Using Technology to Make Your Warehouse More Competitive, Efficient and Agile

With today's highly dynamic supply chains, warehouse operators need to leverage a variety of strategies and technologies to be able to adapt to changing market demands. From warehouse management software to robotics, automation, AI, and machine learning, tech offerings are wide-ranging and many.

Technology is developed to solve problems, improve efficiency, streamline processes, enhance productivity, and do so much more. In the fast-paced realm of fulfillment, there are a myriad of tools from which to choose, depending upon the problem at hand.

Gone are the days when 3PLs and warehouse operators could manage without the help of technology. When labor costs were low and supply chains were much less complicated, warehouse operations were simpler and tended to be oriented more toward a steady-state. This did not require as much flexibility and getting by without or with less technology was not as problematic as it is today.

What Triggers Companies to Consider Using Technologies to Solve Warehouse Problems?

With the advent of D2C e-commerce during the pandemic, the game changed. Labor costs and shortages, the push to fulfill orders rapidly and the need for visibility strained and often hamstrung warehouse operators who had not invested in modern technologies. These companies often find it challenging to keep pace with competitors.

If you are like other warehouse operators, you may consider investing in technologies due to one or more of these challenges:

- Capacity Constraints
- Need to Be More Competitive
- Cost Containment
- Operational Inefficiencies
- Customer Demand for Visibility and Transparency
- Compliance with Regulatory Requirements
- Competitive Pressure and Market Trends
- Demand for Data-Driven Insights
- Supply Chain Resilience and Agility
- Sustainability and Environmental Concerns

So, you know you have big challenges in your warehouse operation and are not sure if technology is the answer. What should you do next?

Educate Yourself Before You Buy New Technologies for Your Warehouse Operation

If you are considering implementing technology in your warehouse, first do your homework. Before investing in technology, gather information about pain points and challenges faced in your warehousing operation that technology could resolve. These issues typically include inventory inaccuracies, order fulfillment delays, lack of visibility, and labor shortages.

Examine how you can reduce overhead costs and increase efficiency. For example, take a closer look at your warehouse and transportation infrastructure to reduce labor costs, enhance business intelligence capabilities, and optimize your network. Consider alternative fulfillment models.

Once you have gathered the necessary information, you need to evaluate if your organization has the money, resources, understanding of your business, and time to work on this issue.

Establish clear objectives and goals for technology implementation. Know what you want to accomplish and determine what metrics you can use to monitor this effort.

Know your internal capabilities. Implementing technology requires more than simply hiring a vendor. Your team will need to have a detailed understanding of your business, processes, and clients to be able to communicate the desired outcome and changes you are seeking. If your team does not have this capability, consider outsourcing this effort to a consultant skilled in technology evaluations and implementations. Not all consultants are equal. Make sure whoever you hire is knowledgeable about your specific type of business and is familiar with processes, operations, and the technologies in which you are interested in investing.

Warehouse Technologies with Potential for High Return on Investment

Numerous types of technologies used by warehousing and third-party logistics operations have the potential for high return on investment (ROI). The specific ROI varies and depends on factors such as the existing infrastructure, size of the operation, and industry requirements.

Here are some technologies that commonly yield significant ROI in warehouse operations:

1. **Warehouse Management Systems (WMS):** Used to optimize warehouse operations, including inventory management, order fulfillment, and labor allocation, warehouse management systems tend to be a worthwhile investment. Typically, the return on investment comes from improved inventory accuracy and operational efficiency, increased order accuracy, and reduced labor costs.

2. **Automation and Robotics:** As D2C activity and labor shortages remain issues of concern, automation technologies such as conveyors, automated guided vehicles (AGVs), and robotic picking systems are now commonly used to improve efficiency and reduce labor costs. Regarding automation and robotics, ROI stems from increased throughput, reduction in errors and labor costs, and improved order accuracy.

3. **Inventory Management and Optimization Tools:** Warehouse and 3PL operators leverage demand forecasting and inventory optimization software to help optimize inventory levels, reduce excess stock, and minimize stockouts. In this instance, ROI comes from reducing carrying costs, minimizing obsolescence, improving inventory turnover, and enhancing customer service levels.

4. **Cloud-Based Solutions:** Not just for TMS anymore, many warehouse management solutions are now Cloud-based. These cloud software platforms provide scalability, flexibility, and accessibility without the need for significant upfront investment in IT infrastructure. No longer do IT departments have to deal with WMS upgrades. Now they can focus on mission critical work and projects throughout the warehouse. ROI comes from simplified software updates and maintenance, reduced IT infrastructure costs, and improved operational agility and collaboration.

5. **Real-Time Location Systems (RTLS):** To reduce the time that warehouse workers spend looking for lost or misplaced inventory and equipment, RTLS is now being implemented in warehouses. RTLS technology uses RFID or Bluetooth beacons to track the real-time location of inventory, equipment, and personnel within the warehouse. ROI comes from improved inventory visibility and asset utilization, reduced search time, and enhanced security and loss prevention.

6. **Data Analytics and Business Intelligence:** Real-time information flows across the warehouse. Now 3PLs and warehouse operators are tapping into that data to get more insight into operations. Using advanced analytics tools, warehouse operators can analyze data from various sources to uncover insights and identify opportunities for optimization. ROI is achieved through faster, more effective real-time data-driven decision-making, improved operational efficiency, enhanced resource allocation, and better customer service.

7. **Integration with Supply Chain Partners:** Warehouse operators and 3PLs are integrating technology platforms with suppliers, carriers, and customers to streamline communication and collaboration across the supply chain. ROI comes from reduced lead times, improved order accuracy and responsiveness to customer demand, and much-needed enhanced visibility.

Investing in these technologies can yield significant returns for warehouse operators by improving efficiency, reducing costs, enhancing customer service, and gaining a competitive edge in the marketplace.

A Closer Look at the Most Central Technology to Warehouse Operations: WMS

It's important to note that while implementing a WMS can yield significant benefits, achieving a positive ROI requires careful planning, effective implementation, and ongoing optimization. Organizations should conduct a thorough cost-benefit analysis, consider the specific needs and goals of their business, and work closely with WMS vendors and implementation partners to maximize the ROI of their investment.

Overall, the typical range of ROI for implementing a WMS varies widely depending on the specific circumstances of each organization, but **industry experts often cite potential cost savings and efficiency improvements ranging from 10% to 30% or more.**

The return on investment (ROI) for implementing a warehouse management system (WMS) can vary depending on factors such as the size of the operation, the specific needs of the business, the effectiveness of implementation, and the chosen technology solution. However, industry experts often cite a range of ROI for WMS implementations.

1. **Cost Reduction:** A well-implemented WMS can lead to significant cost savings by improving operational efficiency, reducing labor costs, minimizing inventory carrying costs, and optimizing space utilization. Some studies suggest that organizations can achieve cost savings ranging from 5% to 30% or more of their total warehousing expenses.

2. **Improved Accuracy and Inventory Control:** By automating processes, enhancing visibility, and reducing manual errors, a WMS can improve inventory accuracy and control. This can lead to reduced stockouts, lower shrinkage, and improved order fulfillment rates, resulting in higher customer satisfaction and retention.

3. **Increased Productivity:** A WMS can streamline warehouse operations, reduce order processing times, and optimize picking and packing processes. This can lead to increased productivity and throughput, allowing organizations to handle higher order volumes with the same or fewer resources.

4. **Enhanced Customer Service:** Improved order accuracy, faster order processing times, and better inventory visibility enabled by a WMS can lead to enhanced customer service levels. Satisfied customers are more likely to return or continue their patronage and are more likely to recommend the company to others, contributing to long-term revenue growth.

5. **Scalability and Flexibility:** A scalable and flexible WMS can adapt to changing business needs and accommodate growth without significant additional investment. This scalability can provide long-term value and enable organizations to remain competitive in a dynamic market environment.

Follow These Steps to Help Ensure Solid User Adoption and Successful Implementation

You've identified operational pain points and started to look at using technology to solve the problems. How do you make sure that you have a successful implementation and that users readily adopt this new way of doing business?

1. **Listen to stakeholders and get their buy-in on changes and technologies.** Make sure that you involve key stakeholders throughout the process. This includes engaging warehouse workers and staff, IT teams, senior leadership, and others in the decision-making process. Clearly communicate the potential impact of modern technologies on warehouse operations. Listen to concerns and understand that change can be an emotional and at times, disruptive process for human workers. Make sure that you convey the benefits, not only to the organization but also to the team members to help gain the support of the stakeholders.

2. **Develop a realistic, detailed technology implementation plan.** Before meeting with technology vendors, identify the timeline, milestones, and resources required for deploying innovative technologies in the warehouse. Identify all potential risks, challenges, and impacts and develop contingency plans to mitigate these issues. Clearly define roles and responsibilities for the stakeholders who will be directly involved in the implementation. If you are implementing more than one kind of technology, be sure you clearly communicate this to all vendors, integrators, and stakeholders. Make sure you get feedback on the timing of implementing each technology as well as the risks so that a solid plan can be crafted to ensure success.

3. **Pilot testing and proof of concept.** Collaborate internally and with the technology vendor to work on proof of concept (POC) projects or pilot testing. This will ensure that the effectiveness and feasibility of the technologies have been thoroughly tested in the way your company will use them in a real-world warehouse environment. Create a feedback loop so that information can flow to and from the stakeholders and involve the vendor. Make sure you consider the type(s) of training your stakeholders will need and make sure that the technology vendor you choose can readily meet your needs. Use feedback from stakeholders and end users during the pilot phase to identify areas that need improvement and refinement.

4. **Training and change management.** Make sure that comprehensive training and support are provided to warehouse staff in the manner that they would most find useful and from which they would most benefit. If you have team members who speak languages other than English, make sure you let the technology vendor know and be clear about how you expect this to be handled. Identify and execute effective change management strategies to facilitate and encourage the adoption of modern technologies by the workforce.

5. **Integrate with other systems.** Make sure your IT team collaborates with the technology vendor to ensure the seamless integration of technologies with all necessary systems and touchpoints. Working together will make it easier to configure, customize, and test integrations for interoperability and data consistency.

6. **Monitor and measure performance.** Identify the key performance integrators (KPIs) and metrics to help track the performance and impact of technologies on warehouse operations. Monitoring performance metrics regularly will help you identify areas that continue to need improvement.

7. **Continuous improvement and optimization.** Encourage feedback from stakeholders and end users. Regularly review and optimize warehouse processes and workflows.

Conclusion

Technologies are designed to solve problems and improve outcomes. Technology can connect silos and disparate systems. Integrating to other systems, software, and tools can provide you with more capabilities including the visibility you need to react more quickly using real-time data. Looking for optimal results? The best outcomes tend to favor a combination of technology, people, and processes.

By doing your homework, preparing your workforce, evaluating technology solutions versus the problems you are trying to solve, and determining a realistic timeline and budget, you can develop long-term partnerships with technology vendors and ensure successful implementation and user adoption.

For companies that lack the knowledge, skill, or time to conduct a thorough needs assessment before identifying and evaluating technologies, consider hiring a consultant to help with this critical effort. Investing in technologies for warehouse operations requires active engagement with the workforce, patience, and the establishment of realistic expectations. Partnering with technology vendors that have a history of excellent problem-solving capabilities and a record of successful implementations is critical. Remember, when investing in technologies it is not enough to solve the problems of the present. One must always be conscious of your company's future roadmap for growth as well as how technology can change in the future.

About Datex

Datex is a seasoned **supply chain technology firm**, boasting **45 years of expertise** in delivering software solutions to third-party logistics providers and clients spanning diverse sectors such as pharmaceuticals, food and beverage, regulated goods, precious metals, consumer goods, cold storage, and temperature-controlled commodities.

Our flagship innovation, known as **Wavelength, is a unified SaaS platform tailored for logistics providers.** This proprietary platform empowers logistics professionals to craft sophisticated applications by seamlessly linking disparate systems and designing interfaces through a **user-friendly, low-code studio.**

At the heart of our offering is Footprint WMS, a premier SaaS application hosted on Microsoft Azure, fully integrated, composed, published, and managed within our Wavelength platform.

With its intuitive drag-and-drop simplicity and zero downtime update capabilities, Footprint WMS empowers clients to swiftly deploy customized enterprise solutions to meet complex operational needs.

Datex's unwavering commitment to client satisfaction is underscored by our customer-centric approach, serving 200 global clients through a team of over 140 resources spanning North America, Spain, Chile, India, Bulgaria, Egypt, and the Philippines.

Contact Us

727-571-4159

www.datexcorp.com

marketing@datexcorp.com

datex