

SUPPLY CHAINS

FROM EVERY ANGLE



The Cost of Not Thinking Through
Material Handling Investments

Presented by:
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Paralysis Analysis

NO

The Cost of Not Thinking Through
Material Handling Investments



Agenda



Make sound decisions
and be thorough



Know how to navigate
the environment



Choose the right partner
for the journey

G R O W T H

C A P A C I T Y

C U S T O M O R D E R S

S E R V I C E L E V E L

L

C H A N N E L S

B

P R O D U C T

S T O C K

R

S

U



Make sound decisions and be thorough



Getting early steps right

Stress test the
business case

Complete due diligence
on design

Automation is NOT an
All-or-Nothing Prospect



Make sound decisions and be thorough

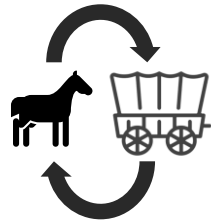


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First Things First...

1

Problem

What are you trying to solve?

2

Process

What are the steps involved?

3

Technology

Can technology make it better?



Feasibility Analysis

- ✓ Quantify the total cost
- ✓ Establish a range of potential savings
- ✓ Define an expected payback
- ✓ Narrow down required investment

Annual Cost
\$2.5M

Annual Growth
5%

Potential Savings
30-50%

Payback Period
5 Years

Investment Threshold
\$4.1-6.9M



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No Crystal Ball

- ✓ Forecast inaccuracy
- ✓ Economic uncertainty
- ✓ Unexpected acquisitions

Define “What If” Scenarios

- ✓ Different growth rate
- ✓ % of savings accomplished
- ✓ Incremental CapEx needed
- ✓ Inflation
- ✓ Labor Cost

Identify Tipping Points

- ✓ How much change of a variable(s) breaks the business case?
- ✓ What’s the payback if growth is different?
- ✓ What happens if CapEx is \$2M more?

Understanding the business case tolerance to changes can help the decision-making process...



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Bidding processes (RFPs) are a common method for selecting vendors for material handling systems, aiming to evaluate technical capabilities and ensure competitive pricing.

Challenges

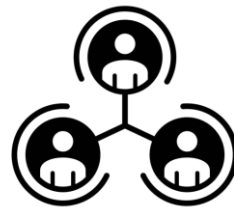
- ✗ Vague requirements
- ✗ Vendors making different design assumptions
- ✗ Hidden scope gaps
- ✗ Check the box mentality



Overly Optimistic Responses

Marketing over Substance

Importance of considering input from several stakeholders.

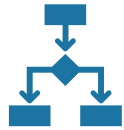


DC-Centric Justification

- ✗ "Inside the Four Walls" mentality
- ✗ Ignores potential impacts on other business units
- ✗ Limited and/or skewed results

Business-Wide Justification

- ✓ Holistic view of benefits throughout the supply chain
- ✓ More levers to justify new capabilities
- ✓ Easier buy-in from senior leadership



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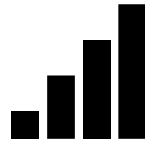


Getting early steps right

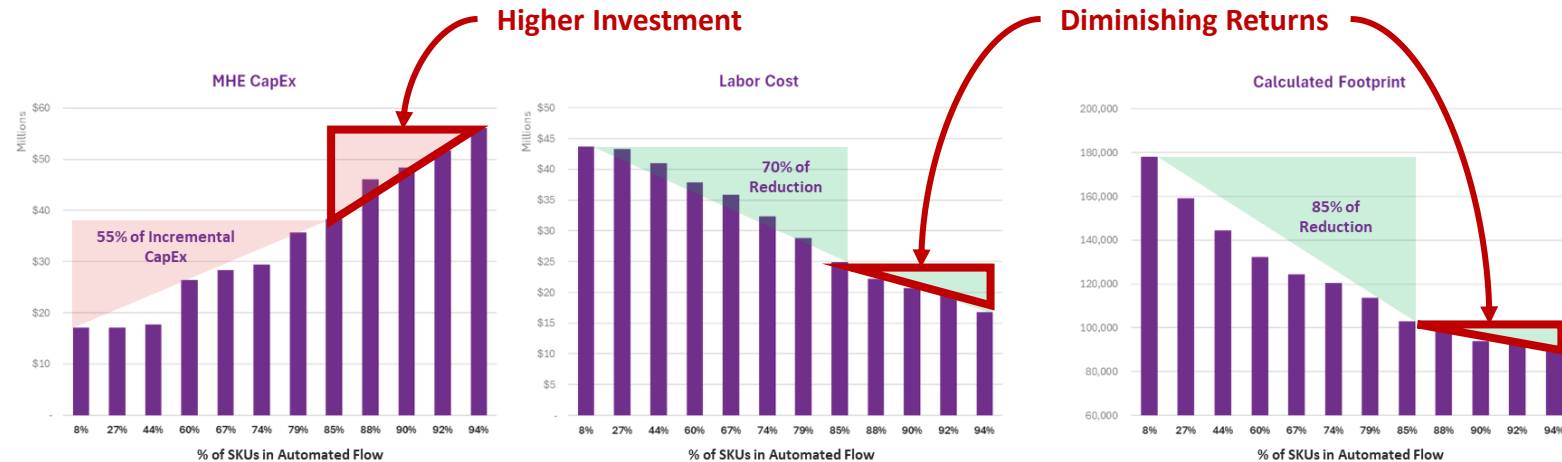
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Another example of thorough due diligence is evaluating incremental solutions that might yield better returns, this is especially important for highly automated systems.





Know how to navigate the environment



Rising Cost of Capital

Economic Volatility

Evolving Technology

Advice Overload



Know how to navigate the environment



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Economic Volatility

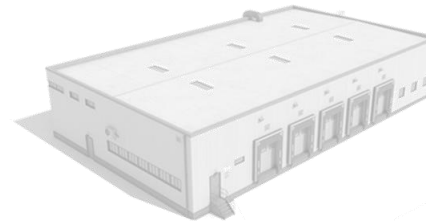
Evolving Technology

Advice Overload



**Build New DC to add capacity
\$50M Investment**

Higher interest rates could open the door to a different approach...



Defer investment on new DC

Targeted projects on existing facilities to bridge constraints

- ✓ Financial benefit of deferred investment
- ✓ Expand lifespan of current assets
- ✓ Address equipment obsolescence





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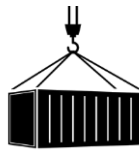
Evolving Technology

Advice Overload

Economic uncertainty doesn't have to be a showstopper for investment on Material Handling Systems



Assess and understand the true impact of different factors



Tariffs

- ✓ Identify equipment subject to tariffs
- ✓ Quantify net effect on the overall project



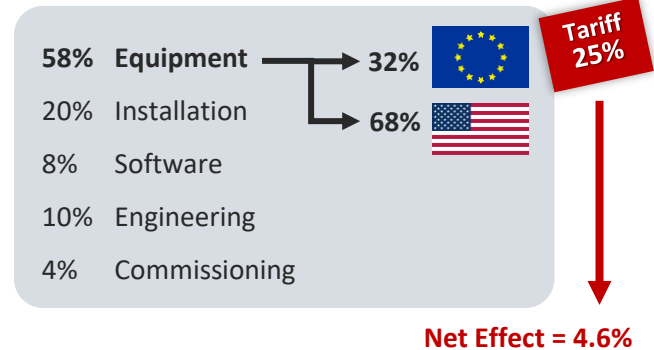
High Inflation

- ✓ Higher equipment prices
- ✓ Higher labor and building costs



Labor Market

- ✓ Higher turnover, more training
- ✓ Inability to find adequate candidates





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Crowded vendor landscape

- ✓ Private equity injecting capital, accelerating new entrants
- ✓ Players from all over the world



Robotics and hybrid systems

- ✓ Entering spaces once dominated by traditional applications
- ✓ Becoming mainstream technologies



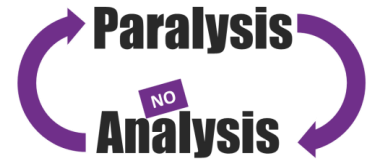
New technologies with greater scalability

- ✓ More attractive for smaller operations
- ✓ Less disruptive phasing

Technology is evolving rapidly and its reshaping system design and decision-making compared to 10–15 years ago.



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Advice Overload

Speech bubbles and text elements:

- You don't need conveyors for that
- As published in the "Supply Chain Experts" magazine
- We'll use the best equipment available
- WES WMS WCS TMS LMS OMS
- We are turnkey
- Our robots can do it all
- Our systems uses AI
- More installs than any of our competitors
- Maintenance is included
- We have a million followers in Social Media
- Our equipment doesn't take lunch break
- You can go-live in less than 6 months
- Seamless systems integration
- You can fit our system in any building shape
- One throat to choke
- Proven approach
- We'll design it for "free"
- We won 3 awards
- Digital Twin Technology
- AS/RS Cranes or Shuttles
- Our robots don't waste time digging totes



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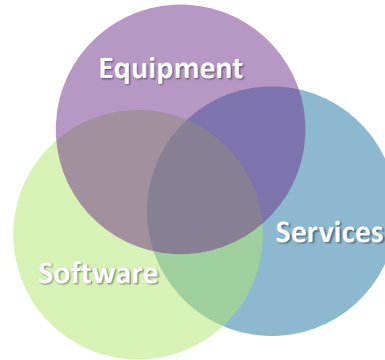


Rising Cost of Capital

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Overlapping offerings

- ✓ Material Handling System Integrators
- ✓ Robotics Companies
- ✓ Conveyance & Sortation OEMs
- ✓ Consulting Firms
- ✓ WMS/WES/WCS Providers
- ✓ Point-Solution Vendors



Understand
what you are
looking for



Define what is
important and
what's not



Choose the right
partner for the
journey



Choose the right partner for the journey



Company Culture

Familiarity With
Project Type

Data-driven Rationale

Sound Engineering



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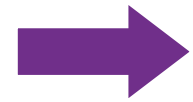


Company Culture

Familiarity With Project Type

Data-driven Rationale

Sound Engineering



- High retention
- Work ethics
- Pride in the work delivered

How does company's culture impact the delivery of a project?



- ✓ Consistent team throughout the project lifecycle
- ✓ True partnership during good and challenging times
- ✓ Accountability for results



Choose the right partner for the journey



Company Culture

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Freezer Rated
Applications



Industry
Specific



Complex
Retrofits



Special
Handling
Products

Experience matters:

- ✓ Understand technical nuances
- ✓ Anticipate challenges and plan effectively
- ✓ Avoid project delays and budget overruns



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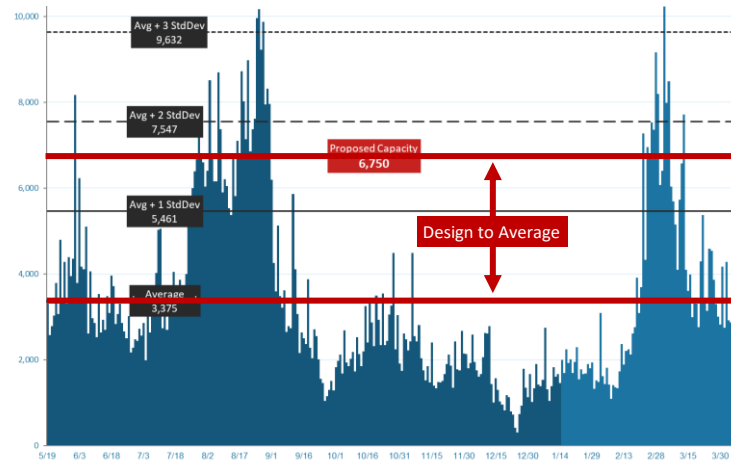
Having a solid analytical foundation for sizing key design parameters, could determine the success of projects.



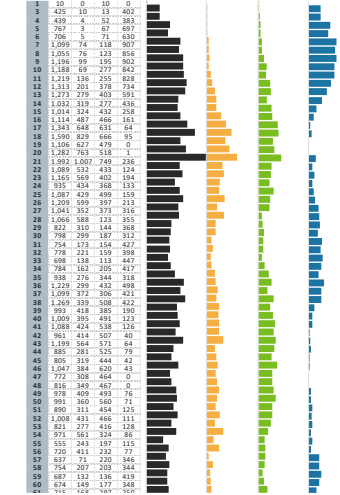
Throughput Requirement

- ✓ What is the trade-off between service level and excess capacity for most of the year?
- ✓ What is the intraday peak based on order cut-offs, wave releases and shift schedules?

Design to Average



Intraday Fluctuation





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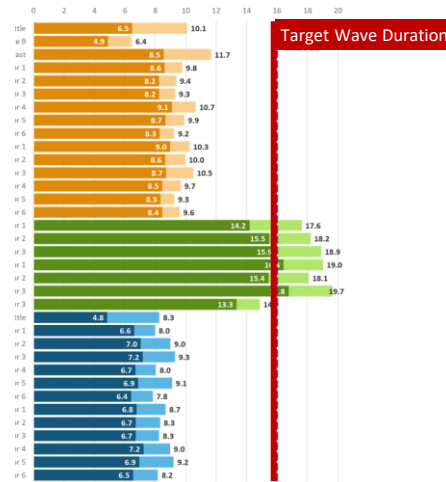
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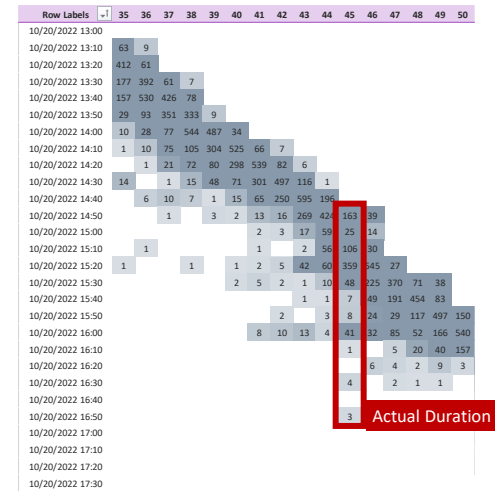
Cycle Time and Waving

- ✓ Is wave duration properly balanced with the cycle times across different areas?
- ✓ How long is it actually taking to complete a wave?

Cycle time by Area



Wave Size and Actual Duration





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At the end of the day, the success of a Material Handling system rely heavily on sound and accurate engineering skills.



Reduce
Complexity



Enable Maintenance,
Egress, Safety



Optimize Product and
People Flows



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