The Business Case for Automation: The Practical Considerations

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Why invest in automation?

• Reduce dependence on labor
  • Wage rates are increasing
  • Competition for labor is fierce
  • Hidden costs of labor – retention, training, absence, FMLA, worker’s comp risk

• Better utilize space
  • Optimize clear height
  • More inventory in “pick” (reduce replenishment delays)
  • Extend life of facilities

• Increase throughput
<table>
<thead>
<tr>
<th>Benefit</th>
<th>Semi-Automated</th>
<th>Automated</th>
</tr>
</thead>
<tbody>
<tr>
<td>DC size (sq. ft.)</td>
<td>400,000</td>
<td>200,000</td>
</tr>
<tr>
<td>Throughput Capacity</td>
<td>20,000 orders per day</td>
<td>35,000 orders per day</td>
</tr>
<tr>
<td>Labor Cost per Unit shipped</td>
<td>$0.40 per unit</td>
<td>$0.15</td>
</tr>
<tr>
<td>Order processing speed</td>
<td>4 hours</td>
<td>30 minutes</td>
</tr>
<tr>
<td>Headcount</td>
<td>500+</td>
<td>150+</td>
</tr>
<tr>
<td>Shifts</td>
<td>2 shifts – 10 hr (7 days)</td>
<td>1 day – 10 hr (5 days) 1 night – replen only</td>
</tr>
</tbody>
</table>
What is a business case?

According to Wikipedia…

“A **business case** captures the reasoning for initiating a project or task.”

“A compelling business case adequately captures both the ***quantifiable*** and ***non-quantifiable*** characteristics of a proposed project.”

- Quantifiable = ROI
- Non-quantifiable = Practical Considerations
Let’s get practical!

• May be of greater significance than ROI
• Often the tie-breaker
• Provide a holistic view of all benefits
• May identify a showstopper
What factors should I consider?

• Order profiles and product characteristics
• Service level
• Building specifications
• Technology
• Labor
• Human factor
What order and product types?

- Order size
  - Lines and units per order
- SKU count
- Product size and weight
- Fragility
Let’s compare service levels

• Processing speed (up to 10X)
• Accuracy (1-2% improvement)
• Quality (less touches = less damage potential)
What are the building spec’s?

- Space available & integration with other processes
- Clear height
- Floor flatness and variation
- Electrical requirements
- Seismic considerations
- Fire protection
How important are systems?

• Sophistication of current systems
• Integration with other systems
  • Host
  • WCS/WES
  • WMS
What are the hidden labor costs?

• Workers comp and FMLA
• Reliability
  • Absenteeism
  • Tardiness
• Retention and morale
• Training
Let’s not forget the human relations

• Technology can be threatening
• Interaction with people
  • Process
  • Safety
• May need to be “tech savvy”
Taking it home…

• Investing in automation has a **VERY** strong business case
• More to a business case than ROI
• Practical considerations may be a show stopper or tie breaker

• Consider the impact of:
  • Order and products
  • Building specifications
  • Technology
  • Labor challenges, and
  • The humans that remain
For more information

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