Financial feasibility of a Central California greenhouse operation

by

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ABSTRACT

This study evaluates the financial feasibility of establishing a one-acre greenhouse operation in California's Sacramento Valley. This region offers favorable demand for locally grown and sustainable products, while also presenting challenges related to climate variability, rising input costs, and resource constraints. This creates the need for a structured feasibility assessment.

The analysis combines market conditions, strategic planning and a ten-year net present value model. Market findings indicate a strong demand from home gardeners and landscapers, supported by Sacramento's community emphasis on sustainability and local food systems. Strategic results highlight the importance of differentiation through climate-adapted offerings, horticultural expertise, and community engagement rather than competing directly with other retailers on price. Financial feasibility is assessed using projected revenues and costs. The baseline model produces a positive NPV, indicating expected financial viability. A sensitivity scenario with a 10% increase in variable costs results in a significant decrease in NPV, reflecting the importance of cost pressures and the narrow operating margins typical for small greenhouse operations.

Overall, the greenhouse operation is feasible under anticipated market and cost conditions, but requires disciplined cost management, strategic positioning, and ongoing monitoring. This study provides a framework for evaluating similar small-scale horticulture ventures and identifies areas for future research related to financing options, product mix strategies and long-term sustainability.

TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

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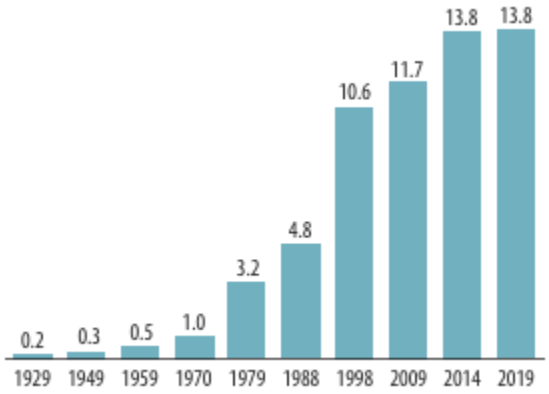
CHAPTER I: INTRODUCTION

1.1 Introduction to the Horticulture Industry

Operations that can be defined as horticulture establishments are those that grow or sell horticultural crops. Horticultural crops are defined by the United States Department of Agriculture (USDA) National Agricultural Statistics Service (NASS) as those that are grown in greenhouses, outdoor-grown floricultural crops, nursery plants, sod, greenhouse produced food crops, vegetable and flower seeds, propagation materials and unfinished plants (NASS 2020). As represented below in Figure 1.1, the United States horticulture and nursery industry has experienced fluctuation but overall has demonstrated a consistent upward trend in sales since the Census of Horticulture Species began in 1929. Understanding the long-term national sales trends provides essential context for evaluating a new horticulture enterprise. Establishing that United States demand has remained stable and increased over time helps support that industry conditions can support new market entry.

Figure 1.1: United States Horticulture Sales, 1929-2019 ($ billion)



Retrieved from: www.nass.usda.gov/AgCensus

Five states, California, Florida, Oregon, Michigan and Texas, account for about half of all horticultural sales, and 28% of total horticulture operations in the United States. The

state of California has the highest overall sales in horticulture, $2.63 billion, and the third highest number of operations totaling 1,331 (NASS 2020). Although the overall number of operations throughout the United States decreased by 11% from the 2014 census to 2019, total sales remained steady at $13.8 billion (NASS 2020). This indicates that the horticulture industry has strong, stable demand within the United States, and in California. Understanding the economic and structural factors that sustain this stability, especially in California, is critical for guiding future investment and strategic decision-making when evaluating this new horticulture business. California is the focus of this analysis since the proposed horticulture enterprise will operate within the state's Sacramento region.

California, known for its climate suitable for growing seasons, is important within the horticulture industry. Based on five crop years from 2013 to 2017, nursery and floral production was the fourth highest in California for average cash revenues, following dairy, almond and grape industries (Carman 2020). Horticulture operations are located throughout the entire state of California, with at a minimum one farm operation, reported in 56 out of the 58 counties (Carman 2020). Among these counties is the Sacramento Valley, a region known for its nutrient rich and loamy soil for optimal drainage, in part due to its geographic proximity to the Shasta Lake, Sacramento River and the Delta. There are approximately 2 million irrigated acres of farmland within this region, making agriculture the largest industry within the Sacramento Valley (Sacramento River Watershed Program 2025).

The city of Sacramento proclaimed itself America's Farm-to-Fork Capital in October of 2012, aiming to solidify its place within the food landscape (Andrak 2017). The farm-to-fork marketing initiative aligns with a growing trend of direct sales to consumers within the horticulture industry. The 2019 Horticulture Census reported that 66% of

horticulture operations sold directly to consumers, leaving retail sales to account for only 14% of horticultural products (NASS 2020). This growing preference for local, direct purchasing presents an ongoing opportunity for horticulture operations within the Sacramento region. This shift towards local, relationship-based market demand reflects evolving consumer values around sustainability, transparency and local-based food systems. For horticulture businesses, this provides a unique opportunity to strengthen local production, enhance agricultural education and engage directly with consumers.

1.2 Significance

The significance of this study lies in its ability to support informed business and investment decision-making related to small business greenhouse horticulture operations. Establishing a greenhouse requires substantial capital investment and long-term business planning, making a feasibility analysis essential. This research functions as a feasibility assessment for the proposed enterprise, which we will call Flora & Field, in evaluating startup costs, operating expenses, revenue potential, market conditions and strategic planning within the Sacramento Valley of California. The results of this analysis will provide a structured basis for determining whether investing in a greenhouse operation in the Sacramento region of California is economically viable.

Beyond the application to Flora & Field, this study offers value to prospective horticulture entrepreneurs, lenders and agricultural advisors by presenting a replicable framework for evaluating greenhouse feasibility in similar regions of geography, market and production conditions. By reducing uncertainty and risk, this research contributes to more informed decision-making within the horticulture industry.

1.3 Motivation

The motivation of this study was the promising outlook of the horticulture industry with evolving consumer preferences that increasingly favor locally grown and sustainably produced goods (Andrak 2017). By examining the economic feasibility of establishing and operating a horticultural enterprise in the Sacramento region, this research aims to contribute valuable insights into the economic sustainability and development potential of the industry.

While California leads the nation in horticultural sales, economic feasibility can vary due to differences in land costs, labor availability, water access and market proximity. Sacramento's unique combination of fertile agricultural land, an established agricultural infrastructure and growing consumer demand for local products creates opportunity for studying horticulture enterprise development.

This research will also contribute to developing a business outline for the author's entrepreneurial interest in establishing a horticulture business in the Sacramento Valley. Determining if Flora & Field can be an economically feasible opportunity to establish and operate aligns with the promising outlook of the industry. Identifying feasible business models provides an attractive investment outline while also encouraging diversification within small businesses.

1.4 Research Objectives

This research employs a combination of both qualitative and quantitative methods to analyze the economic feasibility of Flora & Field. These methods are aimed at addressing research objectives by utilizing financial, market and strategic analysis. The primary objective of this research is to determine whether establishing and operating a horticulture operation is economically feasible within the Sacramento region for Flora &

Field. This objective is addressed by estimating startup and operating costs, projecting revenues, strategy planning, and assessing overall performance within specific production and market conditions.

This research is organized as follows. Chapter 2 provides a review of relevant literature related to horticulture, prior horticulture economic studies, relative regional studies and key factors influencing the success of a horticulture business. Following the literature review, the horticulture industry is analyzed on a regional, state, national and international level for a comprehensive market analysis in chapter 3. Subsequently, a strategic plan of the proposed enterprise, Flora & Field, is conducted. Chapter 4 evaluates the importance of strategic planning and utilizes several methods including SWOT (Strengths, Weaknesses, Opportunities and Threats) and PESTLE (Political, Economic, Social, Technological, Legal, Environmental). Chapter 5 evaluates the financial feasibility of establishing and operating a small-scale horticulture enterprise through the net present value analysis. Finally, the results of the market, strategic and financial analyses areas are synthesized to provide a comprehensive conclusion regarding the overall economic feasibility of Flora & Field.

CHAPTER II: LITERATURE REVIEW

2.1 Horticulture Defined

Horticulture, defined as "…the science and art of cultivating high value plants including fruits, vegetables, ornamentals (flowers, trees and shrubs), herbs, and medicinal plants" (Jaskani and Khan 2021, 3). It represents one of the most diverse sub-sectors of global agriculture and is commonly divided into three major groups: pomology, olericulture and ornamental horticulture. Pomology is the production of fruit crops, from start to finish, including both the growth and post-harvest. Olericulture is the production of vegetable crops, with sub-groups based on the edible portion of the crop. Ornamental horticulture has several sub-groups but are consistently categorized as the production of ornamental plants for their aesthetic purpose (Jaskani and Khan 2021). Understanding these distinctions provides an essential foundation for this study. Flora & Field will operate primarily within ornamental horticulture and the front end of the pomology and olericulture groups, rather than their full production chains.

2.2 Economic Importance

Globally, horticulture contributes to food security and economic growth. As Jaskani and Khan (2021,11) note, "Horticultural production not only improves food and nutrition security but also provides livelihoods to producers and all parties involved in the associated value chains, contributing towards economic growth and development". The horticultural industry has become increasingly important to the agricultural economy due to rising population pressures and evolving dietary preference. While demand for horticultural commodities increases, production remains concentrated in a few key exporting countries.

The United States is one of the largest importers of these crops, suggesting both dependency and potential domestic opportunities within the market.

In the United States, California historically has played a significant role in horticulture and continues to grow. Carman (2011) provides a comprehensive analysis of the California nursery and floral industries between 2001 to 2009, showing a period characterized by growth and challenges. Shipping restrictions linked to pests and diseases, heightened competition from imports, increased energy and transportation costs, limited water supply and climate variability were the primary challenges the horticulture industry faced during this period. Despite these obstacles, the industry continued to demonstrate economic resilience, and sustained growth. Based on 2007 census data, Carman's (2011) study provides understanding of the economic performance of the horticultural sector. More recent census data offer opportunities to extend this analysis to examine shifts in productivity, competition, and market structure over time. This comparison helps form a valuable foundation for current economic evaluation within California's evolving agricultural landscape.

Together, these studies establish the economic context on the market opportunity for Flora & Field. The literature shows the horticulture sector has stability and growth yet is also shaped by cost pressures and environmental variability. These conditions can influence whether a small-scale greenhouse operation can be viable.

2.3 Horticulture Business Planning

In considering a horticultural business, Baruah, et al. (2024) emphasizes that not only are production decisions critical to economic success, but there are considerations from the business standpoint that are crucial to success. When determining what crop to

select, soil type, climate, water availability, market demand and profitability are all important considerations (Baruah, et al. 2024). To ensure sustainability of a farm, crop rotation, diversification, maintenance of soil fertility, observing yields, pests, and diseases are all important areas within horticultural production for monitoring (Baruah, et al. 2024). If these impacts are not considered, the farm may suffer.

Not only are there challenges associated with production, but there are also considerations from the business standpoint that are crucial to success of horticulture businesses. Market analysis and pricing are tools that farmers should be considering and utilizing to ensure fair prices and demand for their crop. Demand and supply factors, pricing strategies, and market forecasting are primary ways to meet this challenge (Baruah, et al. 2024). Demand and supply factors are constantly changing while also being a determinate of pricing. Population growth, income levels, dietary habits, and food trends are some of the ways that the horticulture industry can be influenced by consumer changes in demand. These are important to understand when doing crop selection. With this, the farmers themselves also need to have pricing strategies based on the market conditions to ensure fair crop prices. To be prepared, market forecasting is an aspect to monitor to make informed decisions. “Farmers need to forecast the market conditions, such as demand and supply, crop prices, and weather patterns, to make informed decisions about crop production. Market forecasting can be influenced by various factors, such as government policies, trade agreements, and natural disasters” (Baruah, et al. 2024, 241). Being informed about each of these and utilizing these strategies as tools helps to have a positive influence on profitability and maintenance of risk for horticultural businesses.

The sustainability and competitiveness of firms also rely heavily on strategic planning and management processes. According to White and Uva (2000), there are nine steps outlined in the strategic process that is important to define for horticultural firms. The first step is to define the firm's mission to establish a sense of purpose, identity and commitment. Step 2 is to assess the external environment to examine any relevant factors outside of the organization that can provide opportunities or threats. Step 3 is to identify major opportunities and threats for the firm. Step 4 assesses the firm's strengths and weaknesses, to understand their internal environment. Establishing "SMART" specific, measurable, attainable, rewarding, timely objectives is step 5. Step 6 is to develop and evaluate alternative strategies by considering product-market investment strategies, functional area strategies, and competitive advantage (White and Uva 2000). Following that, step 7 includes selecting those best strategies. Steps 8 and 9 include implementing the strategy, then evaluating by using key measures to see if a review or change is necessary. This framework further emphasizes the importance of developing and implementing functional strategies while continuing to monitor for ongoing evaluation. These planning and management insights directly inform the strategic planning framework utilized in this study.

2.4 Region

Regional context is a crucial piece to developing and implementing a horticultural business and ties into strategy. Sacramento, California, branded as "America's Farm-to-Fork Capital" has reshaped agriculture within this geographic region from marketing to consumer engagement and economic development (Andrak 2017). Sacramento's direct-to-consumers markets flourished with the farm-to-fork campaign, providing the region with more agricultural awareness. This led to a higher demand for fresher produce and

knowledge, providing a unique opportunity for the horticultural industry. Increasing the visibility of producers to consumers adds value and increased demand for horticulture, specifically in Sacramento.

While Flora & Field does not operate as a farm-to-fork producer, Sacramento's strong regional identity centered on local agriculture sourcing and food system awareness is relevant to this study. The farm-to-fork movement has contributed to heightened consumer familiarity with agricultural production, sustainability, and local sourcing, which can extend beyond produce sales to horticultural products and services. This regional awareness supports the direct-to-consumer approach by fostering demand for locally produced plants and community-based agricultural engagement. This regional context helps inform the feasibility of Flora & Field by helping explain consumer demand conditions and market receptiveness for a horticulture operation within Sacramento.

2.5 Elements of a Feasibility Study and Business Plan

Feasibility analysis is a comprehensive evaluation framework used to determine the viability of a proposed business venture prior to implementation (Bansal 2023). According to Bansal (2023), a feasibility study takes into consideration six areas that are critical to establishing the workability and profitability of a proposed business venture:

1. Financial requirement
2. Production requirement
3. Personnel requirement
4. Analysis of demand and supply of product/services
5. Marketing efforts required
6. Financial projections

These areas provide information to determine the potential of the proposed business and help decision makers to understand the different elements that can lead to project success.

Following a feasibility study, Bansal (2023) finds that these areas also form a stable foundation for a business plan. The objectives that are found within the feasibility study also form the feasibility plan, also known as a business plan. “A business plan should be a realistic view of the expectations and long-term objectives for an established business or new venture. It provides the framework within which it must operate and, ultimately succeed or fail” (Bansal 2023, 432). Due to the nature of closely linked processes, feasibility studies and business plans alike should compromise the road map to the proposed business success.

CHAPTER III: MARKET ANALYSIS

3.1 Market Context

The horticultural industry plays a significant role in the United States economy, contributing to sustainability, supporting food production, environmental stewardship and local economic development. Beyond supplying plants, horticulture operations contribute to food systems through the production of crops and agricultural inputs that enable those from home gardeners to commercial producers the ability to participate in the food network. As consumer interests continue to grow in food transparency, sustainability and local sourcing, horticulture functions as a point of connection between agriculture production, education, and consumers. For Flora & Field, market analysis is a central component of a feasibility assessment for horticulture enterprises. Demand for agricultural plants, nursery supplies, and production education on these purchases is shaped by structural factors such as population growth, land use patterns, housing development, and climate conditions. Demand is also formed from behavioral factors, namely consumer interest in home food production, landscaping, and sustainably responsible practices. An analysis is essential for Flora & Field to determine the demand across multiple consumer segments, to determine whether sufficient and sustained demand exists. This chapter presents a market analysis of the horticultural sector in California, integrating industry structure, regional production conditions, demand drivers, consumer markets, and competitive dynamics with what Flora & Field can supply, to establish a foundation for the strategic and financial analyses that follow.

3.2 California Horticulture

The horticulture sector in California operates within one of the most diverse agricultural environments in the United States. The United States encompasses a range of

regions with temperate climates, ideal for horticulture production. The Western United States has an abundance of fertile land and mild climate, stimulating many growers to operate business in this region. California being the most desired state for horticulture growers due to the deep topsoil and prime farmland for production (Immerwahr 2025). The positive climate attributes support long-term development within the horticulture sector in California and allows a structure that accommodates both standardized and niche production. The market includes both a mix of large-scale commercial industries and smaller specialty producers reflecting the state's significance in the national horticulture market while sustaining a wide range of consumers. Following Florida and Pennsylvania, California has the third highest established number of horticulture units, serving the highest population of 11.5% of the United States (Immerwahr 2025). The Western United States can capitalize on the diverse microclimates and increasing technological innovation. Due to stringent environmental regulations, California has become a leader in sustainable growing practices resulting in eco-friendly production. (Immerwahr 2025). These structural positions give California a strong horticulture foundation.

The horticulture industry in California is one that has a strong agricultural infrastructure and is a long-established industry. This has contributed to the development of an experienced labor force and integrated supply chains. Defining characteristics of this regional market are the availability of specialized equipment suppliers, efficient transportation networks and proximity to research institutions and agricultural extension services. These infrastructural factors help shape the scale, efficiency and operational models of horticulture enterprises within the region. This leads to the capacity of

businesses' ability for diverse activities such as plant production, retail sales, educational programming and supplying landscapers.

3.3 Market Risks

Despite the established infrastructure, the California horticulture sector faces increasing environmental and production-related constraints. It is estimated that climate volatility is a key factor affecting the industry, with the prevalence of droughts, heat waves, wildfires and scarcity of water. These conditions lead to increased irrigation requirements, heightened pressures, and higher variability in crop yields. Such environmental factors and production constraints influence cost structures, production planning and supply reliability across the horticulture industry. However, emerging demand associated with real estate development, urban farming, and short-rotation woody crops presents opportunities for selective expansion (Immerwahr 2025). These dynamics suggest that while aggregate demand growth may remain modest, well-positioned producers targeting niche, value-added markets have the ability to achieve sustainable performance.

3.4 Demand Drivers and Consumer Markets

Demand for horticulture products in California is driven by a combination of economic, demographic and lifestyle factors. Activity within the housing and landscaping sectors remains a primary source of demand for plants and nursery products, as residential construction and renovation projects generate the need for landscaping and garden inputs (Immerwahr 2025). In addition to this traditional landscaping demand, consumer interest in food systems and food production has contributed to rising engagement in home gardening, small-scale food production and urban agriculture. Practices such as backyard gardening, community gardens, and do-it-yourself food production and processing have grown increasingly common in California, specifically the Sacramento Valley region. These

trends support demand for edible plants, seedlings, soil and nursery products as well as information and education related to food production.

Shaped by several key external drivers, demand within the horticulture industry is further affected by demand from florists, nursery and garden stores, and changes in per capita disposable income (Immerwahr 2025). Growth within residential and commercial real estate development continues to stimulate downstream demand for landscaping and nursery products, while higher disposable income levels support discretionary spending on ornamental plants and home gardening. These drivers have contributed to steady performance across the industry, with overall market performance increasing by 1.7% annually from 2020 to 2025 and forecast growth of 1.1% annually through 2030 (Immerwahr 2025).

There are several consumer segments within the California agriculture horticulture market with distinct purchasing behaviors. At-home gardeners represent a significant segment, purchasing edible plants, seeds, soil amendments, tools and related supplies necessary for food production and recreational gardening. Small-scale agricultural producers and community organizations also contribute to the demand for plant materials and production support aligned with local food systems. Professional landscapers also are a consumer segment, purchasing plants and nursery supplies for residential and commercial projects. These consumers typically provide consistent demand, prioritizing availability and quality of supply. Educational institutions and community programs further contribute to demand, especially with the additional support of agricultural education and experimental learning. Within these specific segments, purchasing behavior is influenced by seasonality,

climate conditions and consumer preferences relative to sustainability, local sourcing and product quality.

Demand within the Sacramento County horticulture market is generated through both business-to-consumer (B2C) and business-to-business (B2B) channels, each characterized by distinct purchasing behaviors and demand patterns. B2C demand represents the primary market for Flora & Field, consisting of at-home gardeners and households purchasing plants, nursery supplies, and educational services for personal food production, landscaping and recreational gardening. This segment is driven by consumer interest in sustainability, local sourcing and home food systems. B2B forms a secondary, but strategically important segment for Flora & Field. Primarily consisting of landscaping businesses, small-scale agricultural producers and community organizations, these B2B buyers usually purchase in larger volumes, prioritize consistent availability and quality, and demonstrate more predictable purchasing cycles. B2B buyers contribute to revenue stability through repeat and contract-based purchases.

Consumer preferences within the California horticulture market have increasingly emphasized sustainability, local production and environmentally responsible practices. Demand is on the rise for organically produced plants and sustainably managed agricultural inputs within California's environmentally conscious consumer base (Immerwahr 2025). These preferences influence product selection, purchasing decisions and the composition of retail offerings within the market. Sustainability considerations also extend to educational demand, as consumers seek knowledge relative to this responsible food production.

Industry revenue is distributed across several product categories, reflecting diversified sources of demand. Floriculture accounts for approximately $9.5 billion in

revenue, while horticulture and nursery products contribute $8.8 billion, and other related products account for $2.6 billion for the United States (Immerwahr 2025). This distribution indicates that demand is not concentrated on a single product line but is spread across the different market segments. For Flora & Field, this diversification supports opportunities to serve multiple demand streams and reduces reliance on any single product category. Within the overall flower and plant growing industry, Flora & Field plans to account for ~0.001%, ~0.0023% of the horticulture sector, ~0.0021% of the floriculture sector, or ~0.0077% of the other sector of the industry. While these shares are small within the overall United States market, they are expected to be adequate for the anticipated business envisioned by Flora & Field.

3.5 Sacramento Market Characteristics

Sacramento County represents a substantial and growing market for horticulture products and services. As of July 2024, the county's population is estimated at 1.6 million residents, reflecting a 1.7% increase since 2020 (United States Census Bureau 2024). This population growth trajectory supports ongoing residential development, home ownership, and consumer demand for landscaping, gardening, and food production inputs. With over 568,000 households as stated by the United States Census Bureau, the county provides a large base of potential consumers for both retail horticulture products and educational services offered by local establishments such as Flora & Field. With an estimated annual household spending of approximately $500 per household, Flora & Field's projected revenue represents roughly 1% of the total local market. Housing characteristics in Sacramento County further reinforce this demand for horticultural products. There are approximately 608,149 housing units with an owner-occupied housing rate of 58.6% (United States Census Bureau 2024). This indicates a strong base of residents with

motivation to invest in landscaping, gardening and property improvements. In 2024 alone, 6,747 building permits were issued, signaling residential development and associated demand for nursery stock and landscaping materials (United States Census Bureau 2024). Homeownership and new construction activity are linked to sustained purchases of plants, soil, irrigation supplies and related tools and services Flora & Field provide.

Demographic characteristics of Sacramento County suggest favorable demand conditions for horticultural products. Approximately 55.9% of the population is between 19-64, and 16% over the age of 65 (United States Census Bureau 2024), indicating demand across multiple life stages, including two of the most commonly associated groups with home gardening and community-based food production, family households and retirees. Additionally, 88% have completed high school and 33% of residents aged 25 and older hold a bachelor's degree or higher, supporting demand for educational programming related to sustainable horticulture and food production practices (United States Census Bureau 2024).

Economic indicators, like median household income, further support the presence of demand within the local market. Sacramento County's median household income of $88,724 and per capita income of $41,989 exceed national averages for household income, suggesting the capacity for discretionary spending on non-essential goods such as ornamental plants, specialty nursery products and food production educational services (United States Census Bureau 2024). Retail sales per capita totaled $16,582 in 2022, showing the county's consumer spending base (United States Census Bureau 2024). This supports the feasibility of demand for value-added horticulture offerings.

3.6 Competition, Market Performance and Outlook

The United States horticulture industry generates approximately $20.9 billion in annual revenue, with total industry profit estimated at $1.9 billion and a profit margin of 9.3%. Between 2020 and 2025, industry revenue grew at a compound annual growth rate (CAGR) of 0.5%, with forecasted growth of 0.4% annually from 2025 to 2030, indicating a mature but stable demand environment (Immerwahr 2025). Despite the modest growth, profitability has increased more rapidly with industry profit growing at an estimated 12.1% CAGR between 2020 and 2025, suggesting efficiency gains and pricing resilience within market segments.

The horticulture market operates within both a competitive domestic and international market. The United States relies on imports from countries such as Columbia, Ecuador, Canada and the Netherlands, particularly for cut flowers and select nursery products (Immerwahr 2025). Imports from these countries increase product availability to satisfy the demand but also contribute to price competition in certain segments of the market. This results in California based horticulture businesses competing with both local producers as well as international suppliers. International trade dynamics further influence demand conditions, specifically imports from lower-cost producers. These imports continue to attract downstream buyers due to the competitive pricing and product availability. In response, domestic producers have adjusted their product mix towards potted plants and nursery items, as they are less exposed to import competition and better suited to local distribution (Immerwahr 2025). Expanding to e-commerce sales channels also allow firms to access the niche demand segments beyond their immediate geographic markets and partially offset competitive pressures (Immerwahr 2025).

The United States horticulture industry is highly fragmented comprising of approximately 46,463 businesses and employing an estimated 167,000 workers (Immerwahr 2025). Notably, there are no dominant firms with significant market share, meaning no single company accounts for more than 5% of the total industry (Immerwahr 2025). This indicates low concentration and relatively low barriers to entry for smaller scale businesses. The fragmentation suggests that demand is distributed across numerous regional and niche producers, reinforcing the importance of local market positioning, differentiation, and relationship-based sales strategies rather than scale-driven competition.

At the national level, adopting advanced agricultural technologies within the horticulture industry remains relatively limited. It is estimated that approximately 27% of United States farms have adopted precision agriculture technologies, with cost and interoperability as the primary barriers (Immerwahr 2025). However, there is regional variability with California demonstrating a higher compared capacity for technology integration due to its established agricultural base, access to research institutions, and proximity to innovation ecosystems. Technology is important to this industry as it influences productivity, resource efficiency, and production methods. In Sacramento County specifically, approximately 96.7% of households have a computer, and 93.3% maintain internet access (United States Census Bureau 2024). This enables residents to engage with online sales platforms, virtual and digital resources, and marketing. The infrastructure supports hybrid business models that combine both in-person efforts with online engagement, expanding access to niche demand segments beyond geographic constraints.

Immerwahr (2025) summarizes the United States horticulture industry as currently being in a mature to declining stage of its life cycle, marked by slow revenue growth and increasing consolidation at the national level. Despite this, revenue growth for 2025 is steady at 1.6%, and is expected to increase from 2025-2030 (Immerwahr 2025). California continues to account for a substantial share of national horticulture production and consumption, supported by its climate, infrastructure, and large population base.

CHAPTER IV: STRATEGIC PLANNING

4.1 Role of Strategic Planning

Feasibility for businesses within the horticulture sector does not solely rely on financial viability, but also the strength of strategic decision making created within the foundation of the business. In addition to financial considerations, strategy and individual behavior are key determinants of success for the business. Understanding these elements within a conceptual model helps to analyze how these decisions will affect the overall economic success of the business. This framework is critical to the structuring of a business plan for Flora & Field.

Strategic planning is essential to the establishment as well as ongoing support and structure. In horticulture, there is an abundance of directions, specialties and niches to consider within the market. Strategic planning as a process is a more intuitive, systematic and analytical process (White and Uva 2000). This is a qualitative process, critical to success and financial results.

4.2 Importance of a Strategic Plan

Establishing goals, defining measurable outcomes, providing a management framework, anticipating problems, and allocating resources efficiently are ways that a business can gain a competitive advantage (White and Uva 2000). The strategic planning process can vary across different businesses and industries, but the importance lies in having the proper plan to link between objectives and results. Differentiation strategy, cost-focus strategy, and differentiation-focus strategy are some of the core strategical frameworks that could guide Flora & Field. This helps guide the “4 P’s” product, pricing, place and promotion that not only influence strategy but also can align with the marketing

efforts. Each decision is important to the establishment, viability, and ongoing efforts for the business.

This leads to behavior factors that also have influence on the success of horticulture businesses within decision making. Biases, competition, uncertainty, and other pressures are behavioral influences that can impact the business. Having a strategic plan can lower the negative influence of these factors and ensure the longevity of the business. A conceptual model will outline how the strategic plan and behavioral influences affect financial analysis, leading to the entrepreneurial decision of implementation or adjustments as necessary.

4.3 Elements of the Strategic Plan

Utilizing the outline from White and Uva (2000), the strategic plan for Flora & Field will be formed.

4.3.1 Mission Statement

Our mission is to nurture a flourishing community by cultivating sustainable, high-quality plants and providing comprehensive horticultural support from at-home hobby gardening to landscaping for our local growers. Guided by integrity and dedication, we empower people through accessible education and meaningful community engagement, helping others grow with confidence and connection to agriculture.

4.3.2 Situation Analysis

Situation analysis includes analyzing the external environment, analyzing the firm's strengths and weaknesses, describing target markets and forecasting market potential. To analyze the external environment, a PESTLE (Political, Economic, Social, Technological, Legal and Environmental) model of market analysis will be utilized.

Political

- Current tariff environment – China has imposed retaliatory tariffs on United States agricultural goods due to U.S. blanket tariffs on Chinese goods in early 2025. Broad tariffs on imports for other countries, specifically Canada, has led to increased costs of agricultural inputs like potash fertilizer (Immerwahr 2025).
- United States – Mexico – Canada Agreement (USMCA) – Despite the current trade tensions, Canada remains the largest export market for United States nursery and tree products, accounting for almost 50% of the total industry exports. Thus, the USMCA continues to support trade among the participating countries, despite the ongoing uncertainty (Immerwahr 2025).
- Government sustainability programs – The United States Environmental Protection Agency (EPA) and United States Department of Agriculture (USDA) offer grants and incentives for eco-friendly farming practices. Under the EPA, the Federal Insecticide, Fungicide and Rodenticide Act (FIFRA), Worker Protection Standard (WPS) and Clean Water Act all interconnect to establish regulations and uniformity in practices across operations (Immerwahr 2025).
- Government assistance programs – Risk Management Agency (RMA) offers federal crop insurance assistance to ensure that growers have the correct coverage limits that align with their market and production. USDA's Agriculture Research Service (ARS) is a benefit to nursery growers as these are centers for education, providing resources for research and preservation of endangered plant species. Not only this, but the ARS also provides education for more eco-friendly farming practices that are both good for sustainability while also cost-effective. The Commodity Credit Corporation (CCC) is a government export program that United

States farmers can benefit to aid in financing. Lastly, the USDA Climate-Smart Commodities Program provides financial assistance for climate-smart production practices, focusing on sustainable production and drives innovation (Immerwahr 2025).

Economic

- Industry revenue was $20.9 billion in 2025, growing at a 0.5% CAGR from 2020-2025, and a 0.4% CAGR forecast from 2025-2030. Revenue volatility was moderate, and revenue growth in 2025 was 1.6% with an increasing forecasted outlook (Immerwahr 2025).
- Input cost fluctuations – Due to supply-chain issues and government tensions, there have been significant fluctuations in input costs for floriculture and horticulture operations. Notably, between September 2020 and April 2022, prices for nitrogenous fertilizer jumped over 175% (Immerwahr 2025).
- Consumer spending – This remains strong, especially in supporting plant and flower industries. Uncertainty is on the horizon with inflation, though Millennials and Generation Z are now beginning their peak earning years and will remain influential on this consumer spending figure (Immerwahr 2025).
- Real estate growth – The United States housing market is forecasted for expansion over the next five years, supporting horticultural and landscaping products. The National Association of Realtors' project potential for home sales to rise to 14% in 2026 (Immerwahr 2025).

Social

- Urban farming trends – This trend has grown in popularity as largely populated cities seek to bring back natural elements and "green spaces" into both existing residential and new developments. Cities like Los Angeles have new development standards and require open space features in new plans and projects. Rooftop gardens, vertical farms, and balcony gardens are all trends that have come of these projects that expand horticulture demand (Immerwahr 2025).
- Consumer preferences – Consumer preference has been trending towards organic and locally sourced plants. Demand has risen sharply for eco-friendly growers, and they are able to command premium pricing with quality products. Health and wellness trends among floral products are influencing customer behavior and driving increased demand for the floriculture market (Immerwahr 2025).
- Growth of e-commerce – This allows retailers and growers to reach broader audiences and provide more unique experiences for consumers. Purchasing and marketing becomes more convenient for both the buyer and the seller. It allows sellers to reach niche audiences and provides more personalized experiences in comparison to big-box retailers.

Technological

- Precision agriculture – Remote platforms and automated systems are new and growing within agricultural efficiency resources. Remote sensing technology, automated weeding systems and data management are all benefits to the horticultural industry that can lead to increased profitability. Only 27% of United

States farms have adopted these technologies due to cost, privacy concerns and inoperability barriers (Immerwahr 2025).

- Advanced horticultural technologies – Separate from the above, advanced horticultural technologies like automated irrigation systems or climate-controlled greenhouses can help producers optimize their output by ensuring a better product quality and reducing costs (Immerwahr 2025).
- Digital supply chain tools – Advances in digital logistics and supply chain technology help reduce shipping and inventory management costs assisting United States firms to stay responsive in both export and domestic markets (Immerwahr 2025).
- Digital marketing – Living in a digital world, most individuals consume media on technological devices. Utilizing digital marketing can help expand marketing reach out of geographical limitations.

Legal

- Location specific requirements – Zoning laws, proper licensing and permits, compliance and environmental regulations can be complex and vary by locality. It is important that growers stay vigilant on understanding these requirements to maintain smooth operation (Immerwahr 2025).
- Regulation and policy – This impact is overall low, but producers should remain compliant and aware of any changing requirements (Immerwahr 2025).

Environmental

- Climate change – Extreme weather events like droughts, heavy rainfall and wildfires increases volatility. These can threaten crop stability as well as increase the input costs necessary for production yields (Immerwahr 2025).
- Sustainability – This can put pressure on producers to utilize organic fertilizers, integrate pest management and create water-efficient irrigation. These will likely add to higher costs for the producer, though government programs could assist in financing these eco-friendly production practices (Immerwahr 2025).

Analyzing the strengths and weaknesses of Flora & Field, SWOT (Strengths, Weaknesses, Opportunities and Threats) will be the model of internal analysis that will be utilized. This model assists in ongoing decision making, as well as providing a framework for marketing and other business strategies. This approach is to get a well-rounded view of the market and to evaluate any further strategic considerations.

Strengths

- Direct to consumer model – Focuses on seasonal availability, cuts out intermediaries, differentiate from other shops by being local, unique, and building relationships with customers. Aligns strongly with customers in the Sacramento region as they named it the “Farm to Fork Capital” (Andrak 2017).
- Integration of agriculture education – Hosting workshops, school tours, adds values to the consumer experience. Enhances customer loyalty and supports community engagement.

- Location in the Sacramento Valley – Favorable growing conditions, proximity to urban markets, regional identity of being an agricultural hub. Strong marketing narratives around “locally grown”.
- Flexibility and Product Differentiation – As a smaller scale operation, Flora & Field can quickly adapt to new plant varieties, product mixes and offerings in response to changing customer demand as compared to larger retailers with more rigid, complex supply chains.
- Increased availability of government assistance – Several government assistance programs available, many focused on sustainable practices. Many of these practices are already at the forefront for California producers as there are existing eco-friendly practices (Immerwahr 2025).

Weaknesses

- Higher per unit costs in comparison to large retailers – Large retailers, like Home Depot, benefit from national distribution networks and supplier bargaining power. Having a higher per unit cost makes it difficult to compete with large retailers on providing the lowest price.
- Seasonality of revenue – Although the greenhouse allows for temperature-controlled production, demand for specific nursery and starter plants remains seasonal. Cash flow volatility, particularly in the early years, poses a financial challenge and increases reliance on effective planning.
- Limited recognition at startup – Unlike other established operations, Flora & Field must invest time and resources in building brand awareness, trust and customer loyalty within the local market space.

Opportunities

- Growing demand for local food systems – Sacramento has a strong consumer base that has value in farm-to-fork food systems, local food systems, sustainability, and learning more about where food comes from with a direct-to-consumer approach.
- Market differentiation from big-box stores – Large retailers compete primarily on price and convenience. Flora & Field can differentiate by offering locally adapted plant varieties, expert guidance and education, and authentic farm experiences.
- Community partnerships – Proximity to schools, universities (i.e. University of California, Davis and Sacramento State University), non-profits and community organizations presents opportunities for educational partnerships, grant-supported programs, and contract growing or specialty plant production.
- Premium pricing through transparency – To offset higher production costs due to being a smaller sized retailer, emphasizing aspects of local production, sustainable practices and education, Flora & Field has a better opportunity to command premium pricing for plants, produce and experiences.
- High revenue growth from 2020-2025 and increasing revenue projections from 2025-2030 (Immerwahr 2025).

Threats

- Price Competition – Home Depot, Lowes, and similar home and nursery supply stores of large scale pose a threat due to their ability to lower prices on common nursery items, especially in peak season. Price sensitive consumers may favor these retailers despite lower customer service or plant quality.

- Economic downturns and discretionary consumer spending – Economic uncertainty could reduce consumer willingness to spend on non-essential expenses or experiences.
- Rising input and labor costs in California – California's labor regulations, minimum wage increases, and water/energy costs pose ongoing financial risks. Smaller operations experience higher pressures to these variabilities in comparison to larger retailers.
- Climate and regulatory risks – Greenhouses mitigate some climate risk, however the climate variability can affect input costs like water availability constraints due to extreme heat events. Regulations are constantly evolving, and the Sacramento Valley can experience threats related to changing agricultural regulations.

According to White and Uva (2000), target markets are important in assisting with marketing efforts while also helping Flora & Field to focus on the aspects of the plan more effectively, especially when it comes to promotion and pricing. Basic market segmentations to define target markets are demographics, geographic, psychographic, behavioral and business markets. Effectively defining these market segmentations assists Flora & Field with the target market to align the overall strategy and business plan. Demographics beneficial for Flora & Field to target are homeowners, property managers, landscapers, gardeners and anyone with a small area of space interested in growing their own food that has additional income and likely are in the median to upper age range (30-65). Geographic region will follow our mission of wanting it to be within our community to focus on this sustainable living and learning of horticulture, within the Sacramento Valley. We will not need to distinguish between urban and rural as you can grow in even the smallest of areas. Psychographic will be tailored to those interested in gardening, wanting to understand

horticulture, and those wanting more hands-on experience with do-it-yourself learning. This will also be catered to local landscapers or gardeners that know that they will get a positive, quality and unique experience compared to other big box nurseries. Behavioral will follow similarly to include those that will be purchasing plants on a regular or seasonal basis. Flora & Field not only would like to cater to local professionals, but also those wanting to learn more but do not know where to start and could use some support. We also want to provide a positive community experience by offering local events or workshops for similar individuals to gather and learn. Lastly, to align with our above target markets we will find ourselves in less of a wholesaler business market and more in retail and farm markets.

With these market segments in mind, our primary target market will be homeowners, gardeners and landscapers. These will range from our local professionals wanting a trusted, quality source for plants to beginning agriculturalists wanting more information or help getting started on building their garden or landscape. This could be through community engagement at farmers markets, do-it-yourself events, and by word-of-mouth marketing. When well established, a possible entry into a secondary target market may be a potential future objective. These would be working with community groups, schools, small farms or growers needing plant materials on a larger scale than previously discussed. Even partnering with local landscape companies, increasing the supplies we provide, and expertise can help Flora & Field continue to grow in both size and market potential.

4.3.3 Objectives

To maintain goals aligned with Flora & Field's mission, we will establish SMART (Specific, Measurable, Attainable, Rewarding, and Time-bound) objectives. These goals

are represented in the key performance indicators, table 4.1. These goals can be summarized by offering a space for collaboration among the local gardening and landscaping communities while offering quality products with hands-on experience for beginners. To measure this, checking engagement on social media, reviews, and customer feedback through surveys is important. These will not only be relevant to our mission, but also to the community that we will be operating in, Sacramento Valley. Offering full circle, getting started horticulture knowledge is in demand in this area, though not many places take the time to offer both. This is how Flora & Field will stay relevant in this industry. Lastly, the timeline would be to implement and monitor these goals for success within the first year of business and adjust if necessary. Ongoing monitoring of these goals, even if they need to be altered, will help Flora & Field to remain aligned with their mission and community.

4.3.4 Strategy

To link our objectives towards results, utilizing tools of strategy helps provide direction and a guide to achieve goals. Flora & Field will have a multi-faceted strategy through the different strategic objectives of the business, however from a high-level it will serve its community with quality, cost-effective, education-based horticulture.

A central component of Flora & Fields strategic approach is the application of Blue Ocean Strategy, which focuses on creating uncontested market space rather than competing directly within existing industry boundaries (Kim and Mauborgne 2015). Kim and Mauborgne (2015), discuss the importance of organizations challenging themselves to move away from traditional competitive models and pursue value innovation. Value innovation is where customer value and cost efficiency can both be achieved, in contrast to "red ocean" markets where competition is intense and growth is limited (Kim and

Mauborgne 2015). Blue oceans represent opportunities for innovation driven growth by redefining industry boundaries.

The importance of Blue Ocean Strategy lies in its ability to reduce direct competition to enhance long-term sustainability. For Flora & Field, direct competitors like established nursery centers and big-box stores competing solely on price or product varieties would lead diminished returns and limited product differentiation. In applying this strategy, Flora & Field shifts the competition from transactional towards a unique, education-centered experience. This approach not only helps strengthen customer loyalty and perceived value, but also aligns with broader trends in sustainability, local food systems, and community-based learning.

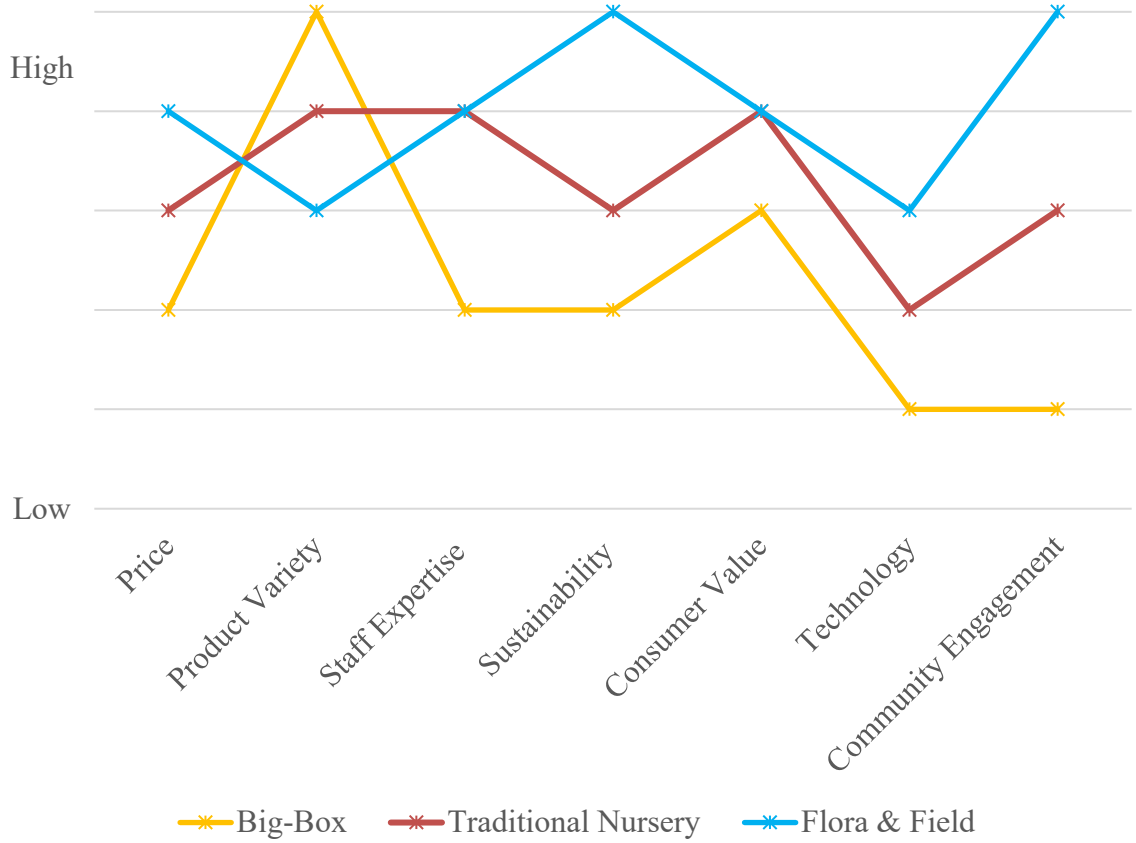
A key tool within Blue Ocean Strategy that Kim and Mauborgne (2015) discuss is the strategy canvas. According to Kim and Mauborgne (2015), the strategy canvas does three things:

1. Shows the strategic profile of an industry by depicting the factors that affect competition among industry players.
2. Shows the strategic profile of current and potential competitors, identifying which factors they invest in strategically.
3. Shows the company's strategic profile (or value curve) depicting how it invests in the factors of competition and how it may invest in them in the future.

This visualization allows organizations to clearly see areas of convergence and divergence, revealing opportunities to eliminate or reduce factors that do not add value, while creating new factors that better serve the target customer's needs.

For Flora & Field, the strategy canvas will be used to compare traditional horticulture centers and big-box stores with the proposed business model across dimensions such as price, product variety, staff expertise, sustainability practices, consumer perceived value, technology and community engagement. This strategy canvas illustrated in Figure 4.1 demonstrates how Flora & Field plans to deviate from industry norms like low sustainability, lacking technology development and little community engagement.

Figure 4.1: Strategy Canvas for Flora & Field versus Big-Box Retailers and Traditional Nursery



To go step by step on how these figures were evaluated and determined, each indicator was based on business plans from Flora & Field compared to Big-Box general

nursery retailers, like Home Depot, and a traditional local plant nursery in similar size and scope to Flora & Field.

Price is the first indicator reflected from low to high pricing offered to customers. Big-box retailers typically can compete aggressively on price through economies of scale, resulting in lower cost products often at the expense of personalized service and specialization. The traditional nursery falls at a higher price point, but still in the moderate range. Traditional nurseries still have a higher cost of input or overhead costs in comparison to a big-box retailer, though they still must remain competitive to not demand premium pricing for similar products. Flora & Field positions itself at a moderate to high price point, as balance of affordability with higher quality offerings and value-added services will come to a higher cost to consumers. This pricing strategy, though coming to a higher cost to the consumer, reinforces perceived value to the consumer by adding a personalized experience, emphasizing sustainability, and creating long-term consumer loyalty.

Product variety represents the range of plants, tools and horticulture products available to consumers. Big-box retailers are able to have a wide assortment to appeal to mass-market demand, prioritizing volume though sometimes over regional suitability. Traditional nurseries generally offer a broad selection due to their establishment in the market and reliance on retail expectations. Their assortment may be less curated than Flora & Field by offering more variety than regional specialization within the products. Flora & Field offers a more curated selection, focusing on plants and products appropriate for the Sacramento Valley's climate, growing conditions, and seasonality. Within this product assortment, there will be a range from landscaping to edible plants creating a product

variety, simply limiting to what will succeed in the region. This approach enhances the consumer experience by having suitable products for the needs of our target consumers, overall creating satisfaction.

Staff expertise measures the level of horticultural knowledge and guidance available to customers for the product being sold. Big-box retailers typically provide limited specialized knowledge due to staffing that prioritizes operational efficiency, and sometimes horticulture products are not the only product being sold. This leads to a lack of customer assistance, especially for those just starting out. In contrast, Flora & Field places a strong emphasis on employing trained, knowledgeable staff capable of offering onsite advice to assist with educating customers. This elevated experience is one of the key differentiators of Flora & Field's business strategy to big-box retailers, reflecting the fundamentals of Blue Ocean positioning. Staff at traditional nurseries typically possess horticultural knowledge as these businesses are more plant focused and often run by specialists in the field. Though the level of structured training, education and knowledge sharing can vary, we would expect that a traditional nursery will provide similar staff expertise as Flora & Field to provide an experience more valuable to the customer.

Sustainability reflects the extent to which environmentally friendly methods are integrated into business practices. From water-wise gardening, propagation, soil health, composting and eco-friendly inputs, Flora & Field prioritizes the longevity and education of these practices. Aligning with regional environmental concerns, such as drought and climate adaptation, Flora & Field is creating additional value for their consumers. Big-box retailers can offer some sustainable products, but do not always consistently embed sustainability in their core values, especially if it causes a customer to not have to return as

often or raises the cost of input. As they serve many different customers and regions, they are not able to tailor their offerings as sustainable for each region in comparison to Flora & Field. While traditional nurseries incorporate some environmentally friendly practices, sustainability is often inconsistent rather than embedded as a central business philosophy. Unlike Flora & Field, traditional nurseries may adopt sustainable methods reactively or selectively, depending on cost and customer demand, which positions them above big-box retailers but below Flora & Field in sustainability integration. Sustainability is one of the core values of the Flora & Field business model, by helping to create and spread knowledge of sustainable horticulture practices, while also integrating this into the business. As this is one of the key areas that we would like to differentiate from the competition, it falls to the highest mark on the strategy canvas.

Consumer perceived value represents the overall benefit customers feel they receive relative to cost, including product quality, guidance, and long-term success. While big-box retailers often deliver short-term value through low prices, Flora & Field enhances consumer value by providing high value products, reducing product failure due to low quality, providing education and increasing confidence for our consumers. This is a shift from transactional value savings and reframing to long-term value, satisfaction and success. Traditional nurseries also offer greater perceived value than big-box retailers through improved quality and customer service. Higher customer value links with Flora & Field's sustainability efforts and overall business vision that our customers leave feeling that they are valuable, not transactional.

Technology measures the use of digital tools, automated technology, and overall technological efficiency for operations, consumer engagement, and education resources.

Big-box retailers often overlook and underutilize technology beyond basic e-commerce as it is not a priority in their large models. Not only that, but it is found that only 27% of the farms within the horticulture industry have adopted enhancement technologies (Immerwahr 2025). With that statistic, it is expected that the traditional nursery will lack in technology integrated processes and rely on more manual systems. Limited technical experience is a key driver of a lack of automated or technological processes within the horticulture industry. Traditional nurseries are rated higher than big-box stores as automated irrigation systems and temperature control are key for plant nurseries, while big-box stores have manual watering processes and rely on seasonal product variety. Flora & Field plans to integrate technology from the customer side to enhance learning and customer engagement, such as planting guides, community events, resource libraries, and digital marketing experiences. From the operations standpoint, Flora & Field will have automated systems to cut down on manual labor and ensure efficiency as well as accuracy. This places Flora & Field at an advantage on the strategy canvas, also relying on the technical expertise of the owner. As the industry falls low, with only about a quarter of the horticulture industry implementing technologies, this is an area where Flora & Field can differentiate itself from the competition.

Lastly, community engagement is another factor that is important to the business plan of Flora & Field and is an area to stand out against competition. This reflects the degree to which the business takes the time to foster relationships within the community, past transactional business. This can include workshops, partnerships, local involvement, and events. Big-box retailers place minimal emphasis on community building activities, as they have an abundance of different locations across many different regions. Being a

cornerstone of the community is usually not something these stores place emphasis on, due to geographic spread. Traditional nurseries can have some local presence through repeat customers, but community engagement is often informal and secondary to sales operations. This area also falls to the highest point on the strategy canvas for Flora & Field as this is a key section to the overall business strategy. Flora & Field strongly encourages community engagement and positions themselves as a hub rather than solely a retail outlet. This ties together many of the previously mentioned indicators like consumer value, expertise, and sustainability by creating a community of like-minded individuals pursuing a need that Flora & Field can provide.

Overall, these metrics illustrate how Flora & Field creates value to diverge from the competition, and the key indicators crucial to overall strategy. Rather than competing on price and product volume, Flora & Field allocates strategic emphasis on staff expertise, sustainability, consumer value, technology and community engagement. This tool not only informs strategic decision making, but also reinforces alignment between the mission, objectives and long-term competitive positioning for the business.

4.3.5 Monitoring and Control

Setting up performance standards for ongoing monitoring, to ensure progress is made towards the goals and objectives of Flora & Field is an essential process of strategic planning (White and Uva 2000). This ensures that the business remains aligned with its mission, target markets and strategic positioning. Aligning with the objective's collaboration, education, community involvement and quality horticultural offerings, these will be emphasized in the performance metrics for ongoing monitoring. To measure progress towards these objectives, Flora & Field will track both qualitative and quantitative

Key Performance Indicators (KPIs) relevant to the strategic objectives of the business, reflected in table 4.1.

Table 4.1: Strategic KPIs for Flora & Field

Strategic Objective	Key Performance Indicator	Measurement	Target	Frequency
Customer satisfaction	Average customer satisfaction score and repeat purchase rate	Customer survey indicating satisfaction (1-5 scale) and sales data	>90% of customers with a >4 rating; >20% repeat purchase rate based on sales data	Quarterly
Sustainable practices	Bio-degradable containers, sales of climate tolerant plants, low waste	Inventory, sales reports, cost of inputs, packaging audits	>80% of products use biodegradable containers; 50% of plants sold are climate-tolerant; reduce waste costs by 10% YoY	Quarterly
Target market research	Sales growth, target market and marketing engagement	Sales reports segmented by target demographics; marketing analytics	Increase from month to month in target market sales; 8-10% of engagement rate on social media	Monthly
Education-based engagement and beginner support	Workshop satisfaction, enrollment in workshops and reviews	Event surveys with numerical ratings (1-5 scale); registration data	>90% of participants with a >4 rating; increase workshop attendance each time	Quarterly to bi-annually, dependent on workshop frequency
Community collaboration	Event attendance and participation	Count of event attendees, collaborative projects, community inquires	4 community events/year; 15+ attendees per event; 1 community requested event	Quarterly
Quality of products and consumer value	Product quality and perceived value	Customer survey (1-5 scale); return and repeat purchase rates on sales data	>90% of customers with >4 rating; <10% returned product rate; >20% repeat purchase rate	Monthly

These KPIs allow Flora & Field to assess whether these indicators are being met to ensure the business is effectively serving its target market, and staying aligned with the objectives and goals. The strategic objectives can change over time as the business strategy may have to shift over time, at which time the KPIs would be re-evaluated. Flora & Field should continue to monitor and update these measurements of success as necessary, as it is a crucial part of a successful business plan.

In addition to KPIs, the strategy canvas will also function as an ongoing monitoring tool. The canvas as well as strategic objectives and goals for the business will be evaluated on an annual basis to ensure alignment as well as control any changes. As Flora & Field enters the market space, competition may change, which signals the potential need for strategic adjustments and innovation to be reflected in the strategy canvas. This can help ensure a Blue Ocean Strategy and allows the space to be wary of any incoming "red oceans" (Kim and Mauborgne 2015).

The primary method for performance monitoring will be customer and community feedback, as customer satisfaction is what will drive demand for the business. Feedback will be collected through customer surveys, social media interactions, online review platforms, informal in-store conversations, and sales data. These insights help Flora & Field address if the needs of the customers are being met, and if they are satisfied. Feedback mechanisms are also crucial as they help the business continue to stay adaptive to changing market conditions, allowing for any need for adjustments to align with customer demand.

If monitoring activities leads to a result that objectives and goals are not being met, corrective actions will be implemented. These may include adjusting marketing strategies,

reallocating resources to higher-impact products or activities, and refining the target market outreach. Strategic reviews will also occur more frequently within the first year of operation, with the flexibility to modify goals and objectives as needed as Flora & Field becomes more established. Management will maintain this responsibility for reviewing performance data and ensure that Flora & Field remains aligned with its mission of fostering sustainable living and horticulture education within the Sacramento Valley.

CHAPTER V: FINANCIAL FEASIBILITY

5.1 Utilizing Net Present Value

The primary method to determine financial feasibility for Flora & Field will be evaluated by utilizing the net present value (NPV) method. The NPV framework is widely applied in capital budgeting, to assess whether the present value of expected future cash flows generated exceed the initial investment cost. By accounting for the time value of money and investment risk, the NPV method provides an economically grounded basis for determining whether this is a feasible proposed investment within the current market.

For this analysis, annual costs and revenues are projected over a ten-year horizon and discounted at a required rate of return to estimate their present value. The resulting profit margins and net cash flows calculated through the NPV model are critical inputs for evaluating the long-term sustainability of Flora & Field. These measures allow for not only an assessment of overall profitability, but also the timing of cash inflows and outflows, which are particularly important for capital-intensive horticultural operations with high upfront investment and gradual revenue growth.

In addition to providing insight into financial feasibility, the NPV results support strategic planning and future decision making for Flora & Field. By identifying periods of varying cash flows, the analysis supports decisions related to capital allocation, operating scales, cost management, and growth strategies. Collectively, this approach assists Flora & Field with a comprehensive investment strategy, business strategy, and implementation plan backed on basic economic theory and aligned with the horticultural industry.

5.2 The Net Present Value Model

Below is the NPV model utilized for Flora & Field where “I” represents the initial investment, “CF” is the net cash flow of the period, “d” is the discount rate, “n” is the life

cycle of the project, and "t" is the time period. The life cycle of the project is analyzed at a 10-year time horizon, as any further projections will likely become an inaccurate representation. The net cash flow will be the revenue minus any expenses incurred for each individual time period, measured in years.

$$NPV = -I + \sum_{t=1}^{n} \frac{CF_n}{(1+d)^t}$$

The required rate of return, used as the discount rate, for Flora & Field is 13.2%. This is based on the historical return on California irrigated farmland of 9.2%, representing the opportunity cost of capital, then adjusting for industry specific risk (AcreTrader 2026). An additional 2% risk premium was added for leverage risk, due to the sector's relatively high debt levels, and a 2% for operational risk, reflected by variability in profitability and cash generation over time (Immerwahr 2025). This resulted in the 13.2% rate applied to discount projected cash flows for the project.

The initial investment for Flora & Field is assumed to be financed through owner equity. Even in the absence of debt financing, the opportunity cost of capital must be considered. The discount rate therefore reflects the return that the investor could earn on an alternative investment of similar risk. As a result, the 13.2% rate incorporates both the time value of money and the required compensation for investment risk to evaluate the project's financial feasibility.

The initial investment, costs, and revenue figures estimated in the model are based on approximations of a one-acre horticulture operation, in dollars. The initial investment for cropland for the purchase of one-acre in Sacramento County, CA, according to AcreValue (2026), is $28,450. Flora & Field plans to outright purchase the land as an

investment rather than rent. The remaining financial assumptions are informed by the industry and sector figures published in the most recent IBIS World report by Immerwahr (2025), most recent published 2019 census by USDA, NASS (2020), and supplemented by the author's industry knowledge.

Based on industry averages for a medium-sized production greenhouse in California that fits the climate needs of the Sacramento Valley would be an initial estimated cost of $50,000. The installation of irrigation is estimated at $5,000, benches, carts and tools are an approximate $6,000 initial investment, and temperature control at an estimated $10,000 based on industry averages scaled to the size and location of the operation. Lastly, the initial investment includes the upfront seeds and plants, costing an estimated $5,000, as well as containers at $10,000. The estimated capital investment aligns with Immerwahr's (2025) industry benchmark that depreciation should account for approximately 5.3% of revenue. Excluding land, seeds and plants, which are treated as non-depreciable, total depreciable assets equal $81,000. When applied to the estimated revenue of $200,000, this implies an annual depreciation of approximately $10,600. This supports an average asset life of approximately 8 years across greenhouse structures, irrigation systems, temperature control, and reusable containers, each with a varying useful life.

The fixed costs represented in the model include the annual licensing fee required by the State of California, $150 (California Department of Food and Agriculture 2026). Property tax under California's Proposition 13 is limited to a base assessment of 1%, also reflected as a fixed cost within the model. Based on the estimated land purchase price of $28,450, annual property taxes are estimated at $285. According to USDA NASS (2020), other production costs for horticultural operations average approximately $7,000 per

operation, which include insurance premiums along with other miscellaneous expenses such as storage and warehouse costs. Given the average operation is larger than Flora & Field and starting out there are no storage or warehouse costs, it is reasonable to allocate $3,000 in insurance costs for this one-acre business. Marketing expenses are estimated at $20,000 annually, representing 10% of first year projected revenue. This is relative to the average small business marketing spend of 7.9% of revenue, rounded upwards for being a new business (Lesonsky 2019). By comparison, according to Immerwahr (2025) the horticulture industry typically spends only 0.1% on marketing, leading to a heavy reliance on word of mouth and customer referrals. Flora & Field intentionally exceeds this benchmark to support consumer education, community engagement and brand differentiation, areas which Immerwahr (2025) has identified as underutilized within the industry.

Moving to the variable costs, labor represents the largest expense category. The average annual wage within the industry, according to Immerwahr (2025), is approximately $34,967 per employee, leading to an estimated $68,000 in labor costs for year one. This estimate is based on an initial staffing plan that includes one full-time owner-operator and additional part-time or seasonal labor support. The owner's labor is incorporated in this expense estimate to reflect the cost of operating the business. This estimate aligns with data indicating that labor accounts for approximately 27.9% of industry revenue, increased to 34% due to the operation residing in California with higher wages (Immerwahr 2025). Labor costs are projected to increase at 3% annually to reflect inflation, higher labor costs in California, and increased operational needs.

Variable input costs for soil, seeds and plants, pest control, fertilizer and containers are estimated using both USDA NASS horticultural production expense categories and Immerwahr's (2025) cost structure benchmarks. USDA NASS identifies seeds and plants, growing media, fertilizer and containers as distinct and significant production expense categories for nursery and greenhouse operations. Using these categories as a structural framework, total consumable input costs are estimated at approximately 23.5% of projected first-year revenue, resulting in $47,000 of variable production input costs. This estimate reflects the higher per-unit input magnitude of small-scaled horticultural operations. Pest control and fertilizer are assumed to increase at a rate of 1% annually to account for inflation and incremental increases in production, however growth is intentionally limited due to the operation's emphasis on sustainable practices. In contrast, soil, seeds, and container costs are projected to decrease modestly at a rate of 1% over time as the business incorporates composting, seed saving, plant propagation and reusable container systems.

Industry benchmarks indicate that utilities account for approximately 5% of revenue for plant and flower growing operations. However, utilities in this model are estimated at 7.5% of revenue to reflect the higher energy and water costs associated with operating in California, particularly during drought conditions that increase irrigation expenses (Immerwahr 2025). Maintenance expenses are estimated at approximately 12% of revenue at the industry level, however, the model assumes reduced maintenance costs of 6% during the first three years of operation, as greenhouse infrastructure and equipment are newly installed and expect to require fewer initial repairs. Maintenance costs are then gradually increased over the projection period to align with the industry benchmark of 12% in the later years as assets age and upkeep requirements rise (Immerwahr 2025).

The revenue projections in this model are based on industry benchmarks and forecasted trends for plant and flower growing in the United States. For a small-scale, one-acre horticulture operation, year 1 revenue is estimated at $200,000. This figure represents a proportionate share of United States industry averages, where total industry revenue is $20.9 billion across 46,463 businesses, implying an average revenue per business of approximately $450,000 (Immerwahr 2025). Given Flora & Field's small one-acre scale, first-year revenue is assumed to be less than half of the average industry business, consistent with its operational capacity. Revenue is then projected to grow gradually to $247,342 by year 10. This growth is grounded in key industry trends, primarily by the CAGR of 0.5% (Immerwahr 2025). Revenue for plant and flower businesses in the United States is expected to have grown at 1.6% in 2025 and is projected to increase, as such the model projects the first year of revenue to increase by 2% (Immerwahr 2025). In years four through ten, revenue then consistently grows at this 2% rate, plus the CAGR rate of 0.5%.

Revenue projections for Flora & Field are also based on a per unit breakdown of the different main product types, based on its premium pricing strategy. Table 5.1 represents the product line, type, units sold, price per unit and revenue generated from each product type within the first year.

Table 5.1 Year 1 Revenue Breakdown by Units Sold

Product Type	Unit Type	Units Sold	Price per Unit	Revenue
Annuals	Container/Seedling Packs	4,500	$15	$67,500
Perennials	Container/Bulbs	2,875	$20	$57,500
Small Ornamentals	Container/Seedling Packs	2,040	$25	$51,000
Large Ornamentals	Container	480	$50	$24,000

As represented in the above breakdown, in the first-year total revenue is projected at $200,000, achieved through a mix of product types of annuals, perennials, small and large ornamentals sold as mostly containerized plants at different life stages. A selection of bulbs and seedling packs will also be offered, dependent on the product type. This mix balances higher-value ornamentals with high-volume from annuals and perennials. Revenue growth in future years is expected to follow industry trends, where the units sold will adjust, while maintaining this product mix. Unit prices for Flora & Field's product lines reflect the positioning as a premium provider in the California horticulture market.

These figures were input in a net present value model, represented in Table 5.2, to determine the outcome of the financial feasibility of Flora & Field.

Table 5.2: Present Value for Flora & Field (in dollars)

Year	0	1	2	3	4	5	6	7	8	9	10
Investment											
Land	(28,450)										
Greenhouse	(50,000)										
Irrigation	(5,000)										
Tools	(6,000)										
TempControl	(10,000)										
Fixed Cost											
License Fee		(150)	(150)	(150)	(150)	(150)	(150)	(150)	(150)	(150)	(150)
Insurance		(3,000)	(3,000)	(3,000)	(3,000)	(3,000)	(3,000)	(3,000)	(3,000)	(3,000)	(3,000)
Marketing		(20,000)	(20,000)	(20,000)	(20,000)	(20,000)	(20,000)	(20,000)	(20,000)	(20,000)	(20,000)
Property Tax		(285)	(285)	(285)	(285)	(285)	(285)	(285)	(285)	(285)	(285)
Variable Cost											
Labor		(68,000)	(70,040)	(72,141)	(74,305)	(76,535)	(78,831)	(81,196)	(83,631)	(86,140)	(88,725)
Soil		(25,000)	(24,875)	(24,751)	(24,627)	(24,504)	(24,381)	(24,259)	(24,138)	(24,017)	(23,897)
Seeds/Plants	(5,000)	(10,000)	(9,900)	(9,801)	(9,703)	(9,606)	(9,510)	(9,415)	(9,321)	(9,227)	(9,135)
Fertilizer		(5,000)	(5,050)	(5,101)	(5,152)	(5,203)	(5,255)	(5,308)	(5,361)	(5,414)	(5,468)
Containers	(10,000)	(7,000)	(6,930)	(6,861)	(6,792)	(6,724)	(6,657)	(6,590)	(6,524)	(6,459)	(6,395)
Utilities		(15,000)	(15,300)	(15,606)	(15,996)	(16,396)	(16,806)	(17,226)	(17,657)	(18,098)	(18,551)
Maintenance		(12,000)	(12,240)	(12,485)	(17,063)	(17,489)	(22,408)	(22,968)	(23,542)	(28,957)	(29,681)
Revenue		200,000	204,000	208,080	213,282	218,614	224,079	229,681	235,423	241,309	247,342
Net Cashflow	(114,450)	34,566	36,231	37,901	36,210	38,723	36,797	39,285	41,815	39,561	42,056
Present Value	(114,450)	30,535	28,274	26,128	22,052	20,832	17,488	16,493	15,508	12,961	12,172
Total NPV	**87,993**										

5.3 Outcomes of the Net Present Value Model

The net present value as calculated in the model equals $87,993, a positive return on the investment. A positive NPV suggests that the present value of expected future cash flows exceeds the initial investment, generating returns above the required rate of return. This indicates that Flora & Field is financially feasible under the baseline financial assumptions. The model reflects a substantial negative cash flow of $114,450 in the initial year due to capital expenditures associated with land acquisition and greenhouse infrastructure. Despite this upfront investment, the operation becomes present value positive in year one and maintains a positive present value throughout the ten-year projection period.

It is somewhat surprising that the project shows positive cash flow and present value in years 1-10. This outcome is based on secondary data sources and industry estimates rather than actual historical performance of Flora & Field. Additionally, the planned product mix includes perennials, which may contribute to revenue in later years beyond the initial planting cycle. This characteristic could increase variability in early-year cash flows and may mean that actual results differ from the projected baseline. As such, while the projections provide a useful indication of potential financial feasibility, real-world results may differ, and early year cash flows could be negative.

These outcomes indicate that Flora & Field can recover its initial investment and sustain operations, despite current industry pressures from high input costs. Furthermore, the results align with the relatively thin profit margins typical of the United States plant and flower growing industry, suggesting that the project would be economically viable and remains consistent with the industry.

5.4 Sensitivity Analysis

A sensitivity analysis was conducted to evaluate the robustness of the project under adverse cost conditions, using a stress-testing approach. Sensitivity analysis is particularly important in the horticultural industry because this sector is highly exposed to volatile input costs, labor fluctuations, and environmental conditions. Fertilizer, seeds, and pest control prices can spike unexpectedly, and water availability in regions like California can vary due to drought or regulatory changes. Additionally, horticulture demand is price-sensitive and relies heavily on discretionary spending, introducing further uncertainty.

To test the project's resilience, all variable costs including labor, soil, seeds and plants, fertilizer, containers, utilities and maintenance were increased by 10% to simulate a heightened cost stress scenario. Revenue assumptions were held constant in order to isolate the effect of heightened cost pressures on the feasibility of the investment decision. Table 5.3 presents the resulting cash flows and net present value under this stress-test scenario, providing insight into how extreme cost fluctuations could impact the project's financial outcomes.

Table 5.3 NPV Model for Flora & Field with Each Variable Cost Increase of 10%

Year	0	1	2	3	4	5	6	7	8	9	10
Investment											
Land	(28,450)										
Greenhouse	(50,000)										
Irrigation	(5,000)										
Tools	(6,000)										
TempControl	(10,000)										
Fixed Cost											
License Fee		(150)	(150)	(150)	(150)	(150)	(150)	(150)	(150)	(150)	(150)
Insurance		(3,000)	(3,000)	(3,000)	(3,000)	(3,000)	(3,000)	(3,000)	(3,000)	(3,000)	(3,000)
Marketing		(20,000)	(20,000)	(20,000)	(20,000)	(20,000)	(20,000)	(20,000)	(20,000)	(20,000)	(20,000)
Property Tax		(285)	(285)	(285)	(285)	(285)	(285)	(285)	(285)	(285)	(285)
Variable Cost											
Labor		(74,800)	(77,044)	(79,355)	(81,736)	(84,188)	(86,714)	(89,315)	(91,995)	(94,754)	(97,597)
Soil		(27,500)	(27,363)	(27,226)	(27,090)	(26,954)	(26,819)	(26,685)	(26,552)	(26,419)	(26,287)
Seeds/Plants	(5,000)	(11,000)	(10,890)	(10,781)	(10,673)	(10,567)	(10,461)	(10,356)	(10,253)	(10,150)	(10,049)
Fertilizer		(5,500)	(5,555)	(5,611)	(5,667)	(5,723)	(5,781)	(5,838)	(5,897)	(5,956)	(6,015)
Containers	(10,000)	(7,700)	(7,623)	(7,547)	(7,471)	(7,397)	(7,323)	(7,249)	(7,177)	(7,105)	(7,034)
Utilities		(16,500)	(16,830)	(17,167)	(17,596)	(18,036)	(18,487)	(18,949)	(19,422)	(19,908)	(20,406)
Maintenance		(13,200)	(13,464)	(13,733)	(18,769)	(19,238)	(24,649)	(25,265)	(25,897)	(31,853)	(32,649)
Revenue		200,000	204,000	209,100	214,328	219,686	225,178	230,807	236,577	242,492	248,554
Net Cashflow	(114,450)	20,366	21,797	24,246	21,892	24,149	21,511	23,715	25,951	22,912	25,083
Present Value	(114,450)	17,991	17,010	16,715	13,332	12,992	10,223	9,956	9,625	7,507	7,260
Total NPV	**8,161**										

Under the sensitivity scenario of increasing all variable costs by 10%, the net present value of the project decreased from $87,993 to $8,161. This represents a significant reduction in projected returns on the investment, highlighting the horticulture industry's sensitivity to fluctuations in input costs. The significant drop in NPV indicates that, under these adverse conditions, Flora & Field would have a significant change in returns on the investment. This outcome is expected in this small-scale operation, where variable expenses comprise a large share of the total costs, emphasizing the importance of cost management.

It is important to note that in this sensitivity scenario, revenue remains unchanged, meaning the decline in NPV is entirely driven by cost increases. This illustrates the critical role of cost management in maintaining financial performance, particularly in an industry characterized by discretionary demand and price sensitivity. Strategic decisions such as optimizing labor efficiency, adopting sustainable practices for inputs, leveraging water and energy saving techniques, and implementing automation to reduce waste become even more important. Proactive cost mitigation strategies can help protect margins against future volatility and ensure that operations can remain profitable, even if input costs rise unexpectedly.

Ultimately, the sensitivity analysis highlights that while Flora & Field has a financially viable business model under baseline assumptions, vigilant operational planning and proactive cost management are essential to sustaining profitability over the long term. It demonstrates that even small changes in variable costs can have a significant impact on financial outcomes, reinforcing the importance of budgeting, monitoring and strategic decision-making as the business operates, as discussed in previous chapters.

CHAPTER VI: CONCLUSION

6.1 Summary

This study set out to evaluate the financial feasibility of establishing Flora & Field, a one-acre greenhouse horticultural enterprise in the Sacramento Valley. Through an examination of the industry landscape, regional demand conditions, and strategic considerations, the research positions the proposed enterprise within an area that offers both distinct opportunities and notable structural constraints. These factors provide a framework for interpreting the financial results and assessing the practical viability of a small-scale horticultural venture in Central California.

The Sacramento region presents encouraging characteristics for horticultural development, including strong household income levels, sustained housing activity and consumer preferences that increasingly favor sustainable, locally produced goods. These conditions create a supportive environment for a business model built around community engagement, region and climate adapted product offerings, and education-based services. Yet the region is also shaped by longstanding agricultural challenges such as climate variability, water limitations, and rising input and labor costs. These realities can weaken the optimistic market trends and stress the operational discipline required for long-term success.

The strategic analysis highlighted the importance of positioning Flora & Field not as a price competitor, but as a specialized horticultural provider. Differentiation through local adaptation, staff expertise, and sustainable growing practices offers a pathway to value creation in a market where cost-based competition is difficult to maintain. These strategic foundations support a model that seeks to balance community engagement with

efficient and adaptable production methods, recognizing both the flexibility and vulnerabilities inherent to operating at this scale.

6.2 Conclusions

The financial feasibility analysis provides a quantitative measure of the project's viability. Based on a ten-year NPV model and a required rate of return of 13.2%, Flora & Field shows a positive NPV of $87,993 under baseline assumptions, indicating that discounted cash flows exceed the initial investment. This suggests that the enterprise can generate returns that meet or surpass the opportunity cost of capital. The model's result further reflects the revenue potential associated with the product mix and pricing strategy outlined earlier in the study. However, the results also point to a narrow feasibility margin. When variable costs are increased by 10%, the NPV shifts to $8,161, demonstrating the operation's sensitivity to input cost fluctuations. This is consistent with industry patterns for small greenhouse and nursery operations, where profitability is often constrained by the high cost of inputs and the limited economies of scale. The sensitivity results show that financial feasibility is contingent on maintaining cost control, adopting resource-efficient production practices, and leveraging strategic strengths to support premium pricing and customer retention.

6.3 Recommendations for Future Work

Altogether, the findings indicate that Flora & Field is financially feasible under expected conditions, but feasibility depends on careful management and continued alignment with regional demand trends. The proposed enterprise benefits from a supportive consumer base and a strategic model intended to reduce direct price competition, yet it remains vulnerable to environmental volatility and cost pressures that are regional to California horticulture. These vulnerabilities do not negate feasibility, but they do highlight

the importance of disciplined operational planning, ongoing performance monitoring, and adaptive decision-making as the enterprise develops.

While this study provides a foundational assessment of feasibility, several areas may warrant future investigation. Future research could explore financing and rental options for investment inputs, revenue variability across different product mixes, and financial assessment of offering contract or subscription-based services. As consumer preferences and environmental conditions continue to evolve, ongoing research will be essential to guide both operational strategy of Flora & Field and broader discussions on the sustainability of small-scale horticultural operations in California.

The conclusions of this study connect directly to the motivations that initiated the research: a desire to explore the viability of a community-centered horticultural enterprise, to contribute to the region's agricultural identity, and to assess whether such an operation can support the broader goals of sustainable production and local engagement. The results provide clarity on these questions, indicating that such an endeavor is feasible under expected conditions, but achievable only with strategic focus and long-term operational awareness.

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