

ADSP 32025 | Supply Chain Optimization

BUSINESS PROPOSAL

LIVE PLANT SALES EXPANSION

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01. Project Objective: Enhancing Live Plant Sales

Our objective:

Evaluate impact of expanding the spring season sales of live plants, flowers, and gardening supplies for a national hardware store chain.



Design & Execute Pilot Strategy

Designing and executing a pilot test to estimate potential sales lift, leveraging market research and historical data



Impact Analysis

Conducting a detailed analysis of the expected benefits and costs of a nation-wide rollout



Rollout Decision

Delivering actionable recommendations, including a decision on a full-scale rollout, based on the pilot test outcomes.

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02. Pilot Strategies: (1) Sourcing

Supplier Selection and Partnership

Strategy	Pilot	Full-Scale																													
Sourcing Partner	<p>Local wholesale landscape/nursery suppliers in each region.</p> <p>To effectively select full-scale partners, evaluate these key factors during the pilot phase: 1) Operational efficiency 2) Product quality 3) Cost-effectiveness 4) Geographic reach 5) Local provider performance Reassess alternatives if these criteria are not met satisfactorily.</p>	<ol style="list-style-type: none">1. Local providers OR2. Regional or national suppliers3. Centralized distribution center4. Contract growers																													
Delivery Frequency	<p>For optimal product freshness and variety, the suggested monthly delivery schedule from local landscape/nurseries is as follows for each region:</p> <p>Monthly Delivery Frequency</p> <table><thead><tr><th>Region / Store Size</th><th>Midwest</th><th>Northeast</th><th>Northwest</th><th>Southeast</th><th>Southwest</th></tr></thead><tbody><tr><td>Large</td><td>5</td><td>5</td><td>5</td><td>4</td><td>4</td></tr><tr><td>Medium</td><td>5</td><td>5</td><td>5</td><td>5</td><td>5</td></tr><tr><td>Small</td><td>3</td><td>4</td><td>4</td><td>4</td><td>4</td></tr><tr><td>Specialty</td><td>4</td><td>4</td><td>4</td><td>4</td><td>4</td></tr></tbody></table>	Region / Store Size	Midwest	Northeast	Northwest	Southeast	Southwest	Large	5	5	5	4	4	Medium	5	5	5	5	5	Small	3	4	4	4	4	Specialty	4	4	4	4	4
Region / Store Size	Midwest	Northeast	Northwest	Southeast	Southwest																										
Large	5	5	5	4	4																										
Medium	5	5	5	5	5																										
Small	3	4	4	4	4																										
Specialty	4	4	4	4	4																										

We developed a strategic pilot program to introduce a new live plant line, focusing on a region-specific sourcing strategy for stores of varying sizes. This approach is designed to assess the feasibility of national expansion based on the regional pilot results.

02. Pilot Strategies : (2) Product

Our pilot will be focused on *a subset of our product portfolio*, enabling us to pinpoint the impact of our promotion with greater accuracy



As national hardware chain with thousands of SKUs, a full-product line test would be inefficient and cause added noise in our data, making it challenging to gauge the signal from our promotion.



Using historical promotion data and advanced analytics, our test product set will prioritize the product lines that have a strong linkage to live plants.

Sales & Inventory Impact for Plant-Adjacent Products

We will prepare our inventory to withstand impact to plant-adjacent products.

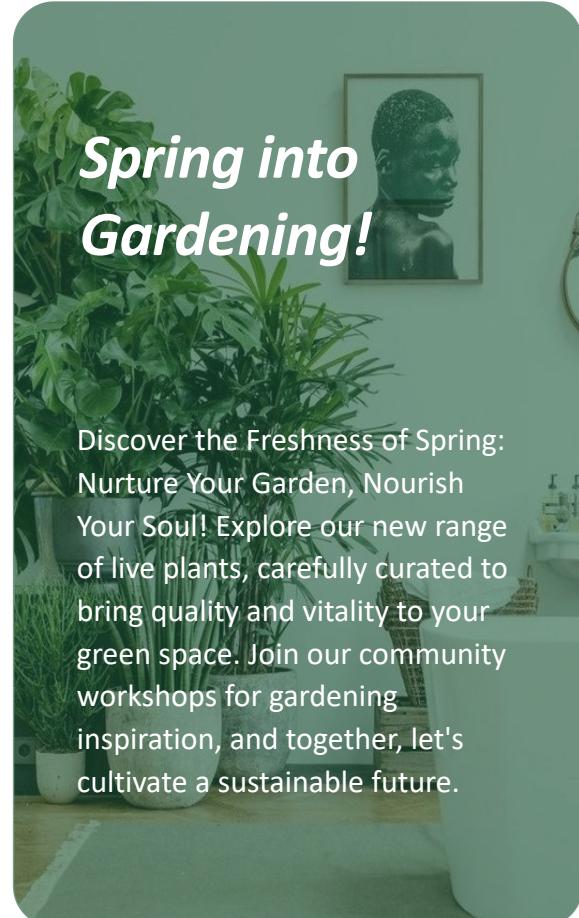
Product line	Description
Gardening tools	Rakes, hoes, spades, pruning shears, and trowels. These are essential for planting and maintaining gardens.
Power equipment	For larger gardens or more involved landscaping projects, items like lawn mowers, leaf blowers, and hedge trimmers could be in demand.
Soil and fertilizers	Different types of soils, compost, and fertilizers tailored to various plant types can significantly boost sales.
Pots and planters	Offering a variety of pots and planters can attract customers looking to buy plants and those looking to repot existing ones.
Gardening apparel	Gloves, hats, knee pads, and aprons. These items protect gardeners and are often purchased impulsively.
Watering equipment	Hoses, watering cans, and possibly automated watering systems.
Pest control	Organic and chemical pest control solutions, considering the increasing consumer interest in eco-friendly options.
Landscape materials	Mulch, stones, edging materials, and landscape fabric.
Plant care books	Especially for beginners or for those looking into specific types of gardening, like vegetable or herb gardens.

Source: Competitor research (e.g., Home Depot, Lowes)

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02. Pilot Strategies : (3) Marketing

Mockup Advertisement



Live Plant Expansion Campaign Overview

Target Customer Segments

Gardening
Enthusiasts

Families

Homeowners and
LandscapersEco-conscious
Consumers

Spring Promotional Offers



Green Thumb Deals & Spring Bundle Bonanza

- Up to 30% discounts on select live plants and gardening tools for a limited time.
- Special offers on plant bundles, pairing favorites with essential gardening gear.



Sprout & Shout Contest

- Win gardening prizes by sharing your live plant photos on social media with our campaign hashtag.

Marketing Channels

- Digital Marketing:** Targeted campaigns on social media and emails to spotlight the new live plants selection.
- In-Store Experience:** Update store layout and staff expertise to showcase the live plants addition.
- Community Engagement:** Partner with local garden clubs for events that feature the live plants range.
- Public Relations:** Issue press releases about the live plants expansion to local media outlets.
- Cross-Promotion:** Team up with other related product lines within our store for joint marketing efforts highlighting live plants.
- Feedback and Adaptation:** Use customer insights to fine-tune the live plants marketing approach.

Source(s): Competitor research (e.g., Home Depot, Lowes), [HubSpot Top Marketing Channels](#), [Podium Top Marketing Channels](#), [GrowerTalks Houseplant Purchasing Trends](#)

03. Experiment Design

Objective	<p>Optimizing for sales: Our pilot optimizes for sales as the primary object, with cost being a secondary objective. By understanding the Sales potential of the promotion, we will be able to better plan for cost optimization strategies and synergies during the national roll-out.</p>		
In-Store Square Footage Strategy	Store Size	Square Footage	Planned Allocation Space for Expanded Footprint
<p>Large Store 20,000 to 25,000 square feet 10-15% of indoor and 5-10% of parking lot space for plants and gardening supplies; aligning with the strong sales lift.</p> <p>Medium Store 10,000 to 15,000 square feet 20% of indoor and 15% of parking lot space to capitalize on the significant sales lift.</p> <p>Small Store 3,000 to 5,000 square feet 15-20% of indoor and 10-15% of parking lot space; reflecting the lower sales lift.</p> <p>Specialty Store 1,000 to 2,500 square feet 30-40% of indoor and 15-20% of parking lot space, focusing on specialty plant products; given the minimal sales lift.</p>			
Sample	<p>1. Size: We will test our promotion on 40 stores. (~1% of total stores)</p> <p>2. Segmentation: 1. Test Group: 20 stores deploying enhanced strategy including revamped sourcing, marketing, and product strategy. 2. Control Group: 20 stores with a modest live plant offering using a status-quo strategy.</p> <p>3. Representation: Within each group, each store size (Specialty, Large, Medium, Small) tested across each region (NE, SE, MW, SW, NW), allowing for comprehensive national representation.</p>		
Seasonal Timing	60 days spanning April 1 – May 30 consistent across store size and regions, allowing for consistency nationally down the line.		
Data collection	New Line & Total Store Sales data (by store size & region) is collected across two time periods: 0-30 days after promo and 30-60 days after promo.		

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04. Pilot Results

We conducted a 60-day pilot, analyzing sales lift from various angles, including new versus total product lines, monthly promotion performance, and differences across store regions and sizes.

New Line Sales Lift

1st Month	2nd Month	Average
17.2% ↑	20.8% ↑	19.0% ↑

Total Sales Lift

1st Month	2nd Month	Average
9.8% ↑	14.1% ↑	12.0% ↑

By Region

Region	New Line Sales Lift			Total Sales Lift		
	1st Month	2nd Month	Average	1st Month	2nd Month	Average
MidWest	1.25	1.08	1.16	1.15	1.12	1.13
NorthEast	1.19	1.32	1.25	1.09	1.14	1.11
NorthWest	1.14	1.36	1.25	1.19	1.15	1.17
SouthEast	1.15	1.16	1.15	1.10	1.11	1.10
SouthWest	1.13	1.14	1.13	0.96	1.18	1.07

By Store Size

Region	New Line Sales Lift			Total Sales Lift		
	1st Month	2nd Month	Average	1st Month	2nd Month	Average
Large	1.36	1.37	1.37	1.07	1.16	1.12
Medium	1.30	1.52	1.41	1.17	1.20	1.19
Small	1.05	0.89	0.97	1.09	1.20	1.15
Specialty	0.96	1.05	1.00	1.07	0.99	1.03

05. Business Implications

To facilitate a national-scale expansion of the promotion, we conducted a detailed analysis of the pilot promotion outcomes, deriving key business insights and implications from the results.

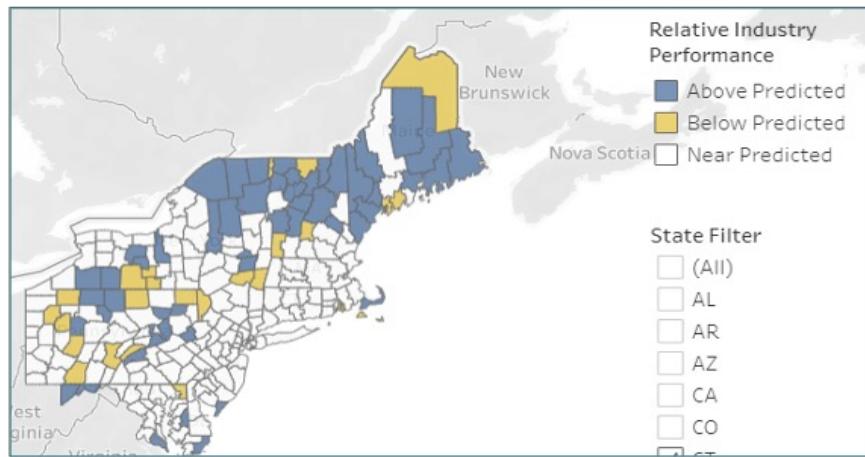
Category	Pilot Results	Business Implications
1 Overall Increased Sales with New Line Compared to Total	<p>New line plants are getting more paying customers in the door, even if they don't buy new line plants.</p> <ul style="list-style-type: none">• 19% sales lift for new line promo over control.• 12% sales lift for total promo over control.	<p>Increased lift provides support to focus on and expand the new line to increase sales nationwide.</p>
2 New Line Leads Way in NorthEast & NorthWest Stores	<p>New line lift is greater than total lift across all regions, notably in the NE (~14%) & NW stores (~8%).</p> <ul style="list-style-type: none">• The other regions had increased lift with new line products.	<p>Expand pilot program to stores in the NE and NW regions for additional validation before implementing to additional regions.</p>
3 Large & Medium Stores Yield Larger Lift than Small/Specialty	<p>New line lift is significantly greater in Large (~25%) and Medium (~22%) Stores than that of total lift in the same stores.</p> <ul style="list-style-type: none">• Small and Specialty stores had a lower new line lift than the total sales lift.	<p>Focus on Large and Medium sized stores for implementation of pilot program.</p>

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06. Rollout Strategies: (1) Planning

Drawing from our pilot promotions' insights, we formulated a national rollout plan, complete with risk and profit evaluations.

Economic Opportunity Map for Hardware Stores in the Northeastern US



Implementing New Line Plants to Large Stores in the NE

Step	Category	Detail
1	Management and Communication Strategy	<ul style="list-style-type: none">Announce plan to scale pilot program to all Large stores in the NE.
2	Management and Communication Strategy	<ul style="list-style-type: none">Engage with regional/store managers for additional insights and adaptation.
3	Operations and Supply Chain Management	<ul style="list-style-type: none">Ensure a reliable supply chain to meet demand.
4	Inventory Management	<ul style="list-style-type: none">Implement robust inventory management to prevent stockouts or overstock situations.
5	Marketing Strategy	<ul style="list-style-type: none">Create marketing and promotional material for new line plants.
6	Customer Relationship Management (CRM)	<ul style="list-style-type: none">Collect feedback from customers and employees regarding new line plants, how it increases likelihood to shop, among other insights.
7	Growth Strategy	<ul style="list-style-type: none">Assess scalability and success of implementation, apply to additional sized stores across the regions.

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06. Rollout Strategies: (2) Risk Assessment

		Risk Factor 1		Risk Factor 2																	
Identification	Anomalies in pilot data			Reduced Parking Lot Space																	
Specification	<p>New Line Sales Lift: 1st Month</p> <table border="1"> <thead> <tr> <th>Type</th><th>Total Sales Lift</th><th>Type</th><th>Total Sales Lift</th></tr> </thead> <tbody> <tr> <td>SouthEast</td><td>1.1</td><td>MidWest</td><td>1.15</td></tr> <tr> <td>Large</td><td>1.07</td><td>Large</td><td>1.07</td></tr> <tr> <td>Large SouthEast</td><td>1.018</td><td>Large MidWest</td><td>1.16</td></tr> </tbody> </table>			Type	Total Sales Lift	Type	Total Sales Lift	SouthEast	1.1	MidWest	1.15	Large	1.07	Large	1.07	Large SouthEast	1.018	Large MidWest	1.16	<p>Depending on location, some stores will need permits to sell products in parking lots.</p>  <p>https://bestlifeonline.com/home-depot-invasive-plants-news/</p>	
Type	Total Sales Lift	Type	Total Sales Lift																		
SouthEast	1.1	MidWest	1.15																		
Large	1.07	Large	1.07																		
Large SouthEast	1.018	Large MidWest	1.16																		
Mitigation	<p>Choosing to not include in promotion is a potential lost opportunity if store chosen is not representative for all types of that store in that region.</p>			<ol style="list-style-type: none"> 1. Tents will be needed to ensure operation during harsh weather conditions, especially Northern regions. 2. Parking overflow contingency plan will be needed with reduced parking space. 																	

We recognized potential risks associated with scaling pilot data for national promotion and the practical challenges of executing the rollout on a national level.

06. Rollout Strategies: (3) Promotional Value

Anticipating the financial impact of the national rollout of our new plant line, we expect the following results based on the pilot promotion's savings and sales data.

Scope	
Store Region	Store Size
MidWest	Large
NorthEast	Medium
NorthWest	Small
SouthEast	Specialty
SouthWest	

Projected Savings

4.00%

Cost Savings Overall

Savings are expected from:

- Optimize delivery frequency
- Negotiate high-volume orders
- Utilize local providers

Projected Gains

11.26%

Total Sales Lift for entire chain

(*60 days after the promotion)

- 1st Month Pilot: 9.8% Total Sales Lift
- 2nd Month Pilot: 14.1% Total Sales Lift
- Pilot Average: 12.0%

Appendix. Code Snippet for Sales Lift Calculation

Calculation	Code Snippet
Monthly Promotion Lift	<pre> df['1_mth_nl_lift'] = df['1_mth_nl_promo']/df['1_mth_nl_control'] df['2_mth_nl_lift'] = df['2_mth_nl_promo']/df['2_mth_nl_control'] df['1_mth_total_lift'] = df['1_mth_total_promo']/df['1_mth_total_control'] df['2_mth_total_lift'] = df['2_mth_total_promo']/df['2_mth_total_control'] df['nl_lift'] = (df['1_mth_nl_promo'] + df['2_mth_nl_promo'])/(df['1_mth_nl_control'] + df['2_mth_nl_control']) df['total_lift'] = (df['1_mth_total_promo'] + df['2_mth_total_promo'])/(df['1_mth_total_control'] + df['2_mth_total_control']) # df[['Store', 'Region', 'Size', '1_mth_nl_lift', '2_mth_nl_lift', '1_mth_total_lift', '2_mth_total_lift', 'nl_lift', 'total_lift']] df </pre>
New Line / Total Sales Lift	<pre> print("New Line Lift Across Stores:", np.sum(df['1_mth_nl_promo'] + df['2_mth_nl_promo'])/np.sum(df['1_mth_nl_control'] + df['2_mth_nl_control'])) print("New Line Lift Across Stores (1st month):", np.sum(df['1_mth_nl_promo'])/np.sum(df['1_mth_nl_control'])) print("New Line Lift Across Stores (2nd month):", np.sum(df['2_mth_nl_promo'])/np.sum(df['2_mth_nl_control'])) print("Total Lift Across Stores:", np.sum(df['1_mth_total_promo'] + df['2_mth_total_promo'])/np.sum(df['1_mth_total_control'] + df['2_mth_total_control'])) print("Total Lift Across Stores (1st month):", np.sum(df['1_mth_total_promo'])/np.sum(df['1_mth_total_control'])) print("Total Lift Across Stores (2nd month):", np.sum(df['2_mth_total_promo'])/np.sum(df['2_mth_total_control'])) New Line Lift Across Stores: 1.1904014352993946 New Line Lift Across Stores (1st month): 1.1715596330275229 New Line Lift Across Stores (2nd month): 1.208424747696358 Total Lift Across Stores: 1.1196498054474708 Total Lift Across Stores (1st month): 1.0977667493796526 Total Lift Across Stores (2nd month): 1.1406771578445398 </pre>
Store Sales Lift	<pre> sizes = df.groupby('Size')[['1_mth_nl_promo', '2_mth_nl_promo', '1_mth_total_promo', '2_mth_total_promo', '1_mth_nl_control', '2_mth_nl_control', '1_mth_total_control', '2_mth_total_control']].sum() sizes['1_mth_nl_lift'] = sizes['1_mth_nl_promo']/sizes['1_mth_nl_control'] sizes['2_mth_nl_lift'] = sizes['2_mth_nl_promo']/sizes['2_mth_nl_control'] sizes['1_mth_total_lift'] = sizes['1_mth_total_promo']/sizes['1_mth_total_control'] sizes['2_mth_total_lift'] = sizes['2_mth_total_promo']/sizes['2_mth_total_control'] sizes['nl_lift'] = (sizes['1_mth_nl_promo'] + sizes['2_mth_nl_promo'])/(sizes['1_mth_nl_control'] + sizes['2_mth_nl_control']) sizes['total_lift'] = (sizes['1_mth_total_promo'] + sizes['2_mth_total_promo'])/(sizes['1_mth_total_control'] + sizes['2_mth_total_control']) sizes[['1_mth_nl_lift', '2_mth_nl_lift', '1_mth_total_lift', '2_mth_total_lift', 'nl_lift', 'total_lift']] 1_mth_nl_lift 2_mth_nl_lift 1_mth_total_lift 2_mth_total_lift nl_lift total_lift Size Large 1.363148 1.369205 1.067698 1.162879 1.366294 1.115789 Medium 1.300373 1.515789 1.167347 1.201887 1.411392 1.185294 Small 1.054250 0.885000 1.092000 1.203846 0.966175 1.149020 Specialty 0.962406 1.053465 1.066929 0.992293 1.006750 1.029211 </pre>
Regional Sales Lift	<pre> regions = df.groupby('Region')[['1_mth_nl_promo', '2_mth_nl_promo', '1_mth_total_promo', '2_mth_total_promo', '1_mth_nl_control', '2_mth_nl_control', '1_mth_total_control', '2_mth_total_control']].sum() regions['1_mth_nl_lift'] = regions['1_mth_nl_promo']/regions['1_mth_nl_control'] regions['2_mth_nl_lift'] = regions['2_mth_nl_promo']/regions['2_mth_nl_control'] regions['1_mth_total_lift'] = regions['1_mth_total_promo']/regions['1_mth_total_control'] regions['2_mth_total_lift'] = regions['2_mth_total_promo']/regions['2_mth_total_control'] regions['nl_lift'] = (regions['1_mth_nl_promo'] + regions['2_mth_nl_promo'])/(regions['1_mth_nl_control'] + regions['2_mth_nl_control']) regions['total_lift'] = (regions['1_mth_total_promo'] + regions['2_mth_total_promo'])/(regions['1_mth_total_control'] + regions['2_mth_total_control']) regions[['1_mth_nl_lift', '2_mth_nl_lift', '1_mth_total_lift', '2_mth_total_lift', 'nl_lift', 'total_lift']] 1_mth_nl_lift 2_mth_nl_lift 1_mth_total_lift 2_mth_total_lift nl_lift total_lift Region MidWest 1.247706 1.078603 1.148515 1.122066 1.161074 1.134940 NorthEast 1.186441 1.317881 1.085919 1.140476 1.250811 1.113230 NorthWest 1.144086 1.355056 1.188725 1.154791 1.247253 1.171779 SouthEast 1.146789 1.157328 1.095122 1.112150 1.152222 1.103819 SouthWest 1.126685 1.139434 0.959893 1.175481 1.133735 1.073418 </pre>

Appendix. Code Snippet for Sales Lift Calculation

- Marketing Strategies
 1. **HubSpot Top Marketing Channels**
 - <https://blog.hubspot.com/marketing/marketing-channels>
 2. **Podium Top Marketing Channels**
 - <https://www.podium.com/article/marketing-channels/>
 3. **GrowerTalks Houseplant Purchasing Trends**
 - <https://www.growertalks.com/Article/?articleid=25546#:~:text=The%20average%20age%20of%20houseplant,impact%20of%20the%20pandemic%20lockdowns>
- Rollout Strategies
 1. **Economic Opportunity Map for Hardware Stores in the Northeastern US**
 - <https://www.canr.msu.edu/resources/hardware-stores>
 2. **Risk Factor 2 Reduced Parking Lot Space**
 - <https://bestlifeonline.com/home-depot-invasive-plants-news/>