INCISIV

Industry Brief

Revolutionizing Fulfillment Operations with Workforce Augmentation

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Is this report for me?

Incisiv's "Revolutionizing Fulfillment Operations with Workforce Augmentation" delivers analysis and insights drawing from a study of 128 executives across Retail, Manufacturing, Third-party Logistics (3PL), and Distribution sectors. This report is tailored for those who are:

- Strategizing to enhance warehouse productivity, efficiency, and worker safety, looking ahead to redefine their operational landscape.
- Crafting a human-centric roadmap for integrating automation technologies in their operations.
- Assessing or forming a business case for cutting-edge technologies like Augmented Reality (AR) wearables, aiming to refine fulfillment processes.

Let's dive in.

Unless stated otherwise, all data in this report is from Incisiv's “Revolutionizing Fulfillment Operations with Workforce Augmentation" study, in partnership with Vuzix. Detailed survey methodology, industries covered, and respondent firmographics are available at the end of the report.

Efficient Fulfillment Must Become a Strategic Logistics Priority

Today, logistics is more than a mere backend operation; it’s the cornerstone of customer satisfaction and competitive differentiation. The rise of eCommerce has transformed the logistics landscape, thrusting fulfillment operations to the forefront of business strategy. With the growing volume, velocity, and variety of orders, companies face the daunting task of evolving swiftly to keep up with market demands. This evolution is not just about speed and efficiency; it's about redefining the very approach to fulfillment in a rapidly changing environment.

The challenge of fulfillment today goes beyond meeting next-day or same-day delivery expectations. It's about navigating a complex mix of factors: labor shortages, rising cost of labor, and traditionally high turnover rates in warehouses. These macro trends add layers of complexity to fulfillment operations, making them a critical focus for any business looking to thrive in the current economic landscape.

Key Factors Necessitating Enhanced Warehouse Fulfillment Operations

- **Skyrocketing Consumer Expectations:** In the age of instant gratification, customers demand quick, precise, and transparent delivery services. The margin for error is shrinking, and every fulfillment misstep can lead to lost customers and a damaged reputation. Companies must evolve rapidly to meet these expectations or risk falling behind in a highly competitive market.

- **Balancing Efficiency with Rising Costs:** The expanding scope of logistics, driven by the eCommerce boom, brings with it intensified cost pressures. Businesses are grappling with the challenge of delivering top-tier service while managing costs, especially amidst labor shortages and the need to cater to a technologically diverse workforce. Efficient fulfillment is not just a matter of speed; it's about cost-effective, smart operations.

- **Embracing Technological Transformation:** Technological advancements present unique opportunities to streamline fulfillment processes, enhancing both efficiency and accuracy. However, this adaptation must be mindful of the workforce's diverse tech literacy. Companies slow to integrate technology or failing to do so in an inclusive manner will lag behind their more agile and tech-savvy competitors.

Digital Foundations: Necessary but Not Sufficient for Future-Proofing Warehouses

Mature barcode and maturing RFID adoption serve as the foundations for digitizing the warehouse. However, this is just the beginning. While digitization addresses basic storage and goods movement, it alone doesn’t solve all challenges in fulfillment efficiency and accuracy. Warehouses still face hurdles, often amplified by high labor turnover and shifting market dynamics.

The focus must shift from mere digitization to strategic technological adoption, aimed at these specific operational challenges. This means selecting and implementing technology not just for innovation's sake, but to directly enhance efficiency and accuracy in warehouse operations.

Digitization lays the groundwork, but it's the smart application of key technologies targeted at solving for efficiency and productivity that will future-proof warehouse operations.

Workforce Turnover Impacts Performance

45% of companies

say managing workforce turnover is a significant challenge that impedes fulfillment operations.

Accuracy and Efficiency Top Operational Concerns

46% of companies

say improving picking accuracy and 38% say boosting workforce productivity are their top challenges.

The Training and On-Boarding Challenge

1 in 2 companies

report that training and onboarding new staff for warehouse operations is a significant challenge.

Robotics and the Augmented Workforce: Pioneering a New Era in Warehouse Operations

Robotics and Augmented Reality (AR) are not just emerging technologies in warehouse operations; they are potential game-changers. Their role goes far beyond introducing new tools; they are reshaping how warehouses function and strategize.

Robotics is revolutionizing task automation, especially in addressing labor shortages with unmatched precision. Meanwhile, AR brings adaptability and ease of use, empowering a diverse workforce to train quickly and handle complex tasks more effectively. Together, they're not just enhancing efficiency; they're redefining it.

In the realm of warehouse technology, robotics and AR are more than just options; they're the front-runners in driving substantial functional advancements. Their integration represents a significant shift, propelling warehouses beyond conventional efficiency towards a future of streamlined, sophisticated operations.

Wearables in the Warehouse on the Rise
In addition to current AR deployments and pilots in the field:

17% of retailers plan to use by 2026
An additional **13%** plan to use by 2028

Robotics Emerges as a Key Area of Focus

50% of companies

plan to adopt robotics in the warehouse between now and 2028, but in environments where robotics are not ideal, an augmented workforce is increasingly the solution.

Alternative Picking Technologies Remain a Niche

The rate of adoption

of alternative picking technologies such as pick-to-light systems and voice-assisted picking is projected to slow down between now and 2028.

Balancing Technology and Humanity: The Hybrid Future of Warehousing

In the warehouse of tomorrow, a human workforce remains a cornerstone, not overshadowed but empowered by technology. Retailers are investing in tools that boost productivity, efficiency, and safety, recognizing the invaluable role of their frontline staff.

Robotics has its place, yet the vision is a harmonious blend of human and machine. This approach requires careful consideration of robotics against the backdrop of substantial capital investments. It's about finding the right balance, ensuring technology complements rather than replaces human effort.

Augmented Reality (AR) emerges as a standout solution, striking a chord with retailers seeking immediate workforce enhancement. AR wearables facilitate hands-free operations, making tasks safer and more efficient across diverse environments. Their intuitive design appeals to all, regardless of age or tech proficiency, aligning perfectly with the needs of a varied workforce. In this future, it's augmented humanity, not total autonomy, that defines the essence of warehousing.

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94% of companies

imagine a hybrid warehouse of the future, where their frontline workforce will continue to play a significant part in operations, empowered by technologies that augment their irreplaceable skills.

69% of companies

say that AR wearables will be central to operations in the next-gen of warehouses.

Revolutionizing Efficiency: Augmented Reality Wearables in Warehouses

Augmented Reality (AR) wearables are at the forefront of a major shift in warehouse operations, particularly in enhancing picking accuracy. These wearables offer visual cues that guide workers in locating and verifying items swiftly, markedly reducing errors and streamlining processes.

Beyond accuracy, AR wearables are instrumental in boosting productivity. They provide workers with real-time information, like the most efficient routes through the warehouse, allowing for quicker task completion and an increased workload per shift.

During times of peak operation, the true potential of AR wearables shines through. They adapt to changes in warehouse layouts and fluctuating inventory levels, delivering updated information to ensure operations remain efficient and accurate, even in the busiest periods. This adaptability and scalability make AR wearables a key tool in modernizing warehouse operations, keeping them agile and precise in a fast-paced environment.

The top 3 areas of operations where companies expect to see the most significant impact from implementing AR wearable technology:

Picking accuracy
Worker productivity
Peak period scalability

59% of companies expect a greater than 15% increase

in productivity through the implementation of AR wearable technology in the warehouse.

User-Centric Design: Key to Effective AR Wearable Implementation in Warehouses

The successful integration of Augmented Reality (AR) wearables in warehouse operations hinges on a user-centric approach. It's crucial to prioritize elements like ergonomics, comfort, ease of use, and safety. These factors are not just add-ons; they are essential to ensuring the wearables not only function efficiently but also enhance the day-to-day experiences of frontline workers.

AR wearables represent a unique blend of human ingenuity and technological precision. They offer intuitive, hands-free interfaces that resonate with natural human behavior, making them an organic extension of the workforce.

Additionally, with built-in health and safety monitoring sensors, AR wearables can strike a perfect balance between innovative technology and practical usability. This harmony is vital in the fast-paced, ever-evolving warehouse environment, ensuring that technology adoption is as seamless as it is impactful.

Ergonomics and Extended Wear Comfort

57% of companies

highlight the importance of ergonomics and comfort of AR wearables for increased adoption by their frontline workforce.

Ease of Use

52% of companies

acknowledge an easy customer experience and user interface as being an important driver of increased use and adoption by the workforce.

Safety Features

49% of companies

say their frontline workforce would value safety features in their AR wearable technology.

Forward-Thinking Warehouses: Pioneering with Digital and Human Synergy

The future of warehouse operations is being reshaped by digital innovation. From foundational digitalization to advanced technologies like Augmented Reality (AR) wearables and robotics, this evolution is vital for competitiveness in a dynamic market. These technologies are turning warehouses into efficient, safe, and responsive environments, balancing automation's efficiency with the human workforce's ingenuity.

Warehouses are evolving into smart, adaptive systems, adept at meeting market demands and operational challenges. Embracing these advancements positions the industry to efficiently navigate an increasingly digital landscape, ensuring accuracy and adaptability.

The companies that will lead are those that integrate these technological shifts into their core strategies, not just to stay relevant, but to set the pace in logistics and supply chain management.

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Survey Methodology

Incisiv conducted a hybrid online + Computer Aided Telephonic Interview (CATI) survey of 128 executives from the Retail, Manufacturing, Third-party Logistics (3PL), and Distribution industries. The study was conducted from **October 16, 2023 - November 2, 2023.**

Respondent Distribution by Industry Segment

Retail	62%
Manufacturing	16%
Third-Party Logistics (3PL)	12%
Distribution	10%

Respondent Distribution by Annual Revenue

$100 million to $499 million	23%
$500 million to $1 billion	34%
$1 billion to $ 5 billion	26%
More than $5 billion	17%

Respondent Distribution by Designation

Director	38%
VP	23%
SVP/EVP	17%
C-Level	13%
Manager	9%

Respondent Distribution by Role

Operations	23%
Warehouse Management	21%
IT/Technology	20%
Supply Chain	20%
Procurement/Purchasing	16%

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ABOUT INCISIV

Incisiv is a peer-to-peer executive network and industry insights firm for consumer industry executives navigating digital disruption.

Incisiv offers curated executive learning, digital maturity benchmarks, and prescriptive transformation insights to clients across the consumer and technology industry spectrum.

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ABOUT VUZIX

Vuzix is a leading supplier of Smart-Glasses and Augmented Reality (AR) technologies and products for defense, industrial, and enterprise markets.

The Company's products include personal display and wearable computing devices that offer users a portable high-quality viewing experience, provide solutions for mobility, wearable displays, and virtual and augmented reality.

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