SUPPLY CHAIN AND MANUFACTURING SITE SELECTION: AN INTELLIGENT APPROACH

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Prepared for the Illinois Manufacturing Excellence Center (IMEC)
STRATEGIC ALIGNMENT

For occupiers, there needs to be fundamental alignment between the business, supply chain and ultimately real estate.

PROBLEM STATEMENT

INFORMATION
Basis for making these decisions

PRODUCTION
What, how, and when to produce

INVENTORY
How much to make, how much to stock

TRANSPORTATION
How and when to move product

LOCATION
Where best to do what activity
EXAMPLE
FOR A $1B COMPANY, THE LOGISTICS AS A PERCENT OF SALES MATH LOOKS LIKE THIS...

<table>
<thead>
<tr>
<th>Metric</th>
<th>%</th>
<th>Value</th>
<th>% Savings</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Revenue</td>
<td>Benchmark %</td>
<td>$1,000,000,000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Logistics Cost as % Sales</td>
<td>7.60%</td>
<td>$76,000,000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Transportation</td>
<td>49.0%</td>
<td>$37,240,000</td>
<td>1%</td>
<td>$372,400</td>
</tr>
<tr>
<td>Distribution (Variable)</td>
<td>21.0%</td>
<td>$15,960,000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Inventory</td>
<td>14.0%</td>
<td>$10,640,000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other*</td>
<td>10.0%</td>
<td>$7,600,000</td>
<td>8.2%</td>
<td>$372,400</td>
</tr>
<tr>
<td>Distribution (Fixed)</td>
<td>6.0%</td>
<td>$4,560,000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>TOTAL LOGISTICS COST</td>
<td></td>
<td>$76,000,000</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Other includes reverse logistics, customer services, planning and administrative functions.

Source: CBRE analysis of historical CSCMP State of Logistics Reports

IT TAKES ABOUT 8% SAVINGS IN OCCUPIER INDUSTRIAL REAL ESTATE COSTS TO EQUAL JUST 1% SAVINGS IN TRANSPORTATION COSTS
TRADE-OFFS – LOGISTICS COSTS VS. FACILITIES

TRADE-OFFS ARE MADE IN ORDER TO MINIMIZE TOTAL LOGISTICS COSTS GIVEN SERVICE LEVEL OR OTHER OBJECTIVES

Four primary factors influence the number of facilities a firm chooses to maintain:

**VARIABLE WAREHOUSING COSTS** More warehouses typically mean more head count and labor required to process volume.

**INVENTORY COSTS** Inventory costs increase with the number of facilities where the client maintains a safety stock of all (or most) products at each facility. More total space is required overall.

**FIXED WAREHOUSING COSTS** More warehouses mean more space to be owned, leased or rented.

**TRANSPORTATION COSTS** Transportation costs initially decline as the number of facilities increase due to proximity.
TRANSPORTATION & THE COST EQUIVALENCE LINE

PARCEL HUBS
DEMAND DRIVERS
Shelter-in-Place Orders Have Dramatic Impact on Labor Markets & Consumer Sentiment

- Business closures due to COVID-19 pushed the unemployment rate to 14.7% in Q1, falling to 11.1% in Q2.
- Consumer sentiment fell sharply in Q1 before bouncing back in Q2.

Note: Consumer Sentiment Index and Unemployment Rate through June.
PRODUCTION WORKER COUNTS BY METRO AREA

The Chicago area comprises 88% of the total manufacturing jobs in Illinois.

MANUFACTURING WORKFORCE DENSITY

Chicago has a sizable manufacturing workforce, but is significantly more expensive than other Illinois markets. For smaller operations, Rockford, Peoria, Carbondale etc can offer significant labor arbitrage if total headcount scale can be managed.

MANUFACTURING MARKET COMPARISON

Bubble size: Labor Force Size
Index Score: National average is = 100
Supply Score: Scores > 100 indicate a favorable, larger presence of aligned demographics, education and skill set volume for manufacturing
Cost Score: Scores > 100 indicate a LOWER cost market with favorable costs of living, home values and wages
Locations such as Carbondale, Springfield, Decatur etc offer 5-10% savings to the national average and 8-13% savings to Chicago, but size must be managed. Rockford has a significant manufacturing workforce and still provides a +6% savings to Chicago.
While construction deliveries have outpaced net absorption for the past six quarters, most of this new space was preleased, thus tempering a sharp rise in the overall availability rate.

Net asking rents rose 1% quarter-over-quarter and 6.3% year-over-year to $7.96 per sq. ft. in Q2, exceeding expectations.
INCENTIVES

Capital Budget Savings
On average clients receive 10% to 25% of their capital budgets in potential incentives savings. The incentives are typically driven by jobs created and capital invested.

Benefits To Our Clients
- More informed site selection using exclusive CBRE technology and resources
- Greater protection and leverage of brand equity
- Faster speed to market
- Lower one-time project costs
- Reduced operating expenses
- More competitive talent recruitment

Compliance
50% of all incentives negotiated are never collected. We believe that compliance is a core piece of each incentives project. CBRE has developed proprietary software that seamlessly tracks all incentive awards to ensure each of our clients capture 100% of negotiated incentives.

Location Incentives
RELATIVE STATE LEVEL COMPARISON
ALIGNMENT OF TRADE-OFFS

Business Strategy

Logistics & Transportation
Real Estate & Labor
Incentives
Location Criteria

OCCUPIER SERVICE OFFERINGS

SCA OCCUPIER SERVICE OFFERINGS HELP CLIENTS MAKE DECISIONS AT THE INTERSECTION OF SUPPLY CHAIN AND REAL ESTATE

SUPPLY CHAIN NETWORK DESIGN
- Center of Gravity (COG)
- Supply Chain Network Design
- Flow Path Optimization
- Local Optimization

3PL SELECTION
- Awareness & Education
- 3PL Strategy
- Warehouse Activity Profiling
- 3PL Financial Analysis
- RFI / RFP & Vendor Selection

CAPACITY ANALYSIS
- Functional Break Timing
- “Stay-or-Go” - Extend Lease or Outgrown
- Extend Life of Network
- Space-Labor-Equipment Model

OPERATIONS ASSESSMENTS
- Quick Hits Walk-Through
- Warehouse Activity Profiling
- Heat Mapping & Slotting Analysis
- Best Practice Assessment
- Operations Assessment

FACILITY CONCEPT DESIGN
- High-Level Facility Sizing
- Space Plan
- Facility Concept Design

BUSINESS CASE DEVELOPMENT
- “Stay-Go” Decision Analysis Resolution
- Clear Height Value Comparison
- Automation vs Labor DCF Analysis
- Comprehensive DCF and ROI Financial Analysis
IMEC SUPPLY CHAIN SERVICES

SUPPLY CHAIN OPTIMIZATION
SUPPLIER RESEARCH & SCOUTING
FACILITY SELECTION & LAYOUT
LEAN PROCESSES/CONTINUOUS IMPROVEMENT
VALUE STREAM MAPPING
5S/WORKPLACE ORGANIZATION
QUALITY MANAGEMENT
INVENTORY CONTROL

CONTACT EMILY LEE AT ELEE@IMEC.ORG TO START THE CONVERSATION.

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SUMMARY

- Align business strategy with supply chain strategy. Understanding the trade-offs between freight costs, inventory, real estate, labor and service requirements is critical.

- Corporations will always seek out the lowest total operating cost model that meets the service level requirement.

- All things being equal, facilities are typically closer to customers via transport infrastructure:
  - Improves speed to market and customer service levels
  - Reduces complexities and risk
  - Shrinks inventory levels
  - Lowers freight costs

- Industrial real estate market has been tightening, rates have been rising.

- Industrial labor wages are on the rise; availability, competition and skills are becoming challenging.

- With the increasing costs, incentives may have a bigger role.