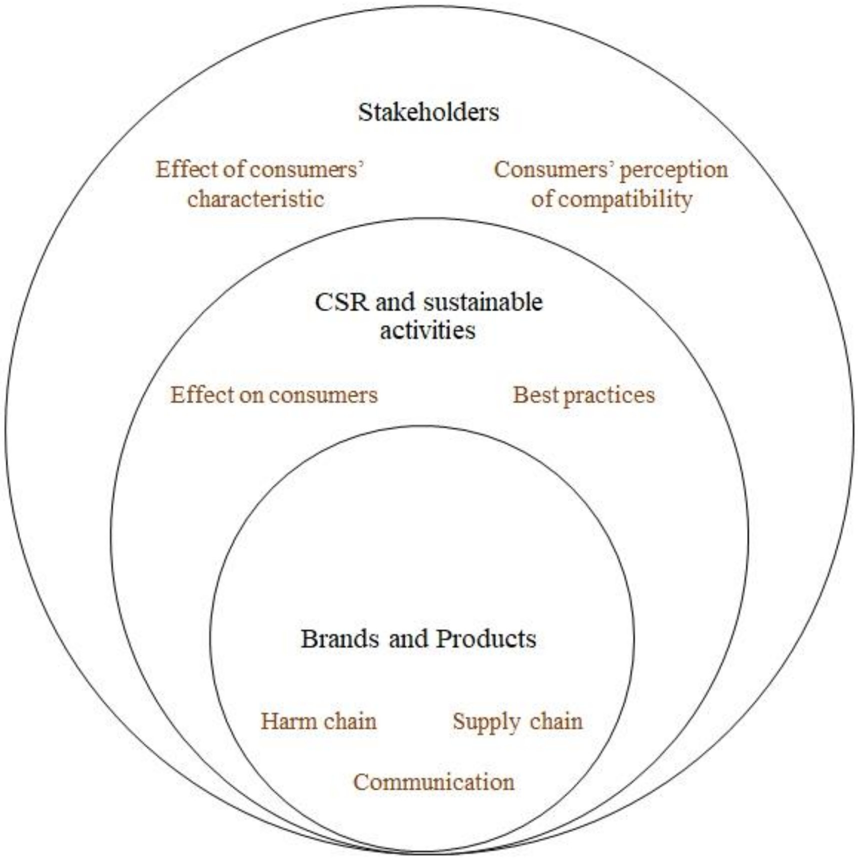

Figure 10: Research on identified area of interest regarding sustainable luxury
Source: Self-made for this thesis, information from Kunz, J., May, S., & Schmidt, H. J. (2020)

Take Achabou and Dekhili's (2013) research about the French luxury clothing case as an example in terms of stakeholders' perspectives in the previous framework, and it highlights three concerns about consumers' perceptions. First, "brand reputation" and "product quality" continue to be more important selection factors than "environmental commitment of the brand," even in light of customers' growing concerns about ethics and the environment. Second, because of the contradiction between recycling and prestige,

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customers view the inclusion of recycled material in luxury goods unfavorably. Thirdly, consumers could question the genuine intentions of businesses that implement recycling methods, as they might think that such strategies are just a sales tactic (Achabou & Dekhili, 2013). To address these concerns from consumers, luxury brands should redefine their status from power to altruism. Luxury can set the example by reframing what quality and the luxury dream are all about—no longer just about the self-interest of the individual, but also about taking the environment into consideration. Take Tiffany as an example. The iconic Tiffany Blue Bag and 95% of the paper used in catalogs are certified by the Forest Stewardship Councils. They believe that it is morally required to preserve the places and communities that produce their priceless materials (Kapferer 2010).

2.3.2 Sustainable Luxury Real Estate

As sustainability is a broader concept that includes the environmental aspect, social aspect, and governance aspect (ESG) in terms of the framework provided by the UN Global Compact, the idea of sustainability in this study especially focuses on the environmental perspective, which is generally known as the green real estate industry. There are some certifications—Taiwan Green Building Label (EEWH), Taiwan Intelligent Building Label, US Green Building Council's LEED certification—and technologies—BIM implementation—that aim to enhance the sustainability of buildings by promoting efficient use of resources, reducing waste and emissions, and incorporating

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advanced technologies for better environmental performance. They collaborate to create an environment in construction that supports environmental sustainability. The scope of green real estate development is broader than that of green building because it includes planning land sites, project planning, designing materials and technologies, building, operating, maintaining, demolishing, and other activities instead of concentrating solely on building design and construction techniques (Zhang, X. 2015).

As for the past study on the purchasing behavior of luxury real estate, Fuerst and Shimizu (2016) explained that richer purchasers are more likely to pay a premium for houses with the green-labeled designation, both in total and as a percentage of the entire sales price, while the effect on households with lower incomes is not as strong. Therefore, the author suggests that this finding demonstrates the fact that it should be strategically effective for luxury real estate enterprises to take sustainability into account due to targeting high-end customers. In addition, Sharma and Akinwalere (2023b) highlighted the importance of clear and effective marketing messaging in educating and directing the public's perceptions and decisions regarding sustainable real estate investments. It also indicates that social pressure is what drives consumers' purchase behavior toward sustainable luxury homes.

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Chapter 3 External Environment Analysis

This chapter analyzes the external environment for the real estate industry in Taiwan, especially the changes that happened within recent decade. By applying the PEST framework and Porter's five forces model and then conducting a competitor comparison, the chapter clarifies the key external factors that stimulate the strategic transformation of luxury real estate companies from macro-level to peer-level.

3.1 PEST Analysis of the Macro-environment

PEST analysis is used to evaluate the external macro-environmental elements that can have an impact on a business or sector. PEST stands for Political, Economic, Social, and Technological Aspects. This section examines these aspects regarding the luxury real estate industry in Taiwan to obtain insights into the larger environment.

3.1.1 Political Aspect

1. *Political Analysis:*

The government's policy can significantly influence luxury real estate business entities to adapt their business strategies by implementing tax policies and formulating rewarding regulations in association with building on them. For tax policy implementation in recent years, the Taiwan government announced the House and Lands Transaction Income Tax System 2.0 in July 2021 and the Equalization of Land Rights Act in February 2023. These two policies aim to achieve residential justice by balancing

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the housing market and discouraging investors from engaging in inappropriate market speculation; however, they also increase the costs for developers to obtain land resources, which ultimately drives up house prices. Take the House and Lands Transaction Income Tax System 2.0 as an example. This legislation has indeed dramatically reduced transaction volume without having an impact on real estate trading values (高琮凱, 2022). However, it also increases the land acquisition costs for developers. To elaborate, the government imposes heavy taxes on those who profit from real estate transactions based on the time period of ownership, as shown in Table 1. For instance, if a seller's holding period for a piece of real estate is 3 years, then the seller will be taxed at 35%, which is a higher rate than the previous 20%, based on the profit gained during the transaction after the legislative amendment in July 2021.

Table 1: House and Lands Transaction Income Tax System 2.0

Tax rate imposed	Holding period before amendment (July, 2021)	Holding period after amendment (July, 2021)
45%	Less than 1 year	Less than 2 years
35%	Over 1 year but not exceeding 2 years	Over 2 years but not exceeding 5 years
20%	Over 2 years but not exceeding 10 years	Over 5 years but not exceeding 10 years
15%	Over 10 years	Over 10 years

As for the rewarding regulations, in order to encourage real estate developers to engage in urban redevelopment and promote urban sustainability, the Ministry of Interior has enacted regulations for rewarding developers with additional floor area incentives.

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These incentives are provided when the buildings they construct meet certain sustainable criteria, including obtaining a Taiwan Green Building Certificate, a Taiwan Intelligent Building Certificate, seismic design, and barrier-free environment design. Table 2 presents the relationship between the level of certification for each type of certification and the corresponding additional building volume the developer can gain based on the standard building volume. In the case of a building project gaining additional floor area, if the developer can sell all the units, they can earn more profit than if they did not adopt certain sustainable certifications.

Table 2: Relationship between certification levels and additional building volume

Type of certification	Level of certification	Additional building volume gained based on standard building volume
Taiwan Green Building Certificate (EEWH)	Diamond	10%
	Gold	8%
	Silver	6%
	Bronze	4%
	Certified	2%
Taiwan Intelligent Building Certificate	Diamond	10%
	Gold	8%
	Silver	6%
	Bronze	4%
	Certified	2%
Seismic design		10%
Barrier-free environment design		5%

2. Suggested Reaction on Political Aspect

Regarding the suggestions for luxury developers, firstly, the author considers that the implementation of tax policies for consumers may decrease the overall transaction

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volume while also impacting luxury real estate developers. For instance, the House and Lands Transaction Income Tax System 2.0 may raise a developer's land acquisition costs. That is, if a developer acquires a piece of land from a landlord who has owned the land for less than one year, the landlord may set a higher transaction price due to being taxed at a higher rate to ensure the expected profit. Secondly, as for rewarding regulation systems for luxury developers, they may be attractive because adopting green building certification can provide additional floor areas, allowing developers to earn more profit when the products are sold out. The luxury developer's strategy of meeting the rewarding regulation can work under the premise that wealthier purchasers are more likely to pay a premium for houses with the green-labeled designation (Fuerst and Shimizu 2016).

3.1.2 Economic Aspect

1. Economic Analysis:

Economic factors such as economic growth and the Central Bank's monetary policy can significantly affect luxury real estate demand and prices in the strategic transformation process. Firstly, economic growth is typically assessed using key indicators such as gross domestic product (GDP) and gross national product (GNP) (黃倧賦, 2014). It has been found that GDP has a long-term equilibrium relationship with real estate prices (黃倧賦, 2014). Also, the economic growth increases household income, and the growth will lead to higher demand for real estate as well (彭建文、張金鶚, 2000).

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Secondly, the adaptation of the Central Bank’s monetary policy depending on the economic situation also influences the real estate market. For instance, tightening policy will be taken by the central bank when the economy overheats, which means it will raise interest rates to decrease the money supply. As a result, consumers’ demands may decrease due to the increasing costs of house ownership (鄭浩, 2021). On the other hand, the Central Bank will implement an easy monetary policy to reduce interest rates or expand the money supply to promote economic recovery when the economy is too slow (黃倧賦, 2014), which will increase consumers’ demand for real estate. The interest rate issue influences the real estate market a lot because most consumers purchase real estate with a loan from the bank. That is to say, easy monetary policy raises house prices because the low interest rates make it easier to take out a loan for consumers.

2. Suggested Reaction on Economic Aspect

Statistical data in Table 3 indicates that Taiwan's GDP has been increasing over the past five years. This suggests that consumers' demand for luxury real estate may rise due to rising household incomes. Regarding interest rates, the Central Bank adopted easy monetary policies from 2019 to 2021 to stimulate the economy amidst the impact of COVID-19. However, since 2022, the bank has raised interest rates, which could affect the sales performance of real estate businesses. Therefore, property developers should

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strategically transform their businesses towards sustainability to address consumers' COVID concerns and maintain or improve sales performance in the post-COVID era.

Table 3: Taiwan's GDP and the Central Bank's interest rate

Year	GDP nominal per capita (NTD)	Interest Rate on Dec. (Rediscount Rate)
2019	801,348	1.375
2020	844,485	1.125
2021	923,086	1.125
2022	972,550	1.750
2023	1,007,936	1.875

3.1.3 Social Aspect

1. Social Analysis:

Social factors such as demographic shifts, lifestyle preferences shift, and the nature of human motivation can largely affect consumers' preferences for the luxury real estate market. First, for demographic shifts, Chang and Chen's (2018) research shows that Taiwan's population growth has slowed recently. Nevertheless, the number of households is still rising despite an aging population, late marriages, and a low birth rate. This indicates that smaller family units have replaced nuclear families as the predominant family structure in Taiwan. Consequently, shifts in the composition of families have an impact on the demand for and use of housing. Tiny homes will be more desirable in a property market with high costs and few households. Second, for the shift in lifestyle preferences, consumers have had a desire for sustainability and other smart home technology that can improve the quality of daily life due to COVID-19. For example,

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developers who have introduced contactless facial recognition technology can prevent the spread of diseases due to contact, and these technologies have gained consumer praise in the post-pandemic era (葉傳旻, 2023). Third, for the nature of human motivation, Chuon et al. (2017) applied the Maslow hierarchical pyramid of needs to demonstrate buyers' motivation in pursuit of luxury housing. Shelter represents physiological needs; a house represents safety needs and belonging needs; a home represents esteem needs and self-actualization needs; and finally, luxury housing signifies the zenith of one's life achievement.

2. Suggested Reaction on Social Aspect

For the demographic shifts, the previous research shows that tiny homes will be more desirable in a property market with fewer household members, so luxury property developers should adapt their products to a smaller size. For instance, the size of a luxury house in the past two decades was around 150 pings, which can accommodate more than six people, but now it is recommended to reduce the size of the house to less than 120 pings. With the shift in lifestyle preferences toward sustainability and other smart home technology, luxury developers should take these concerns into consideration in their strategy formulation. This is because real estate products with these attributes not only improve their functional value but also enhance their individual value (ownership of a luxury home with advanced technology) and social value (personal contribution to

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sustainability). Third, for the nature of human motivation, since luxury housing symbolizes the top of people’s life achievements, it may be a lasting advantage for luxury developers to position their products.

3.1.4 Technological Aspect

1. Technological Analysis:

Technological factors that significantly influence the strategic transformation of luxury real estate enterprises involve several stages of the value chain, such as the design stage, the construction stage, and the marketing and sales stage. In the design stage, intelligent buildings, also known as smart buildings, have become increasingly popular among developers in recent years. These types of building designs make use of cutting-edge technologies like the Internet of Things (IoT) to improve their sustainability and efficiency. That is, intelligent buildings allow office workers to access information from their workplace, make property managers have fewer cold and hot calls, and provide building owners with the availability to see stronger bottom lines (Talon, C., & Goldstein, N. 2015). For the construction stage, 林志錡's (2015) research indicated that 91% of 100 respondents representing their construction companies consider that Building Information Modeling (BIM) may significantly impact the construction industry. This is because BIM technology can be used for 3D modeling; the technology can conduct realistic simulations for marketing purposes; and it can perform design reviews and clash

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detection for the subsequent construction phase. For Marketing and Sales, 林徹人's (2016) case study highlighted that by leveraging a digitally interactive marketing experience, the sales reception hall can make use of virtual and reality integration to improve consumer experiences. This can also accomplish the aim of carrying out multi-project marketing in a single location and producing an outstanding presentation area.

2. Suggested Reaction on Technological Aspect

Technological innovations involving several phases of the real estate value chain, like the design stage, construction stage, marketing and sales stage, are crucial to luxury developers, so it is suggested that luxury developers should catch up with technological trends (e.g., smart home technology, BIM, and digital marketing) to improve operation efficiency and customers' perceived value in these three domains. However, previous research (Ali & Anwar, 2021) also highlighted the importance of prioritizing the financial and customer perspectives of business strategies. Take the typical case regarding BIM deployment for the construction stage in Taiwan as an example. BIM adoption has a high financial threshold since it requires an initial equipment investment and challenging employee training. Furthermore, some specialists strongly oppose it due to its disruption of the construction industry's traditional procedures (林志錡, 2015). Therefore, luxury developers in Taiwan may consider the outcome and effectiveness of adopting the technological initiatives in all three stages as well.

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3.2 Porter’s Five Forces Analysis in Luxury Real Estate World

To analyze the external environment of the luxury real estate development industry in Taiwan, Porter's Five Forces framework is implemented to provide valuable insights into rivalry competition, the threat of new entrants, the threat of substitutes, the bargaining power of buyers, and the bargaining power of suppliers. Through this method, luxury property developers can gain insights into the external factors influencing the industry and make informed strategic decisions.

1. *Rivalry Competition:*

Regarding the rivalry, the impact of this factor on the luxury real estate industry is high. This is because non-professionals find it difficult to discern the differences between various real estate development companies, and they can only obtain information about these differences from past projects and media advertisements. Thus, even well-known development companies struggle to establish differentiation or brand effects (游伯湖, 2022). In the case of the luxury real estate market, high-end consumers closely monitor market trends but are not eager to purchase quickly. As a result, luxury home development companies are all keen to come up with clever marketing plans (林徹人, 2016). Therefore, the rivalry competition in luxury real estate industry is high.

2. *Threat of New Entrants:*

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The threat of new entrants is medium-to-low. This is because the entry barrier for the luxury real estate industry is high, while in some cases other industries might enter the market as well. That is, the substantial capital requirements needed to enter the luxury real estate market act as a significant barrier, deterring many potential new entrants. However, due to the recognition of the vibrant real estate market, companies outside of the real estate sector, such as insurance companies, steel companies, and architecture firms, are also increasingly investing in real estate (王大信, 2022). Therefore, the threat of new entrants is medium-to-low.

3. *Threat of Substitutes:*

The threat of substitutes is considered to be low. This is because the trends of luxury buildings update over time, and the pre-owned house market is the main potential threat that can substitute for new luxury real estate. For instance, the trend of luxury buildings is to meet the current requirements of consumers, such as achieving sustainability and technological feasibility, while pre-owned or existing houses might not be able to satisfy these criteria due to the limitations of the original design. Hence, the threat of substitutes in luxury real estate is low.

4. *Bargaining Power of Suppliers:*

This industry faces the high bargaining power of suppliers. To be more specific, the most important inputs provided by suppliers and other partners in this industry are

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lands, construction labor, and construction materials, and the costs of gaining these resources have been soaring significantly over the past decade. First, the land issue is particularly crucial because Taiwan is a densely populated island with limited land resources, and developers can only acquire these scarce lands from landlords, other developers, and government auctions. Also, the implementation of land regulations and the policy of redevelopment zones led by the government also drive up the land price, which gives land suppliers a higher bargaining power. Secondly, the shortage of skilled labor may result in difficulties in finding qualified workers for projects and increase developers' wage expenses (林信璁, 2014). Developers actually face challenges not only in finding qualified workers from suppliers but also in searching for site engineers who are in charge of supervising the workers, giving labor suppliers an advantageous position. Lastly, as for the rising prices of construction materials, notice that Taiwan's natural resource production is not abundant, so suppliers in Taiwan heavily rely on imports to gain construction materials. The fluctuation of international oil prices often contributes to the rising price of building materials such as steel, cement, and sand, which play important roles in construction expenses because the production and transportation of these materials also widely rely on petroleum (林志棟 & 林秀貞, 2007). Hence, from a material supply perspective, the bargaining power of suppliers in the real estate development industry in Taiwan is likely to be high due to these unchangeable facts.

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5. Bargaining Power of Buyers:

The bargaining power of buyers is regarded as being low because only about 30% of the possibility exists that property developers will consider accepting buyer offers during the price negotiation (楊智元, 2018). Also, the empirical results indicate a positive correlation between the likelihood of sellers considering buyer offers and the sales ratio of the property development projects. In other words, the result implies that the decrease in real estate transaction volume might not be solely caused by insufficient market demand. Instead, it could be linked to sellers' reluctance to engage in negotiations, so the bargaining power of buyers is likely to be low.

6. Conclusions from Porter's Five Forces Analysis

In conclusion, there is intense competition among developers of luxury real estate, suppliers have a lot of power, and purchasers' bargaining power is limited (Figure 11). There is also little threat from alternatives and new competitors. Therefore, the author suggests that a luxury real estate developer should pay particular attention to the high level of competitors and the high power of suppliers, while the other three factors may not have an immediate impact on a developer's competitiveness and profitability in the Taiwan luxury real estate market.

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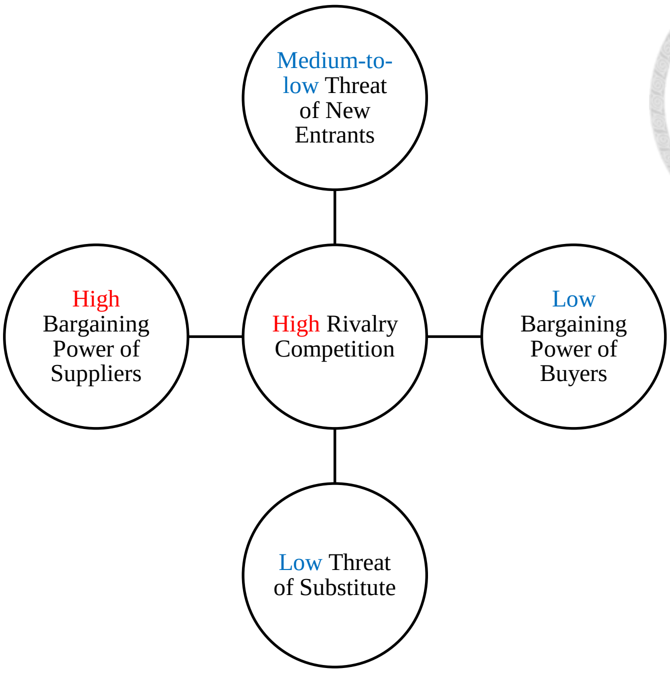

Figure 11: Porter's Five Forces analysis of real estate development industry

Source: Self-made for this thesis

3.3 Competitor Comparison

1. Competitor Comparison Analysis

Knowing the threat of competitors is one of the two most important factors in terms of Porter's Five Forces for Chung-Yuet Group. This section conducts a competitor comparison via a positioning map introduced by Jack Trout in 1969. With the use of the positioning map to distinguish a product's distinctive attributes from those of competitors, this method helps companies make a product more competitive (KIMa, 2012). Since the definition of luxury real estate varies depending on different cities in Taiwan, this research specifically takes the other 10 players in Taoyuan City, where Chung-Yuet Group has roots, as an example to do the comparison analysis. To visualize the path from luxury to sustainability, the research selects the two important attributes, "price spectrum"

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and "ethical spectrum," as the two axes of the brand positioning map to create the following product positioning map (Figure 12). Notice that the positioning map might not be 100% accurate, as it is a combination of 游伯湖's (2022) branding positioning map, interview results, and the author's personal viewpoint.

Figure 12: Positioning map of Chung-Yuet in Taoyuan

Source: Self-made for this thesis

The four players in quadrant 1 simultaneously position their products in consideration of premium and sustainability in Taoyuan City. Chung-Yuet Group, Lih-Pao Group, Pauian Archiland, and Kingdom Development Corporation (ranked by project volume) are also among the top 10 developers in terms of project volume in Northern Taiwan for the year 2022. Kingdom Development Corporation has been publishing the sustainability report with the certification of the third party, the British Standards Institution (BSI), since 2017, while the other three only emphasize their sustainability

doi:10.6342/NTU202402174

actions on their building entities and real estate marketing (陳宥任, 2022). Players in quadrant 2, Wei-Jun Construction Company, Sound Rise Construction, and Taota Group, position their products in conventional luxury. These three local developers based in Taoyuan are well-known to the local residents and have had great sales performance over time. For quadrant 3, companies such as PJ Group and Yi-Cheng Group target consumers who care about affordability, and PJ Group is the top player in terms of project volume in Northern Taiwan for the year 2022. For quadrant 4, players such as Highwealth Corporation and Farglory Group offer affordable products while seeking sustainability as well. Both of the companies published sustainability reports in 2015 and 2016, respectively. Regarding the verification of the sustainability report, Highwealth Corporation's report is not certified by any third-party institution, while the Farglory Group's report is partially certified by an accounting firm (陳宥任, 2022).

2. The Inference Drawn from Competitor Comparison Analysis

This section aims to distinguish a luxury real estate product's distinctive attributes from those of competitors, so quadrant 1 and quadrant 2 may be concentrated on. First, the common attribute among players in quadrant 2 is that they are all local developers in Taoyuan. So far, they have merely emphasized their actions on sustainability regarding their brands and products, as observed in Kunz et al.'s (2020) research. Therefore, it can be inferred that luxury property developers in Taoyuan City

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who implement sustainable initiatives and do marketing to enhance consumers' perceived value may gain a first-mover advantage. Secondly, the commonality among players in quadrant 1 is that, apart from operating in Taoyuan, they also have development projects in the Greater Taipei area. Kingdom Development Corporation is the best sustainability practitioner due to its sustainability actions, like its certified sustainability report, whereas the other three rank behind the Kingdom in terms of sustainability. Consumers can find numerous news articles about the sustainability actions and green certifications of the development projects of the three, but there is no sustainability report providing transparency, accountability, and informed decision-making in the market place to inform consumers about their companies' ESG initiatives. While luxury products should meet the requirements of the financial, functional, individual, and social dimensions, it is recommended that luxury developers produce a sustainability report to enhance consumers' recognitions of these aspects.

3.4 Summary of External Environment

The summary of the external environment analysis is shown in Table 4. The author selects the important aspects and highlights the specific factors based on PEST analysis, Porter's Five Forces analysis, and competitor comparison analysis.

Table 4: Summary of the external environment analysis

Scope of Analysis	Important Aspects	Conditions	Inference for Luxury Developers from the Analysis

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Macro-environment Analysis	Political	Taxes policies	May significantly impact luxury developers
		Rewarding regulations	Encourage developers to gain green building certification with additional floor areas
	Economic	GDP growth	Lead to higher demand for luxury real estate
		Rising interest rates in the post-COVID era	Facilitate strategic transformation towards sustainability to address consumers' COVID concerns and improve sales performance
	Social	Demographic shifts in family composition	Stimulate developers to adapt their products to a smaller size
		Consumers' desire for sustainability and technology	Foster developers' adoption of sustainability and smart home technology
		Human nature	Motivate buyers to pursue luxury housing
	Technological	Initiatives for designing stage such as smart home technology design	Improve users' usability in terms of sustainability and efficiency
		Techniques for construction stage, like BIM	Perform design reviews and clash detections for the construction phase
		Innovation for marketing and sales stage such as digital marketing	Make use of virtual and reality integration to improve consumer experiences
Porter's Five Forces Analysis	Competitors	High rivalry competition	Stimulate developers to formulate strategies to build up a competitive advantage
	Suppliers	High bargaining power of suppliers	Propel developers to formulate strategies to negotiate with suppliers
Competitors Comparison	Conventional Luxury Quadrant	Less attention is paid to sustainability	Implement sustainable initiatives and do related marketing to enhance consumers' perceived value to gain the first-mover advantage in new developed cities

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	Sustainable Luxury Quadrant	High attention to sustainability	Enhance sustainability practices like producing certified sustainability reports

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Chapter 4 Case Study of Chung-Yuet Group

4.1 Chung-Yuet Group

4.1.1 About Chung-Yuet Group

Chung-Yuet Group, founded by Mr. Liang-ping Lee in 1993, is the leading luxury home developer in Taoyuan City. The Group currently has seven business units, including one construction company, four development companies, and two asset development companies, with about 140 employees in total (Figure 13). Upholding the business philosophy of "Innovation, Integrity, and Service," it has successfully developed over 8,000 luxury residences and top-tier commercial offices over the past 30 years, earning high recognition from its consumers. The company's development can be broadly divided into three stages: the startup and expansion stage (Nankan, Taoyuan), the flourishing development stage (Taoyuan Zhongzheng Arts and Cultural District, Taoyuan), and the innovative and sustainable transformation stage (Xinzhuang Subcenter, New Taipei City).

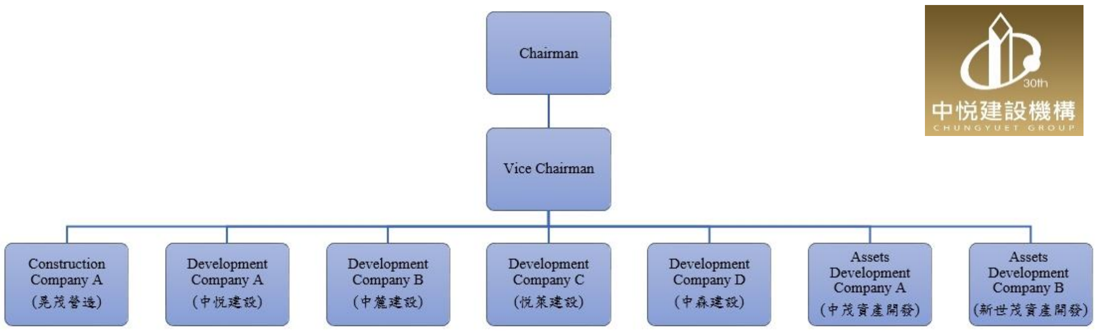

Figure 13: Organizational chart of Chung-Yuet Group

Source: Self-made for this thesis

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4.1.2 Development Process of Chung-Yuet Group

The founder of Chung-Yuet, Chairman Liang-ping Lee Lee, started his career in carpentry and interior decoration. In 1988, he co-founded "Haoqun Construction" in Zhongli District with his partners, operating steadily by purchasing land to develop after selling a completed project. During this period, Mr. Lee studied stone carving methods and proceeded to refine his talents by using the expertise of carpentry. In 1993, he founded Chung-Yuet Group, and in 1996, he launched the first luxury residence, "Garden Plaza", in Nankan, marking the beginning of Chung-Yuet's "startup and expansion stage" in luxury home development.

1. Startup and expansion stage in Nankan, Taoyuan (1996~2008)

During this stage, founder Liangping Lee accomplished two landmark achievements in Taoyuan: establishing the core framework of Chung-Yuet's unique Baroque architectural style and creating the renowned reputation of "Chung-Yuet Village" in Nankan, well-known among Taoyuan residents.

Firstly, since founding the company, Chairman Lee has regularly led senior executives and key partnering suppliers to European countries to gain insights and absorb the essence of European architecture, which he then adapted to suit Taiwanese customers. Because of this, Chung-Yuet Group was the first developer of luxury homes in Taoyuan City to offer opulent public spaces and hotel-style administration, inspiring other

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developers to follow suit. The company later developed seven classical elements that define Chung-Yuet's European-style architecture: domed crowns, palace lobbies, art collections, epic corridors, granite columns, fountain gardens, and social cafes (Figure 14). These became the core concepts in creating Chung-Yuet's unique Baroque architectural style.

Secondly, from 1996 onward, Chung-Yuet steadily launched projects in Nankan, Taoyuan, at an average rate of 1 to 2 projects per year over a decade. The floor area of each unit was the largest in the market at the time, with Chung-Yuet’s The Palace Mansion project in 2006 offering units as large as 254 ping (approximately 839 square meters). Following a stable operating model of construction, sales, and land acquisition, Chung-Yuet developed an entire luxury residential area in Nankan, earning the well-known reputation of "Chung-Yuet Village" among Taoyuan residents.

Domed crowns

Palace lobbies

Art collections

Epic corridors

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Granite columns

Fountain gardens

Social cafes

Figure 14: Seven elements of Chung-Yuet's European-style architecture

Source: Chung-Yuet Group website: https://www.joyes.com.tw/

2. Flourishing Development Stage in the Taoyuan Zhongzheng Arts and Cultural District (2008-2019):

Following the success of Chung-Yuet Village in Nankan, Chung-Yuet shifted its development focus to the Taoyuan Zhongzheng Arts and Cultural District (TZACD), which is now referred to as the “Xinyi District of Taoyuan” (Figure 15). Chung-Yuet made three key contributions in this district: being the earliest and largest developer in terms of volume, constructing the tallest and most luxurious buildings, and enhancing commercial activities.

doi:10.6342/NTU202402174

Figure 15: TZACD

Source: Public website of Department of Tourism, Taoyuan City Government: https://travel.tycg.gov.tw/zh-tw/travel/attraction/1266

First, during the initial development phase in the early 2000s, the area was still largely undeveloped, and the launch of Chung-Yuet Imperial Court in 2010 marked the first luxury residence built in this core area. Currently, Chung-Yuet's projects account for about 50% of the total building volume in TZACD, highlighting its significant contribution to the area's prosperity.

Second, in 2012, Chung-Yuet boldly undertook the construction of Taoyuan's most luxurious residence, "Chung-Yuet Timeless Landmark" (Figure 16). This project covers nearly 5,000 ping (approximately 16,529 square meters) and comprises three towers, each 38 stories tall (155 meters). It is not only the largest development in the Arts

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and Cultural District but also the tallest building in Taoyuan City. The project includes the nation's first standalone 1,000-ping clubhouse, which remains recognized as Taoyuan's premier luxury residence.

Third, in 2016, Chung-Yuet introduced the only purely commercial building in the Arts and Cultural District, the B4F-12F Zhongmao New World, which is available for lease but not for sale. By strategically attracting high-end dining businesses such as Starbucks, American convenience stores, Wang Steak, and Wowprime Group to establish a presence in the region, Chung-Yuet significantly enhanced the lifestyle and convenience within its luxury residential community in TZACD, thereby elevating the community's value. These series of developments propelled Chung-Yuet Group to new heights, setting it far ahead of other luxury residential developers.

Figure 16: Chung-Yuet Timeless Landmark

Source: Picture provided by Chung-Yuet Group

3. Innovative and Sustainable Transformation Stage in New Taipei Xinzhuang Subcenter (2019-present):

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Over the past five years in the real estate market, Chung-Yuet has not only been synonymous with luxury homes in Taoyuan but has also frequently ranked among Taiwan's top ten developers. During this period, the company has actively pursued innovation and transformation. While continuing to develop projects in Zhonglu, Qingpu, and Jingguo Special District in Taoyuan, Chung-Yuet has shifted its development focus to Xinzhuang District in New Taipei City and relocated its headquarters there as well. The overall transformation work includes two main aspects: architectural style innovation and the introduction of sustainable development concepts.

Based on the long-term customer relationships, Chung-Yuet has seen that many second-generation clients are increasingly looking for luxury residences in terms of architectural design. The younger generation, however, favors contemporary, minimalist design over traditional European stone-carved structures. Embracing the spirit of innovation and change, Chung-Yuet has radically revamped its architectural style (Figure 17). Since 2022, the luxury residences launched by the company feature a minimalist luxury design, offering customers a fresh new experience.

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Figure 17: Innovations in minimalist luxury design — Pine Garden & Cedar Garden
Source: Picture provided by Chung-Yuet Group

In terms of sustainable development consideration, consumers' knowledge of environmental sustainability was lacking when it came to sustainable development in the past. However, in recent years, with the promotion of the UN's 2050 net-zero emissions goal, increased government focus on environmental protection, and heightened customer awareness of sustainability, Chung-Yuet has incorporated ESG planning and carbon reduction targets into its core product planning, as exemplified in Figure 18. Since 2021, all new projects have undergone the evaluation of sustainable certifications such as Taiwan green building design labels, Taiwan intelligent building design labels, and the U.S. Green Building Council's LEED certification. In 2024, Chung-Yuet has completed

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three luxurious and environmentally sustainable commercial buildings in Xinzhuang and plans to introduce a 170-meter-high luxury commercial building, which will be the tallest in the area, and obtain environmental sustainability design labels following environmental assessment reviews in 2027. This ambitious project aims to set a new pinnacle for Chung-Yuet.

Figure 18: Sustainable commercial building — Mori Plaza

Source: Picture provided by Chung-Yuet Group

4.1 Research Methodology

The primary objective of this master's thesis is to comprehensively analyze the strategic transformation path of luxury real estate enterprises in Taiwan, focusing on the shift from conventional luxury to sustainable luxury. This section introduces the

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methodology being used to investigate how Chung-Yuet Group navigates this transition and address the challenges and opportunities presented by sustainability initiatives.

4.2.1 In-depth Interview

The in-depth interview method, a common qualitative research instrument in social science, will be adopted in this research. This section introduces the value, strength, and format of this method, and explains the reasons for utilization of this methodology in this research. Firstly, the value of interviewing is not only because it builds a holistic snapshot, analyzes words, and reports detailed views of informants, but also because it enables interviewees to speak in their own voice and express their own thoughts and feelings (Alshenqeeti, 2014). Secondly, the significant strength of this method resides in the interviewer–interviewee relationship. The relative closeness of the interviewer–interviewee relationship that is developed in the in-depth interview method potentially increases the credibility of the data by reducing response biases (Roller, 2020). Through this approach, the interviewer can gain insights and understanding into the perspectives and experiences of the interviewees exclusively. Thirdly, as for the format of the interviews, researchers typically employ face-to-face, telephone, or online methods for conducting the surveys. The content and format of the interview will depend on the research questions and purposes.

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Regarding the explanation for the approach being taken, firstly, Chung-Yuet Group is a private company with outstanding performance in the luxury real estate market. Therefore, the value of interviewing lies not only in revealing informative details, unlike listed companies that produce financial reports annually, but also in enabling the top management to express their own thoughts and feelings on strategic decision-making. Secondly, given the author's extensive experience as a Chief Engineer in the construction unit of Chung-Yuet Group for over six years and a positive rapport with top management, this background is likely to bolster the qualitative data's credibility. Thirdly, face-to-face interview will be conducted in this study, and it will allow the researcher to gather rich and detailed data regarding the thought of strategic transformation towards sustainability that may be missed in other interview formats.

4.2.2 Semi-structured Interview

Normally, interviews fall into three different categories: structured interviews, semi-structured interviews, and unstructured interviews. (Mueller et al., 2014).The main distinctions among these types lie in the structure level of the questions and the degree of control that the interviewer has over the response from the interviewees. Based on the above expectations and the characteristics of this research, the Semi-structured interview method will be chosen in this case. According to Alshenqeeti (2014), a semi-structured interview is a more adaptable form of a structured interview since it gives the interviewer

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the chance to delve further into and build on the interviewee's comments, allowing for greater depth to be obtained. When undertaking such interviews, it is recommended to utilize a basic checklist that would help cover all relevant areas. The benefit of the checklist is that it permits the interviewer to stay within the limitations established by the study's objective while still allowing for extensive questioning. The author chose this particular interview method for the study because it would enable a thorough discussion of a range of topics pertaining to the strategic transformation path from luxury to sustainable luxury.

4.2.3 Interview Design

4.2.3.1 Interview objective

The primary objective of this master's thesis is to comprehensively analyze the strategic transformation path of luxury real estate enterprises in Taiwan, focusing on the shift from conventional luxury to sustainable luxury. The research has gained the influential factors from external environment from Chapter 3. This section aims to obtain (1) reconfirmation of the influential external factors in the real business world, (2) insights on internal motivations behind the strategic transformation of Chung-Yuet Group, (3) strategies employed by Chung-Yuet Group in response to market dynamics, (4) outcomes

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of the strategic transformation initiatives towards sustainability, and (5) challenges faced by Chung-Yuet during the transformation journey.

4.2.3.2 Interview questions

1. When did the Chung-Yuet Group launch? Can you briefly introduce the story of how you launched the company? Why did the company target high-end customers as their audience?
2. What motivates the Chung-Yuet Group to implement strategic transformation towards sustainability? Did the company do the market survey? Are funding and resource allocation important considerations?
3. Has the company enhanced its internal operational efficiency in recent years to address the transformation towards sustainable luxury?
4. What external macro-environmental factors do you think have a significant impact on business decision-making? And why are these factors important?
5. What are the internal motivations behind the strategic transformation of Chung-Yuet Group? And what do you think about the advantages that the company has in terms of VRIO?
6. What strategies did the company take in response to evolving consumer preferences, market dynamics, and regulatory changes related to sustainability?

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7. Do you think the overall transition from conventional luxury to the sustainable luxury model is a success or not? And why?
8. What are the challenges during the transformation towards sustainable luxury and the lessons learned?

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Chapter 5 Results and Analysis

The following paragraph explains the key findings of the interview results. Part of the key findings will be listed in section 5.1, while the other interview results will be consolidated into the VRIO Analysis and Business Model Transformation Canvas to create a Strategic Transformation Model, visualizing the process of engendering the change from conventional luxury to sustainable luxury.

5.1 Interview Results

Based on the interview with top management of Chung-Yuet Group, some key findings are concluded below:

1. ***Chung-Yuet Group believes changes in government policies and market dynamics are the primary drivers of strategic transformation.***

   <u>*Changes in government policies aspect*</u>

   In promoting green buildings, the government has explicitly stated in the "Urban Renewal Building Volume Reward Measures" that it encourages industry peers to obtain green building and smart building design certifications through volume rewards. Aware of this, the organization also has the ability to invest the corresponding initial investment costs and therefore takes this reward system into consideration when making decisions.

   <u>*Market dynamics aspect*</u>

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Chung-Yuet Group maintains long-term, close, and open communication channels with its consumers, enabling itself to continuously obtain and update the demands of high-end customers. In recent years, the ESG (environmental, social, and governance) sustainability trend has influenced various industries worldwide. For instance, many potential buyers of the company's office buildings are foreign corporate executives who wish to integrate ESG principles into their business models and asset (real estate) allocations. Knowing this, Chung-Yuet Group, positioning itself as a leader in luxury real estate, must incorporate environmental sustainability into its planning in addition to adhering to the original aesthetic design and comfort of its buildings.

2. ***Chung-Yuet Group has been enhancing internal operational efficiency in two areas—human resources and the adoption of new technologies—to address the transformation.***

The Group's efficiency enhancement strategies are shown in Table 5:

Table 5: Chung-Yuet's efficiency enhancement strategies

Aspect	Efficiency enhancement strategy	Contents of strategies
Strengthening human resources	Organizational expansion	For designing department: ● Hire two additional project personnel with architect licenses to enhance the professional capabilities of the internal design team ● Expand the design department from six to ten members to improve communication efficiency with architectural firms.

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		For construction department: ● Assign additional administrative assistants to simplify the routine tasks of site engineers so that engineers can concentrate more on the execution of green building and smart building construction
	ESG awareness training	● Invite professional firms to conduct ESG-related training to increase awareness among various departments (designing, construction, and marketing and sales) about the symbiosis of building design, construction, and environmental sustainability.
Adopting new technologies	Adopting more environmentally friendly construction methods	Construction methods beyond the requirements for green building certification ● Replace brick walls with dry partition walls ● Use lightweight steel-framed ceilings instead of wooden ceilings ● Substitute SD420 steel with SD490 steel
	Introducing Building Information Modeling (BIM) system	● Introduce BIM technology and gradually build a 3D modeling team to achieve the goal of sustainable luxury by gaining more comprehensive and accurate data and information throughout the entire lifecycle of design, construction, and operation.

3. ***The company has adopted a comprehensive project sustainability assessment approach(CPSAA), incorporating strategies such as adoption of Taiwan Green Building Label (EEWH), Intelligent Building Label, US Green Building Council's LEED certification, and digital transformation (DT) through BIM to respond to market dynamics and government's policy changes.***

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The two strategy packages, Comprehensive Project Sustainability Assessment Approach (CPSAA) and Digital Transformation (DT), are shown in Table 6:

Table 6: Chung-Yuet's two strategy packages

Approach		Contents of assessment
CPSAA	Taiwan Green Building Label (EEWH) assessment since 2015	● Evaluate the nine components (greenery, soil water content, daily energy conservation, CO2 emission reduction, construction waste reduction, indoor environment, water resource, sewage and garbage improvement, and biodiversity) to seek the most efficient way to gain certification ● Balance the concerns of luxury design and sustainability. For example, excavating large areas to meet parking space requirements conflicts with the scoring criteria for soil water retention. This shortfall in soil water retention scores can be compensated for by increasing the greenery area.
	Taiwan Intelligent Building Label assessment since 2019	● Assess eight key indicators (integrated wiring, information and communication, system integration, facility management, safety and disaster prevention, energy-saving management, health and comfort, and smart innovation) to seek the most efficient way to gain the certification ● Integrate the concerns of luxury and smart technology in building design, and consistently excelled in the first seven indicators to earn the certifications ● Balance the consideration of luxury design and intelligent design. For instance, installing 5% to 15% of sun-tracking BIPV devices on the building envelope to reduce indoor energy consumption might conflict with a luxurious and elegant appearance. In

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		such cases, it may be necessary to forgo this part of the smart building score
	US Green Building Council's LEED certification assessment since 2023	● Evaluate the nine key indicators for LEED (integrative process, location and transportation, sustainable sites, water efficiency, energy and atmosphere, materials and resources, indoor environmental quality, innovation in design, and regional priority) to seek the most efficient way to gain the certification ● Integrate the concepts of luxury and LEED in building design, and continuously achieve excellence in all indicators except for innovation in design to earn the certifications.
DT	Adoption of BIM since 2022	● Collision review: BIM provides a project with a detailed 3D model to detect early identification of conflicts between various building systems (such as the HVAC, electrical, and plumbing) before construction starts. This lessens the possibility of expensive on-site adjustments and delays. ● Cost control: BIM allows for creation of accurate and comprehensive project data to improve budget management and accurate cost estimation. It makes cost control throughout the project lifecycle more successful. ● Sustainable design: BIM supports the integration of sustainability criteria into the design process by allowing for the simulation and analysis of energy performance, daylighting, and material usage. This allows companies to make informed decisions that enhance the building's sustainability.

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		● Communication efficiency: It improves communication among project stakeholders by providing comprehensive project information. This ensures that all parties have access to the same data, reducing misunderstandings and enhancing collaboration throughout the project.

From management's point of view, the strategic transformation has been progressing well and heading in the right direction because the company continues to make comprehensive considerations and enhance its brand value.

Realization of comprehensive consideration

The company's strategic transformation encompasses not only environmental sustainability but also smart technology and digital transformation. These aspects complement each other, allowing the company to gain a competitive edge in the market by meeting consumer demands for ethics, safety, comfort, and convenience.

Enhancement of brand value

By continuously promoting environmental sustainability, the company has also enhanced its brand value, changing the common perception that luxury equates to wastefulness. Consumers increasingly favor companies that support environmental and sustainable development, which helps the company improve sales performance and increase brand loyalty.

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4. ***During the transformation towards a sustainable luxury model, the company faced several challenges and learned some valuable lessons.***

The challenges faced and the corresponding lessons learned are shown in Table 7:

Table 7: Challenges faced and lessons learned during transformation

Strategy	***Challenges faced***	***Valuable lessons learned***
CPSAA	Balance between sustainability and luxury	
	● Adopting green building design and smart building design may incur higher upfront investment and construction costs, and so far, the company considers it the most cost-effective way to score on different items.	● In the future, the company can prioritize sustainability as a whole and optimize cost-effectiveness through big data to further assist in attaining SL.
	Pressure of gaining market recognition	
	● Sustainability has become a trend, pushing market competition into a new realm. The company must approach this new market with caution	● Should improve communication with consumers, and enhance brand image to ensure its sustainable luxury model is recognized by the market ● Should actively strengthen its sustainability concepts internally, such as through training, to differentiate itself from competitors
	Issue of sustainability report	
	● The company has not issued a sustainability report because the government does not require it.	● In the future, the company may consider the possibility of issuing
BIM adoption	Immature BIM skills	
	● The implementation of BIM requires employees to acquire new skills, and proficiency in BIM is not acquired overnight. ● Senior personnel are still accustomed to primarily using 2D	● The company should establish a learning organization to conduct educational training to strengthen core competencies ● Should recruit more talents with expertise in BIM. This will enable

doi:10.6342/NTU202402174

	AutoCAD, with BIM only being used as needed. This is a challenge faced by many peers in the construction industry.	effective training of existing and new staff, while also guiding senior personnel to gradually overcome their psychological barriers.
	Difficulties in integration of new technology with existing practices	
	● BIM technology involves the entire supply chain (from architects' design proposals, construction, suppliers, to sales), if each unit does not have a certain level of BIM skills, it is difficult to discuss on the same platform.	● Understand that the successful application of new technology requires cooperation across the entire supply chain, and thus should promote collaboration on new technology within the supply chain

5.2 Interview Content Analysis

Part of the interview contents are consolidated into the VRIO analysis to identify the advantages and resources that give Chung-Yuet Group a sustainable competitive advantage. Based on the VRIO model, the research finds the key drivers of each component that contributes to sustainable transformation in terms of the Business Model Canvas (BMC) and then investigates the details by creating a Sustainable Transformation Model (STM).

5.2.1 VRIO Analysis

Bresser & Powalla (2012) claim that the VRIO framework, or resource-based view (RBV) framework, is a systematic approach for evaluating business resources and capabilities. The framework evaluates a firm's resources and capabilities by asking respondents to reply to four questions that link RBV theory to the specific firm: The

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questions include: (1) Value: "Do a firm's resources and capabilities enable the firm to respond to environmental threats or opportunities?"; (2) Rarity: "Is a resource currently controlled by only a small number of competing firms?"; (3) Imitability: "What is the cost disadvantage for firms without a resource in terms of obtaining or developing it?"; and (4) Organization: "Are a firm's other policies and procedures organized to support the exploitation of its valuable, rare, and unique resources?"

5.2.1.1 Value

Brand

With 30 years of experience, Chung-Yuet has garnered a loyal customer base that tends to choose familiar brands and trust the developer's products. Despite the economic turmoil during the pandemic, brand loyalty has provided Chung-Yueh with a stable sales foundation.

Innovation capability

Committed to change and innovation, Chung-Yuet strives to achieve the ideals of truth, goodness, and beauty in architecture. Chairman Lee has annually taken senior executives and key suppliers abroad to gain insights since founding the company. From early trips to European countries (such as Neuschwanstein Castle in Germany and Vienna in Austria) to later visits to Asian countries (such as China and Singapore), the company

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has absorbed the latest architectural techniques and combined them with its understanding of the lifestyle of Taiwan's high-end customers. This approach has refined the architecture of luxury residences that attract the loyalty of top-tier consumers in Taiwan.

Integrity

Chung-Yuet operates with integrity, treating consumers with honesty and focusing on their needs to build an excellent reputation and positive image. Through open, honest, and transparent communication with consumers, it provides accurate information on project progress, quality, and customer changes. This includes progress reports during the pre-sale phase, ensuring quality control standards are met, and respecting and honoring commitments to clients.

Lifetime after-sales service

Chung-Yuet's after-sales service leads the industry. Even for issues outside the warranty period, the company flexibly addresses customer problems. For instance, after the 403 earthquake in 2023 caused significant damage across Taiwan, the company reviewed all past projects, assisting communities in discussing and planning repairs, regardless of whether they were within the structural warranty period. Treating every customer like family and valuing their safety and property, Chung-Yuet has consistently provided outstanding maintenance and repair services for 30 years. This quick response

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to customer needs has resulted in high customer satisfaction and loyalty, making it difficult for competitors to replace Chung-Yuet in the hearts of its customers.

5.2.1.2 Rarity

<u>Land Resources</u>

As a luxury property developer, Chung-Yuet had been acquiring numerous large plots of land exceeding 1,000 pings (approximately 3,305 square meters) more than 20 years ago to maintain design independence and avoid the communication costs from joint ventures with landowners. For instance, the company's development focus has shifted to New Taipei City since 2020, where they have been strategically acquiring land for over two decades. This gives the company a competitive advantage in Taiwan, where land resources are limited.

<u>Long-Term Customer Relationships</u>

Chung-Yuet excels in managing customer relationships with a sophisticated approach. The company has established a golf team to foster connections and relationships among clients, understanding top-tier customers’ high social interaction needs. This activity not only provides a relaxed and enjoyable social platform but also offers opportunities for clients to network, share experiences, and deepen their familiarity and trust with the company. Such personalized and considerate service is rarely provided

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by other developers, while this service makes clients feel valued and cared for, enhancing their loyalty and satisfaction.

5.2.1.3 Imitability

Highly Integrated Design Consulting Team

Chung-Yuet Group has a unique design approach. That is, within the limitations of building regulation, it integrates expertise from architecture, structural engineering, MEP (mechanical, electrical, and plumbing), construction, and business domains to design buildings that combine aesthetics, functionality, and modernity. This approach differs significantly from traditional companies, where architects directly design proposals, and after the development company's owner selects a plan, the architect leads and finds matching engineering firms for subsequent project planning and design.

Stable Collaboration with Supporting Contractors

Chung-Yuet has stable collaborations with certain sub-contractors, which allow it to remain competitive even in hard times. For example, during the pandemic, when labor and material shortages were prevalent, most construction companies faced severe labor shortages. However, with the help of key contractors such as rebar tying, formwork engineering, concrete pumping, steel structures, aluminum windows, stonework, and

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landscaping, Chung-Yuet was still able to maintain steady construction progress, while other companies mostly spent an additional 50% of their time constructing.

5.2.1.4 Organization

Finding foreign architectural teams and construction teams to enhance value

Engaging with foreign architectural teams like HLA Group (Denmark) and Mitsubishi Jisho Design Inc. (Japan) can significantly increase the value of Chung-Yuet in terms of innovation and brand reputation. For example, HLA's innovative design solutions and global perspective can elevate Chung-Yuet's projects, resulting in architecturally stunning and cutting-edge developments that stand out in the luxury market. Furthermore, the association with a prestigious firm known for its exceptional designs can attract high-profile clients and investors, further enhancing Chung-Yuet's market position and perceived value.

Vitalizing company's real estate assets with the advantage of rarity

The company has established an asset management department to manage and revitalize its assets. This strategy benefits Chung-Yuet, which specializes in holistic regional development, as it maximizes the value of the company's own building assets and enhances the value of nearby Chung-Yuet developments. This effectively leverages Chung-Yuet's rare advantage of extensive land resources. For example, in the Zhongmao

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New World commercial building in Taoyuan Arts and Culture District, the company has strategically attracted well-known tenants such as Starbucks, American convenience stores, Wowprime Group, and Xiang Group to its commercial properties. This significantly improves the living facilities in Chung-Yuet's luxury residential area in the Taoyuan Arts and Culture District, further upgrading the products in this area.

Company headquarters building enhanced the imitability aspect

To enhance work efficiency and strengthen business development efforts in New Taipei City, Chung-Yuet constructed a new headquarters office building through a self-built method in 2017, moving the company headquarters there in 2020. Secondly, the integrated office environment fosters internal communication and collaboration, improving work efficiency and reducing communication costs while also elevating the company's image and brand value. For example, the headquarters building is a project with B4F-25F, where the 22F-24F floors house Chung-Yuet offices and the 25F serves as the Chung-Yuet Vision Gallery, allowing visiting guests to experience and understand the company's regional development plan. Additionally, the remaining office floors are sold to long-term partners such as architects, stone suppliers, and earthwork contractors, improving integration efficiency and reducing communication costs.

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5.2.1.5 Key drivers of strategic transformation

The key drivers of Chung-Yuet's strategic transformation from conventional luxury towards sustainable luxury can be analyzed based on the VRIO framework:

Value: Utilizing brand advantage to improve sustainable value propositions

Possessing the well-known brand, Chung-Yuet can utilize its existing trust in the brand to promote sustainability initiatives. Specifically, 30 years of luxury home brand advantage can serve as a pioneer in sustainability, adding value to the value proposition. By embracing sustainable practices, the company can showcase how the brand is leading in sustainable innovations. This could involve the development of green buildings, intelligent buildings, and other implementations of sustainable production practices.

Rarity: Leveraging sufficient land resources to continuously realize sustainable activities

Available land resources are truly an advantage for developers in Taiwan. Chung-Yuet can utilize these resources to conduct a series of sustainable evaluations to optimize its CPSAA process, positioning itself as a top player in sustainable luxury. Additionally, the land can be used to create real-world projects where employees can apply and practice their BIM skills. Chung-Yuet should leverage these resources to

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conduct hands-on training, enabling employees to learn invaluable BIM skills from scratch, whether they are in the design department or the construction department.

Imitability: Employing a unique design approach similar to agile methodology to collaborate with SL key partners

Chung-Yuet's unique agile-like design approach of integrating expertise from various domains can be employed to design aesthetically sustainable and luxurious buildings. By incorporating sustainable design consultant teams into its integrated design process, Chung-Yuet can further differentiate itself in the market, making it challenging for competitors to replicate its success in this area.

Organization: Engaging with well-known international key partners to enhance the value proposition

Joining forces with well-known international architectural firms like Mitsubishi Jisho Design Inc. and HLA Group results in creative design solutions and a worldwide viewpoint. Through this partnership, Chung-Yuet can add value to the CPSAA, thereby differentiating itself in the SL market by introducing cutting-edge technologies and sustainable building methods that support environmental sustainability objectives.

5.2.2 Business Model Canvas

Business Model Canvas (BMC) is today utilized by established companies with established business models to innovate through strategy reformulation and fine-tuning

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in order to preserve competitive advantage (Das et al., 2021). In this section, the author demonstrates the BMC before and after Chung-Yuet implemented sustainable luxury.

5.2.2.1 BMC for the pre-implementation of sustainable luxury

There are nine segments in a BMC that an analyst must investigate and depict. The identification of each segment's primary determinants is supported by the use of certain queries, which are shown in Table 8 (Sabri et al., 2023). The related answers in the BMC parts will be filled in by applying these questions to the Chung-Yuet case study, as indicated in Figure 19.

Table 8: Definition of the segments of the Business Model Canvas

Building Block	Question(s)
Value Proposition	What values are delivered to customers? Or Which customer needs are supplied?
Customer	What kind of customers are created for?
Customer Relationships	What relationship does each customer expect to create and retain?
Channels	How is the value proposition delivered to the customers? Where can customers obtain products?
Key Resources	What resources are needed to create and deliver the value proposition?
Key Activities	What activities does the value proposition need? What activities are most significant for customer relationships, channels, revenue, and other segments?
Key Partners	Who are the key partners or suppliers?
Cost Structure	What are the most significant costs to create and deliver a value proposition?
Revenue	What value do customers pay for? Or What is the revenue or the returned value?

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<table>
<tr><th colspan="5">Business Model Canvas</th></tr>
<tr>
<td rowspan="2">Key Partners:
● Designing team: Architects, and other professional engineers
● Construction sub-contractors</td>
<td>Key Activities:
● Land acquisition
● Architectural design
● Construction
● Commercial office leasing</td>
<td rowspan="2">Value Proposition:
● European-style luxury apartments
● Traditional high-end commercial office buildings
● Regional development</td>
<td>Customer Relations:
● Personalized property consultation
● Lifetime after-sales service
● Golf team</td>
<td rowspan="2">Customer Segments:
● Top-tier homebuyers
● High-end commercial property seekers</td>
</tr>
<tr>
<td>Key Resources:
● Brands
● Aesthetic design
● Lands
● Financial strength</td>
<td>Channels:
● Salesperson
● Sales department
● Press conference
● Social media</td>
</tr>
<tr>
<td colspan="2">Cost structure:
● Land acquisition costs
● Construction expense
● Marketing and advertising expense</td>
<td colspan="3">Revenue Streams:
● Residential/commercial building project sales
● Commercial office leasing</td>
</tr>
</table>

Figure 19: BMC of Chung-Yuet before implementing SL

Source: Self-made for this thesis

5.2.2.2 BMC for the post-implementation of sustainable luxury

Sustainable luxury (SL) in the study is considered the combination of a comprehensive project sustainability assessment approach (CPSAA) and digital transformation (DT) through BIM. The new BMC is shown in Figure 20. CPSAA incorporates strategies such as the adoption of the Taiwan Green Building Label (EEWH), the Taiwan Intelligent Building Label, and the US Green Building Council's LEED certification, which allows a new-built luxury building project to achieve sustainability. BIM assists a luxury building project with sustainable design, collision review, cost control, and communication efficiency. Since Chung-Yuet debuted SL in 2019, it is anticipated that SL may alter various internal business areas that require more research. Therefore, this study demonstrates the BMC implementing SL to discover and explain these changes.

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And Table 9 presents a comparison of the two BMCs, highlighting the variations in element type and quantity in each of the five BMC segments.

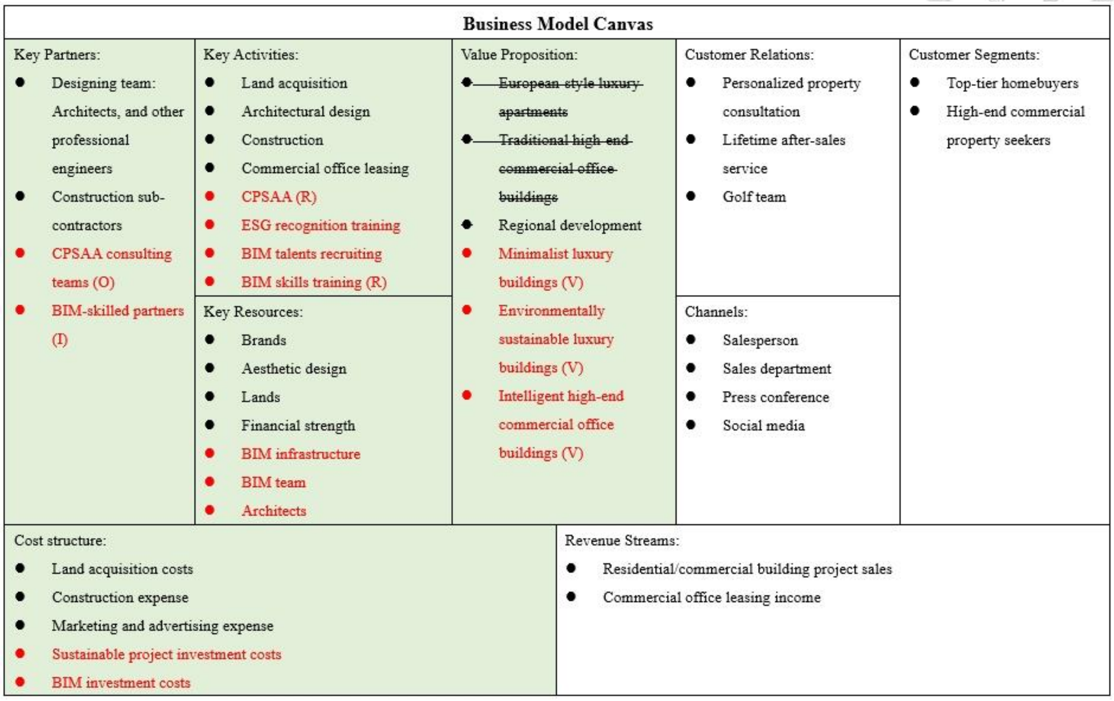

Figure 20: BMC of Chung-Yuet after implementing SL

Source: Self-made for this thesis

Table 9: Comparison of the two BMCs

Segment	No. of segment pre-introducing SL	No. of segment post-introducing SL	Remarks
Value proposition	3	4	One value proposition is removed, two items are added, and one item is upgraded after introducing SL.
Key activities	4	8	Four activities are added after introducing SL.
Key resources	4	7	Three resources are added after introducing SL
Key partners	2	4	Types of key partners increase by two after introducing SL
Cost structure	3	5	Types of cost structure increase by two after introducing SL

doi:10.6342/NTU202402174

Below explains the transformation details of these five building blocks, and provides author’s analysis for each segment.

1. ***Value proposition***

Explanation:

Chung-Yuet has removed its well-known European-architectural luxury apartments, which had made the company successful over the past 25 years. Instead, minimalist luxury buildings and environmentally sustainable buildings have been introduced to cater to current ESG social trends. The appearance of minimalist luxury buildings has replaced labor-intensive stone-carved exterior walls with more sustainable construction methods, and environmentally-friendly buildings with green certifications offer consumers ethical products. Additionally, traditional high-end commercial office buildings have been upgraded to intelligent high-end commercial office buildings. These certified intelligent buildings integrate advanced technologies and systems, providing consumers with a more desirable option in the modern built environment.

Author’s analysis:

Overall, Chung-Yuet’s value proposition has improved, though there is still room for growth. Based on the competitor comparison in Section 3.3, some peers in Quadrant One issue sustainability reports, which enhance ESG transparency. Although it is not required for a private company to issue sustainability reports, this research

doi:10.6342/NTU202402174

recommends that a luxury developer consider doing so. A sustainability report can help the developer showcase its strengths and voluntarily communicate its performance and impact—both positive and negative—in environmental, social, and governance (ESG) matters. This can not only improve the organization's transparency, mitigating consumers' greenwashing concerns, but also extend the scope of sustainability to include social and governance aspects, significantly differentiating the developer in this traditional industry.

2. ***Key activities***

Explanation:

Four additional key activities—the Comprehensive Project Sustainability Assessment Approach (CPSAA), employee ESG recognition training, BIM talent recruiting, and BIM skills training—contribute significantly to the value proposition after introducing SL. CPSAA helps identify efficient ways to gain "green" and "smart" certifications while balancing luxury and sustainability. ESG education training from consultant companies assists in employees' ESG recognition. BIM talent recruiting and BIM skills training are beneficial for Chung-Yuet in implementing BIM systems, especially during the current adjustment period.

Author's analysis:

This research suggests ESG education training should be conducted by establishing a learning organization to continuously improve members' sustainability

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knowledge rather than merely conducting a few training sessions. As for BIM human resources, Chung-Yuet should recruit more talents with expertise in BIM because 3D-BIM proficiency is significantly different from 2D-AutoCad skills. Hiring more BIM professionals will enable effective training of existing and new staff while also guiding senior personnel to gradually overcome their psychological barriers.

3. ***Key resources***

Explanation:

Three new key resources—BIM infrastructure, BIM team recruiting, and architect recruiting—have been added to the key resources after introducing SL. BIM infrastructure and BIM new hiring form the foundation of BIM implementation. A developer should not only upgrade the software and hardware of the team's laptops but also formulate SOPs and KPIs for the BIM team to fully leverage the new system. Architect recruiting within the company, an uncommon strategy, demonstrates Chung-Yuet's commitment to professionalization. This human resource strategy helps the company perform CPSAA more professionally, thereby enhancing the company's ability to communicate with key sustainable partners and gain additional value in the value proposition segment.

Author's analysis:

doi:10.6342/NTU202402174

Numerous real estate development companies are now facing challenges in introducing BIM due to the significant difference in modeling logic, and Chung-Yuet is no exception. It is suggested that Chung-Yuet persist in introducing BIM because its land resources advantage may allow the company to continuously conduct hands-on training for employees, leading to successful implementation. Additionally, the company should formulate SOPs and KPIs for BIM to efficiently accelerate the progress of employee training.

4. ***Key partners***

Explanation:

CPSAA consulting teams and BIM-skilled partners contribute significantly to sustainability after introducing SL. The CPSAA consulting teams consist of Taiwan Green Building Label consultants, Intelligent Building Label consultants, and USGBC's LEED consultants. Each specialist has profound knowledge in their domain, assisting Chung-Yuet in effectively achieving sustainable luxury design and construction. For BIM-skilled partners, BIM technology involves the entire supply chain—from architects' design proposals, construction, and suppliers to sales. If each unit does not have a certain level of BIM skills, it is difficult to collaborate on the same platform.

Author's analysis:

doi:10.6342/NTU202402174

It is suggested that Chung-Yuet apply an agile methodology design approach by integrating expertise from various domains, including CPSAA consulting teams, to create SL value. By systematically breaking the work into smaller phases, Chung-Yuet can continuously improve its sustainable design. Currently, Chung-Yuet uses BIM as a support tool rather than a main system, which means contractors also use it in a supporting role. It is suggested that the top management of the Group reach a consensus and recognize that successful BIM application requires cooperation across the entire supply chain to fully implement the system. Once the BIM skills of Chung-Yuet's employees mature, the company can find BIM-skilled partners outside the company to collaborate with Chung-Yuet so that the company can fully leverage BIM.

5. ***Cost structure***

Explanation:

Following the introduction of SL, the cost structure will include investment expenses for sustainable projects and BIM. For sustainable project investment, it may incur higher costs from advanced materials, installation of energy-efficient systems, smart technology integration, and certification costs. For BIM implementation, it requires software, hardware, training, and process redesign.

Author's analysis:

doi:10.6342/NTU202402174

Both sustainable project investment and BIM implementation incur high initial costs. Despite these higher initial expenses, the long-term benefits of green and intelligent buildings—including energy savings, improved occupant health and productivity, and reduced environmental impact—often justify the investment. For BIM implementation, the long-term savings and efficiency improvements are substantial due to improved design accuracy, enhanced collaboration, reduced waste, and better project management.

5.2.3 Sustainable Transformation Model

After SL was introduced, BMC's development revealed five distinct segments that changed. These segments, based on their causal relationships, are the key components of the suggested model for creating a sustainable transformation model (STM) for an organization, as shown in Figure 21

The new cost structure segment presents the first step that starts the STM process since the company decided to introduce SL. A company should consider its financial risk-bearing capacity due to the high initial costs of sustainable project investment and BIM implementation. Secondly, new key resources—BIM infrastructure, BIM team recruiting, and architect recruiting—have been added to prepare for the next stage. Recruiting architects professionalizes the company's architectural knowledge to conduct CPSAA effectively, and the BIM team and BIM infrastructure are built for the BIM introduction. Thirdly, the process splits into two routes—route A: CPSAA and route B: BIM

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digitalization—from this point. For route A, CPSAA consultant teams may propose numerous sustainable strategies for the development company, and then the company's architects can absorb abundant information from these consultant companies. Fourthly, architects and the design team within the companies can employ continuous discussions on CPSAA to achieve ideal sustainable luxury product design. Simultaneously, employees' ESG recognition training is conducted in a systematic way to embed the concept in employees' minds. For route B, in the third stage, the company keeps recruiting BIM talents and providing employee BIM skills training to overcome the gap between the new and old systems. Fourthly, once the training has matured to a certain degree, the company should completely transform the modeling method to collaborate with BIM-skilled partners. Lastly, by combing the results of the two routes, a luxury real estate development company can realize sustainability through both sustainability actions and digitalization.

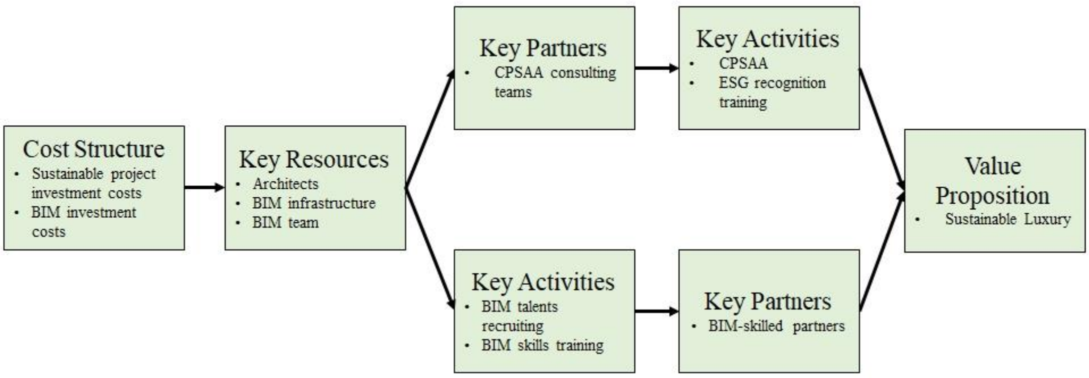

Figure 21: Sustainable Transformation Model of Chung-Yuet

Source: Self-made for this thesis

doi:10.6342/NTU202402174

Chapter 6 Conclusion and Recommendations

6.1 Conclusion of the Case Study

To conclude, firstly, this research successfully identifies external key drivers and internal motivations behind the strategic transformation of luxury real estate enterprises towards sustainability in Taiwan. For the external part, it is the government's volume-rewarding system and consumers' demands on the ESG issue that motivate the luxury property developers to conduct the strategic transformation. For the internal aspect in terms of the VRIO model, utilizing brand advantage to improve sustainable value propositions (Value), leveraging sufficient land resources to continuously realize sustainable activities (Rarity), employing a unique design approach similar to agile methodology to collaborate with SL key partners (Imitability), and engaging with well-known international key partners to enhance value propositions (Organization) are the internal motivations that drive the business transformation.

Secondly, the research analyzes the Chung-Yuet Group's strategies related to sustainability in response to the external environment, focusing on sustainability actions and digitalization. For sustainability actions, the Group has recruited architects to enhance internal professional knowledge (Key Resources). By interacting with CPSAA consultant partners to review the criteria for sustainable certifications—Taiwan Green Building Label (EEWH) evaluation, Taiwan Intelligent Building Evaluation, and US Green

doi:10.6342/NTU202402174

Building Council's LEED evaluation—and through internal employee ESG recognition training, the Group has made significant progress towards sustainability (Key Partners and Key Activities). For digitalization, Chung-Yuet has set up the BIM infrastructure and BIM team (Key Resources). Additionally, the Group has been continuously recruiting BIM talents and conducting employee BIM skills training. While the Group is currently utilizing BIM as a supporting tool to visualize building models and reduce system conflicts, the BIM-skilled key partners have not yet been completely engaged in the workflow.

Thirdly, the research assesses the effectiveness and outcomes of the sustainable transformation initiatives implemented by luxury real estate enterprises, specifically Chung-Yuet. It is evident from the sales performance that Chung-Yuet Group is headed in the right direction, though there is still room for improvement as the company's decisions are paying off. In line with contemporary social trends, Chung-Yuet Group has been strategically shifting from traditional luxury to sustainable luxury. The company's competitiveness and brand value have increased as a result of ongoing innovation and the integration of new technology.

Fourthly, there are also some difficulties that luxury real estate companies faced while making the switch to sustainable luxury. This study seeks to pinpoint best practices and lessons learned. For example, balancing sustainability and luxury, ensuring the

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balance between sustainability and luxury, the pressure of gaining sustainable market recognition, the issue of sustainability reports, immature BIM skills, and difficulties in integrating new technology with existing practices. The suggested solutions to improve these issues are shown in Table 7.

Lastly, based on the investigation results, this research applied VRIO analysis to identify the internal capabilities and resources of the Chung-Yuet Group. The five key transformational building blocks of the business model were then identified using the Business Model Canvas (BMC). Subsequently, the author developed a Sustainable Transformation Model, which visualizes Chung-Yuet's entire transformation process towards sustainable luxury.

6.2 Recommendations

Based on the knowledge from the literature review and the research of the case study, the author has some recommendations for luxury property development companies that are interested in implementing a strategic transformation towards sustainable luxury. The suggestions are categorized into sustainability actions and digitalization.

6.2.1 Sustainability Actions

1. Prioritize sustainability when balancing luxury and sustainability

When there is a conflict between luxury and sustainable design, development companies today still prioritize luxury, obtaining certification points in the most cost-

doi:10.6342/NTU202402174

effective way. For example, the smart building design evaluation form stipulates that installing sun-tracking BIPV, which covers more than 5% of the building envelope to reduce indoor energy consumption, can earn energy-saving technology points. However, luxury sustainable development companies might give up the score on this item because they worry that customers will be concerned about the impact of this method on the building's appearance and therefore choose not to adopt it. Instead, the developer may select the most efficient way to score another item. Hence, in the author's opinion, as consumers' awareness of environmental sustainability rises and sustainability becomes a core value in their mindset in the future, luxury developers can gradually enhance the weight of environmental sustainability as a standard for luxury real estate development.

2. Issue sustainability reports to emphasize company's advantages

Although it is not required for a private company to issue sustainability reports, research still recommends that a luxury developer take this action. A sustainability report can help the luxury developer showcase its strengths and voluntarily communicate its performance and impact—both positive and negative—in environmental, social, and governance (ESG) matters. This can not only improve the organization's transparency, mitigating consumers' greenwashing concerns to mitigate the pressure of sustainable market recognition, but also extend the scope of sustainability to include the social and governance aspects, significantly differentiating the developer in this traditional industry.

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3. Establish a learning organization to conduct employees' ESG recognition training

Rather than just holding a few training sessions, ESG education training should be carried out in a systematic way that creates a learning organization to continuously increase members' sustainability understanding. In particular, the business needs to create thorough training plans that are incorporated into regular business activities. All facets of ESG, including social responsibility, environmental effects, and governance concerns, ought to be included. Different organizational levels can have distinct training programs created for them, guaranteeing relevance and participation to attain sustainability.

6.2.2 Digitalization

1. Achieve top management's consensus on the strategic importance of BIM

For a number of reasons, top management must come to an agreement regarding the strategic significance of BIM. First of all, this guarantees a common understanding of the strategic significance of BIM, which is necessary for consistent and coordinated decision-making throughout the company. Second. Furthermore, realizing the strategic value of BIM validates investments in hardware, software, training, and process reengineering—all necessary for a successful BIM adoption.

2. Highly incorporate BIM into the business model by training and recruiting

One important issue that the case and many peers in the industry confront is that senior staff members are still accustomed to utilizing 2D AutoCAD exclusively, with

doi:10.6342/NTU202402174

BIM being used only when necessary. Hence, establishing a learning organization to systematically perform educational training and formulating SOPs and KPIs for the BIM team to fully leverage the new system are advised as solutions to fully leveraging the new system. Besides, more BIM-savvy hiring will also make it possible to guide new hires and current employees effectively while assisting senior staff in progressively overcoming psychological obstacles. By using BIM, developers may plan for sustainable materials, create more energy-efficient building designs, and streamline the construction process to cut down on waste.

3. Collaborate with BIM-skilled business partners to fully leverage the benefits of BIM

In order to fully reap the advantages of Building Information Modeling (BIM), developers must collaborate with BIM-savvy business partners, including architects, professional structural engineers, and professional MEP engineers, in addition to their own team. By adopting a comprehensive strategy, it is ensured that BIM reaches its full potential, which improves project outcomes and increases efficiency throughout the construction lifecycle to attain sustainability.

6.2.3 Twin Transformation

1. Collecting property data through IoT devices from Intelligent Building

This is an example of digital transformation enabling sustainable transformation. Chung-Yuet has been building intelligent buildings since the sustainable transformation

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began, and Internet of Things (IoT) devices can be installed in these properties to collect real-time data on energy consumption, water usage, air quality, and other environmental factors to achieve sustainability. This data can be used to monitor and optimize the building's performance, ensuring efficient resource use and enhancing sustainability. Additionally, IoT devices can provide occupants with insights into their consumption patterns, encouraging more sustainable behavior. These data can also contribute to sustainable luxury design in the future.

2. Using AI-powered data analytics to obtain groundbreaking insights

This is an example of digital transformation enabling sustainable transformation as well. Once a company's application of IoT devices and BIM technology matures, artificial intelligence (AI) can be introduced to analyze large datasets from these sources to uncover patterns and insights that may not be immediately apparent. These insights can inform decisions on energy management, predictive maintenance, and sustainability strategies. For instance, AI can anticipate equipment failures before they occur, thereby reducing downtime and extending the life of building systems, which contributes to sustainability.

6.2.4 Redefining Luxury Real Estate

1. Redefining luxury real estate by emphasizing the social aspect in the future

doi:10.6342/NTU202402174

In Taiwan, when people talk about real estate, what comes to mind first is the high and unaffordable house prices, which are repeatedly ranked as the top public dissatisfaction. This contributes to people's resentment towards wealthy property owners and luxury developers, and the issue also highlights the importance of social aspect of ESG considerations, even though the luxury developers have adopted sustainable strategies. Given this context, the author suggests luxury developers should take this ethical oriented problem into consideration and should emphasize this part when doing the product planning design. For example, they can incorporate public parks, playgrounds, and green spaces into the design of luxury real estate projects. These areas will provide communal spaces for all residents to enjoy, promoting a sense of community.

2. Donating part of the profits from selling luxury real estate to social housing construction

To alleviate public resentment directly, luxury developers should donate to the government's social housing construction a fixed percentage or amount of the profits from each luxury real estate sale and should announce the donation policy to the public transparently. Social housing is considered a government's welfare strategy that aims to meet the housing needs of low-income households, the middle class, and other working people (Tsuang, H. C., & Peng, K. H., 2018), and currently Taiwan is facing a shortage of social housing. By collaborating with government agencies or non-profit organizations,

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luxury developers can ensure that the funds they donate are used effectively. For instance, companies' donations to the government can be used to accelerate the construction of social housing because, in the context of a labor shortage, industry workers will prioritize building projects with higher unit prices and larger volumes. Hence, when luxury developers invest in social housing, they help bridge the gap between different economic classes, thereby significantly reducing people’s resentment towards the rich. The move to ensure that more people have access to safe and affordable housing will definitely increase the social value for both luxury developers and luxury real estate consumers.

6.3 Limitations of Research

The research concentrates on studying the top management’s feedback on Chung-Yuet’s decision-making regarding strategic transformation. It should be considered that, as a private company, it sometimes insists on its own value creation and own products instead of comprehensively following social trends. Additionally, the research is based in Taiwan, where the situation may differ from country to country and company to company. Hence, consumer behavior and culture may vary under different conditions. However, the findings of this research can still serve as a reference for a luxury developer when deciding to conduct a strategic transformation towards sustainability.

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Appendix 1 Interviewee Profile

Management of Chung-Yuet Group

Interviewee name	River Chen
Interview date	May 23th 2024
Interviewee age	64
Interviewee Seniority	29 years at Chung-Yuet Group, a total of 40 years in the same industry.
Interviewee title	General Manager

doi:10.6342/NTU202402174

Appendix 2 Chung-Yuet Projects Development Timeline

	Taoyuan City			New Taipei City
Year	Nankan	TZACD	Other region	Xinzhuang Subcenter
1996	The Garden Plaza(花園廣場)			
1997	Banff Springs(班芙春天)			
1999	Pauian(璞園), Regent Pool(麗池), Caesar Springs(凱撒春天)			
2000	Ren'ai Plaza(仁愛廣場)	Springs Plaza (春天廣場)		
2001	Gorden(高登)			
2002	Four Seasons(四季)			
2003	National Treasure(國寶)	Music Plaza(音樂廣場)		
2004		The Peak(登峰)		
2006	Regent(晶華), The Palace Mansion(帝寶)	Art Plaza(藝術廣場)		
2007			Beethoven(貝多芬)	
2008	Neuschwan-stein Castle(新天鵝堡)			
2009			Vienna(維也納), Petersburg(彼得堡)	
2010		Global Corporate Headquarters(環球企業總部), Imperial Court(御之苑)		
2012		World Center (世界中心)	The Royal Garden (帝苑)	
2013	Shang-Lin Yuan(上林苑)	Timeless Landmark (一品)		

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2014			Huang Yuan (皇苑), Regal Court (麗苑)	
2015			Eight Point(八京)	
2016		Chung-Mao New World(中茂新天地)	The Elite(一品匯)(G-S), Exquisite Garden(一品花園), Pine Court(松苑)	
2017		The Splendor(瑰麗), Yuet Pavilion(悦軒)	Scholarly Park(學府公園)(G-S)	
2020			Central Park(中央公園)	IFC
2021			The Garden of Art (美樹花園)(G-S), ITC(G-S)	
2022			Commercial Center(商貿中心)(G-S)	Global One(寰宇1號)(G-G, I-G)
2023			The Top(尚悦)(G-S), Pine Garden(松花園)(G-S), Cedar Garden(栢花園)(G-S)	One 175(檀悦)(G-S)
2024				Yuet Tower(悦 Tower)(G-D,I-G), Cedar Tower(栢 Tower)(G-G, I-G), Pine Tower(松 Tower)(G-S, I-B)
Notes	● Sustainability evaluation done (shaded green) ● G for Green building label: G-D, G-G, G-S, and G-B represent the Green Building Label with Diamond, Gold, Silver, and Bronze levels, respectively. ● I for intelligent building label: I-D, I-G, I-S, I-B, I-C represent the Intelligent Building Label with Diamond, Gold, Silver, Bronze, and Certified levels, respectively.			

doi:10.6342/NTU202402174