

10 STEPS TO IMPROVE OPERATIONAL EFFICIENCY.

Addressing Common Order Fulfillment Challenges
Without Investing in Automation

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INTRODUCTION

Regardless of the industry — retail, apparel, health and beauty, electronics, pharmaceuticals — the current e-commerce boom and subsequent push to fill as many orders as fast as possible are creating a variety of common challenges to operational efficiency throughout distribution centers (DCs). Among them:

- **Expectations for free same- or next-day delivery** as consumers grow accustomed to the service levels offered by leading online retailers
- **Changing order profiles**, from full pallets to case quantities to individual items (eaches)
- **Full product availability and complete order delivery** are also expected by customers, who will shop elsewhere if the item they want is out of stock, or will be unhappy if an item is missing from their shipment
- **Intense competition for consumers**, with operations striving to offer ever-higher levels of service to increase customer loyalty
- **System design limitations**, with many operations running systems designed for fulfillment conditions that were strikingly different just a decade ago
- **Limited flexibility**, as operations struggle to right-size facilities and technologies to accommodate peak order periods today yet also meet future business changes
- **Shifting labor demographics and availability**, as older generations retire, and younger generations are disinclined to consider warehouse work (or expect considerably higher pay than market rates)
- **Data proliferation** and the task of converting the numbers into meaningful insights that can improve productivity

Up against all these common order fulfillment challenges, many of today's DC managers are considering adding automation into their operations in an effort to improve performance metrics. Next-generation technologies and automated material handling solutions — including robotics, autonomous sortation solutions, automated storage and retrieval systems and more — can certainly deliver significant improvements to operational efficiencies in order fulfillment, as well as address labor and flexibility issues. However, there are other, less complex measures that can be taken as well. To that end, this white paper explores 10 steps that can be taken to increase operational efficiency today and into the future.



STEP 1: KNOW THE OPERATION

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When DC managers conduct an operational evaluation, they are surprised to discover they don't really know their operation as well as they thought they did. To truly understand an operation, management must routinely look at what metrics, or key performance indicators (KPIs), are being measured – not only at the department level, but also across the facility.

Metrics are valuable business intelligence tools that provide operational feedback, including identifying areas for improvement. Yet operations can fall into metrics silos, where each department is focused solely on its own productivity, to the detriment of the operation as a whole.

Depending on the business, different operations track different metrics across a variety of categories, such as inventory, order fulfillment, receiving, productivity and overall (see sidebar: Key KPIs – How to Measure Effectiveness). In fact, many operations maintain a book of metrics. All too often, however, only the first few pages are tracked consistently – and some of those may no longer be relevant to current business practices. Therefore, a simple review of what is being tracked might reveal that it's time to make adjustments in order to achieve greater operational efficiencies going forward, whether that's tomorrow, in three years or 10 years from now.

Metrics can also help with flow management, as orders and their component parts move throughout a facility before coming together at the point of order consolidation, pack-out and outbound shipping. Access to dashboards that display real-time performance metrics allows DC managers to identify bottlenecks and quickly address them before they have a negative impact on overall throughput and productivity. Many of today's warehouse management systems (WMS) and labor management systems (LMS) can offer graphical displays of flow or send alerts about slowdowns that fall below predetermined thresholds. Managers equipped with monitors, tablets or smartphones can easily see and address these issues immediately and balance workloads accordingly.



KEY PERFORMANCE INDICATORS – HOW TO MEASURE EFFECTIVENESS

There are a variety of KPIs an operation can choose to measure and track, both by individual department and facility-wide. The following are the most frequently used metrics and their associated calculations across five areas:

INVENTORY

- **Paid inventory ratio:** On-hand inventory — paid vs. not paid
- **Inventory accuracy percentage:** Actual SKU units/system SKU units
- **Inventory days on hand:** Monthly inventory costs (average)/daily sales per month
- **Inventory visibility:** Inventory system receipt time — physical receipt time
- **Damaged inventory percentage:** Total damaged inventory costs/total inventory value at cost
- **Frequency of turns:** Amount of time inventory spends in storage between orders
- **Obsolescence and disposition:** Predetermined amount of time at which point excess inventory is marked for price reduction, transferred to a company-owned/branded discount outlet, or sold to a third-party liquidator

ORDER FULFILLMENT

- **Order fill rate:** Orders filled complete/total orders shipped
- **Order accuracy:** Orders error-free/total orders shipped
- **Order cycle times (hours):** Actual ship date — customer order date
- **On-time delivery:** Orders on time/total orders shipped

RECEIVING

- **Dock to stock hours:** Total dock to stock hours/total receipts
- **Dollar value per unit received:** Total received inventory value/total units received



PRODUCTIVITY

- **Units per labor hour:** Orders, units, items or lines picked or packed/total DC labor hours
- **Sales per labor hour:** Total sales/total DC labor hours

OPERATIONAL

- **Cost per labor hour:** Total variable costs/total labor hours
- **Direct versus indirect labor costs:** Total costs associated with order fulfillment versus costs associated with support roles (management, clerical, etc.)
- **Storage utilization percentage:** Total storage locations occupied/total available storage locations
- **Rate:** Volume/hours worked
- **Utilization percentage:** Hours worked/hours paid
- **Productivity:** Rate X utilization
- **Costs as percentage of sales:** Total costs/total revenue
- **Cost per unit or case:** Total costs/total units or cases shipped
- **Controllable cost per unit or case:** Total controllable costs/total units or cases shipped

STEP 2: TRAIN, TRAIN AND TRAIN AGAIN

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Nearly all DC managers agree that employee training is valuable (and often, in the case of safety and new hires, mandatory). In the day-to-day, however, as the pressure is on to get as many orders filled and shipped as fast as possible, taking time to train and re-train on processes and procedures can fall to the wayside.

Yet regularly revisiting how to operate current systems can ensure greater efficiencies among the personnel using them.

Likewise, schedule reviews of the current training manual to ensure it is as up to date as possible; many facilities haven't made updates in several years. It's also important to standardize equipment and operating systems, so that the handheld scanners used in receiving are the same used in picking and put-away, for example. That enables universal familiarity with these tools and saves training time. Posting "cheat sheets" with training steps and quick tips can also be helpful, particularly for newer or temporary employees. Keep the verbiage to a minimum on cheat sheets; illustrations or photos of how a process should be done (and even how it shouldn't be done) are easy to understand and use.

Explaining the "why" behind the "how" should also be included in the training process. If three separate steps are required to receive an item because a specific metric needs to be captured, share the reasoning behind that process with associates. Team members with a higher degree of understanding about why a task is important to the overall success of an operation are more invested in performing that process correctly.

Another way to increase operational efficiency is to cross-train associates (and include those additional duties in their job descriptions). By ensuring that team members who work in receiving are also able to handle the duties required of those in shipping or, likewise, picking and replenishment, an operation gains greater flexibility to manage excessive demand elsewhere in the facility. Other cross-training benefits include the ability to mitigate a shortage of labor in a given area, as well as the opportunity to gain a fresh perspective on individual operations within the DC.



STEP 3: GET IN THE PEOPLE BUSINESS

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While most DC managers say their people are the most important key to an operation's success, not all DC managers empower their people with the knowledge of which metrics are crucial to the overall business' success — and why.

Regardless of what is being measured, every employee at every level should know what the top five key metrics are facility-wide, as well as how their individual role contributes to those measurements.

When it comes to middle management, make sure that the overall operational metrics are both understood and communicated effectively and appropriately. Although top leadership sets the direction, it's up to the management team to convey those goals to floor-level personnel. One of the easiest ways to do this is to hold a quick team meeting at the start of every shift, every day. Managers should use this time to reiterate how the team and the operation are doing across the key metrics, review what happened during the previous shift, and highlight both successes achieved and opportunities for improvement.

Further, the individual goals for each level of management should be aligned to match the organization's top five operational goals. Scheduling quarterly and 360-degree reviews helps to prevent silos of metrics by department; it also ensures that managers and their teams stay on track. Keeping the top operational goals front of mind will also help managers as they review their own employees to ensure they know what is expected and provide feedback on their progress.

Additionally, regular and timely reviews of metrics — and processes — are critical for operations tying individual and team productivity goals to specific measurements, particularly those with incentive programs. If employees are motivated to find ways to improve on specific processes or functions, they will. Posting digital dashboards with productivity metrics can not only motivate workers to achieve greater efficiency, but also helps them stay aware of any issues that may require them to work late or give them an opportunity to volunteer for overtime.

Finally, while it may seem like common sense, in a workforce environment where labor has become exceedingly difficult to recruit and retain, it is crucial that supervisors and managers know their employees' names. Treating people as individuals increases employee engagement, making it every bit as important to boosting operational efficiency as training and educating them on key operational metrics.



STEP 4: FOCUS ON ORDER FULFILLMENT

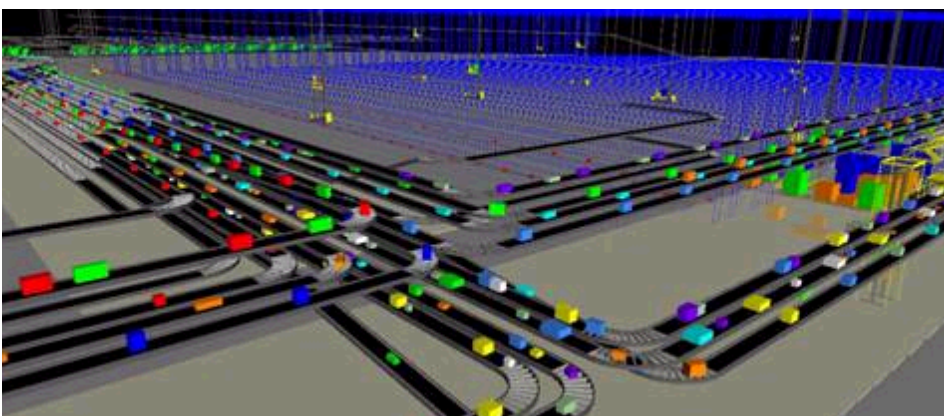
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Distribution and fulfillment centers are in the business of filling orders, and picking and packing are key metrics within an operation. Not only is it important to know those numbers, it's also critical to understand what influences them.

For example, during peak seasons, the number of units per line item typically goes down, with more individual lines containing a single quantity. Although that might appear to increase productivity, it actually represents more shipments of fewer units, i.e., it's more costly to ship orders during peaks. Conversely, during peak season, there may be more one-line orders consisting of one unit. That's more efficient than the average day that has a smaller percentage of one-liners with multiple units, because a single item to a single destination is easier to process, pick and ship.

Picking time can also be wasted if inventory has not been properly profiled and slotted within the facility. After first determining the velocity of each item (from very fast movers that are ordered frequently and in high quantities to very slow movers that are rarely ordered but must be stocked to meet customer expectations), inventory can be stored in appropriate locations. The fastest movers should be stored in highly accessible areas and at a height that requires minimal physical effort to pick, known as the Golden Zone (i.e., between the shoulders and hips), or in an appropriate automated storage/retrieval module.

Even greater efficiencies — and better flow management — can be attained by properly slotting the relatively large number of low-velocity SKUs that typically represent 10 percent of total unit volumes. Another consideration is to allocate more than one pick position to a particularly fast-moving item during peak periods. But don't become complacent. Maintaining and reevaluating inventory slotting on an ongoing basis are equally important, as inventory profiles change continuously.



STEP 5: IMPROVE CUSTOMER SERVICE

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Some of the best process improvement ideas can come from customer service feedback. As the front-line interface with customers, this department often has insights that may not be obvious on the floor.

For example, order accuracy due to mis-picked items might be a key customer service issue. After an evaluation, the item in question might be packaged in a three-pack, but a pick order of one might not be clear: does it mean one of the three, or one box of three? To eliminate picking confusion, display an image of what the pick should look like.

The process for managing returns should include collecting data about why the item was sent back for later analysis. Ask customers if it was the wrong size, wrong fit, wrong color, arrived too late, and so on. Having that information provides an opportunity to document trends as a means to identify areas for improvement.

Exchanging information with suppliers is also a valuable way to ensure customer satisfaction, specifically receiving data, including overage, late, wrong pack, wrong ship, not in system, shortage, etc. By simply walking through the truck unloading process together on-site, both sides can work together to find solutions to a variety of issues, either as an alternative (or in addition) to compliance chargebacks.



STEP 6: REMOVE THE BARRIERS TO SUCCESS

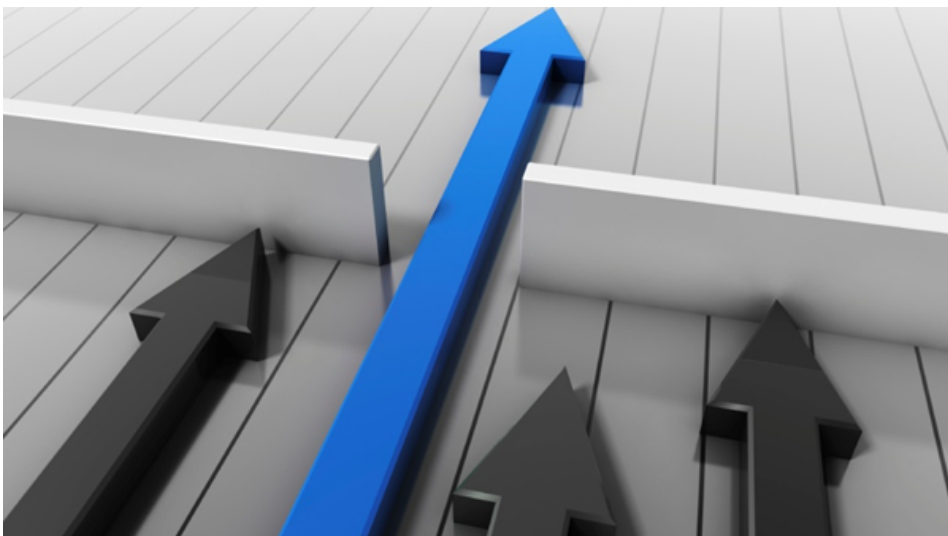
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Another factor that negatively impedes order fulfillment efficiency is time spent hunting for supplies. By spending an hour or two watching pickers and packers in action, management might be surprised to discover how much time is wasted in the hunt for a roll of tape or a pen.

By outfitting workstations with the right tools and regularly replenishing consumable supplies, a simple barrier to increased productivity can be easily mitigated. Consider embracing the practices associated with Lean, Six Sigma, 5S or similar methodologies and other approaches to cutting waste and boosting efficiencies.

Further, equip workers with “cheat sheets” of visual instructions that answer frequently asked questions and show how to resolve the most common equipment faults or errors. Easily accessible resources prevent an employee from having to stop and find a supervisor for assistance.

Aligning the skill sets and expertise of top-performing associates with the most applicable jobs also maximizes productivity. The latest warehouse execution software can support this by guiding experienced pickers to complete tasks in fewer steps (because they’re familiar with the operation), while requiring less experienced workers to follow a more detailed process. Alternately, consider having the most productive associates handle picking, while assigning those who are less proficient to value-added services or packing.



STEP 7: RAISE THE BAR

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Always question the status quo. If the metrics in a specific area or department are lagging, DC managers should take an hour or two to observe the process in action and ask associates why they perform a given function in a certain fashion.

If the associate says, “We’ve always done it this way,” in response, it’s probably time to re-evaluate that process. Invite feedback and ideas from floor-level team members; as the people who do the work on a daily basis, they are certain to have ideas for small changes that can yield big results.

Additionally, stay informed about industry best practices by participating in conventions and with one of the many associations in the field. Trade magazines and suppliers are also valuable resources for examples of other operations that have found success through small and large process and equipment changes.

Creating opportunities for friendly internal competition can also inspire associates to seek and suggest efficiency improvements. Initiatives might include tying productivity to performance-based pay raises or bonuses, posting team accuracy and throughput statistics for all to see, or offering rewards for process improvements that enhance operational efficiency. Further, utilizing an LMS for benchmarking of employee performance by individual, team, shift, department or other criteria can aid in identifying additional training needs or other opportunities for improvement.



STEP 8: CONDUCT PROCESS REVIEWS

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One of the simplest ways to confirm that everyone within an operation knows how the facility should function is to draw a process map. Start with receiving, then map out every touch that happens; carry that same mapping process through to all other areas and departments within the operation.

Next, ask the associates who perform these processes daily to review the map. They will likely make multiple changes, because as they've built proficiency in different areas, they've figured out shortcuts. And those shortcuts might be time savers or prevent required data from being collected. Either way, observing and asking associates to demonstrate how they perform a process has the potential to yield significant efficiency improvements and an update in procedures.

Frequent reviews of processes and data are important to assessing operational performance, both with management and associates, to identify opportunities for efficiency improvements. A review is not posting the statistics on a wall or displaying them on a monitor; rather, it's a chance to share insights into how the operation is performing company-wide and solicit feedback for possible process improvements at every level. This helps ensure the entire facility is working toward the same overarching goals of increasing productivity and efficiency.

Finally, review metrics shortly after major fulfillment events, such as a peak holiday season. This provides an occasion for all team members to see how the increase in order volume and subsequent throughput were handled, critique their own performances, and make suggestions for adjustments to be made prior to the next peak season.



STEP 9: BENCHMARK PERFORMANCE AGAINST SIMILAR OPERATIONS

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Another way to evaluate an operation's metrics is to compare internal data to that of others. By benchmarking against similar operations or industries, opportunities for improvement can be revealed. Several industry associations offer benchmarking resources and evaluation services that provide comparative insights.

Additionally, for an unbiased evaluation, consider engaging a third party to observe handling processes, note areas for improvement, and suggest best practice ways to improve. This could be either an independent consultant or an equipment supplier; both are likely to have seen multiple facilities and processes and can bring fresh ideas that impact the entire operation, not just the metrics in a single area.

Whether they choose to go it alone or bring in an independent reviewer, DC managers should take a holistic measure of the entire operation, rather than focusing on KPIs on a department-by-department basis. Only by looking end-to-end can an operational evaluation provide insights that directly impact the bottom line.



STEP 10: EVALUATE CURRENT SYSTEM FUNCTION

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Investing in the design and installation of material handling equipment and systems for DC order fulfillment is no small proposition. That's why many operations are still attempting to meet today's challenges in facilities designed to handle the very different fulfillment needs of a decade ago. (It's also why many operations managers have become so adept at repurposing their assets and creatively utilizing every square inch of space to manage perpetually fluctuating volumes.)

But if the opportunity to invest in a facility expansion or equipment upgrade presents itself, the first step is to review your current process and equipment design to determine if they are impediments to improvement. Engage a third party – either a consultant or supplier – to conduct an operational audit of the entire system and suggest modifications that can improve efficiencies with a minimal outlay of capital. These might include small adjustments to a current sorter's operation, modification of picking carts to accommodate batch picking, or the addition of light-directed put walls for decanting batch picks into discrete orders.

Finally, before undertaking any major changes, utilize facility simulation to trial possible equipment installations or alternative processes. The latest simulation software offers a safe way to explore a variety of design changes, from minor tweaks to major overhauls, as well as run different order profile scenarios. This ensures that any decisions will not ultimately hurt the business, and allows an operation to specify the best solution for their budget.



CONCLUSION: IMPROVED PERFORMANCE = BOTTOM LINE REWARDS

To conclude, consider an example of how a small improvement in productivity can significantly boost the bottom line.

The result? If a company makes \$10 for every \$100 of sale, and each operation implements small process improvements that yield a savings of just \$250,000 per year, that's the equivalent of selling \$2.5 million — essentially saving \$1,000 a day for 250 days. Nearly every operation has areas in which \$1,000 of daily savings can be found by implementing just a few of these 10 simple steps outlined herein.

The result? A big impact on the bottom line.

For more information or to schedule an operational evaluation from one of Honeywell Intelligrated's system design experts, contact Honeywell Intelligrated at 1.866.936.7300.



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10SWP | 11/19

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