DESCARTES™

2025 Descartes Warehouse Performance Benchmark Report

2025 in review: Profitability under pressure

Key warehouse performance trends and insights to help you drive sustainable growth

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Future-proofing fulfilment in 2026

2025 was a volatile year for many ecommerce businesses. Warehouse operations were impacted by rising costs, labour shortages, and ongoing supply chain disruptions. Resilience was the name of the game and many businesses looked to optimise their warehouses with automation and data-driven inventory management. As we look ahead to 2026, it's time to reflect on your performance this year – and see how you measured up against the competition.

For ecommerce businesses, the warehouse is more than just a storage space. It's the central hub of your operations. Every order picked, packed, and shipped has a direct impact on customer experience, brand reputation, and profitability. An efficient warehouse is critical to sustainable growth. But it can also be the part of your operations where bottlenecks become normalised and inflexible processes limit your growth potential.

Benchmarking is an essential tool for not only evaluating how your current practices stack up against industry standards (and those of competitors) but also identifying areas you need to improve. Whether you're totally new to measuring key performance indicators (KPIs) or looking to gain insights that will take you to the next level, this report contains the six KPIs you need to track.

Where do we get our data?

The data in this report comes from Descartes Peoplevox™ and our customers. Our warehouse management system (WMS) helps ecommerce businesses all over the world to overcome slow picking processes, minimise mis-ships, and scale their operations. It empowers managers to deploy their workforce in the most efficient, productive manner, and to make practical changes to improve operations.

In this report, we'll show you what need to measure, how to do it, and highlight some of the challenges you might face in the 12 months ahead. What links them all together is the understanding that the resilience and growth potential of your business depend on whether your warehouse is enabling you or holding you back.

"There is only one boss – the customer. And they can fire everybody in the company from the chairman on down, simply by spending money somewhere else."

Sam Walton
Founder
Walmart

Ecommerce trends and challenges for 2026

#1 The focus shifts from cost reduction to profitability

Ecommerce businesses will continue to navigate cost pressures in 2026. Strategic investments are one way to try and drive long-term profitability, but those investments need to deliver measurable return on investment (ROI) and better customer experiences while integrating seamlesslyf into existing tech stacks. In a crowded landscape full of tools and platforms promising overnight transformation, identifying what's genuinely impactful versus what's unnecessary requires time and effort.

At the same time, businesses are diving into new sales channels and marketplaces. Without the right systems, this expansion can quickly create issues around managing inventory, keeping fulfilment rates high, and maintaining customer service quality. Success lies in thorough preparation. You need to plan every step of the expansion, including trying to anticipate downstream impacts. At the same time, you need to create processes that allow you to adapt to trends. If a new channel suddenly opens up and it gains traction, you need to be able to move attention and product there quickly in a way that doesn't disrupt your operations.

#2 Businesses need to manage volatility effectively

Making the most of online sales events like Black Friday, Prime Day, and Single's Day, as well as those hosted on platforms like TikTok Shop, is increasingly important for ecommerce businesses. Managing these sudden spikes in demand (even if you know they're coming) relies on the ability to scale up and down fast in a cost-effective way. Hiring 100 extra temporary staff to meet increased demand is not financially viable for many businesses.

Extra resources (such as additional staff, inventory, capacity, or technology) are needed to manage these demand surges in a way that doesn't involve a trade-off with service quality or operational efficiency. While inefficient processes might just be an annoyance during calmer cycles, they can cause major issues during peak periods.

#3 Digitising the warehouse is no longer optional

Bringing your warehouse into the 21st century by getting rid of paper-based systems and automating unnecessary manual processes is a non-negotiable. Moving to digital tools gives you more reliability, stability, and predictability while also providing decision-makers with a steady stream of relevant data. It wasn't that long ago that inefficiencies and human error were an accepted part of non-digitised processes. Those days are over.

The majority of these "transformational" IT projects fail to deliver the intended results. This can be due to a number of factors, such as unclear goals, poor change management, and selecting tools that don't integrate into existing infrastructure. At Descartes, we currently have a very high "go live" success rate, primarily because of the work we do to help our clients understand exactly what it is they need from their solutions.

#4 Great customer experiences are table stakes for businesses looking to grow

A strong reputation may start with great products, responsive customer service, and a powerful social media presence, but it's what goes on behind the scenes that truly builds loyalty. Effective warehouse operations are how you back up the promises you make and avoid a backlash in the comments section.

Customer expectations for convenience and transparency will continue to evolve in 2026. People demand real-time updates, fast deliveries, and flawless accuracy. Any errors are likely to send them to one of your competitors. A great reputation isn't just built; it's earned, one delivery at a time. Benchmarking gives you a clear view of how you measure up to the rest of the industry and whether your current tools are providing the results you need.

KPI #1: Labour productivity

Labour productivity is a cornerstone of warehouse efficiency and cost management. It underpins your ability to meet demand without adding staffing costs.

How to calculate it?

The best way to measure labour productivity is to measure the tasks you are doing most – picking, packing, and shipping. The formula looks like this:
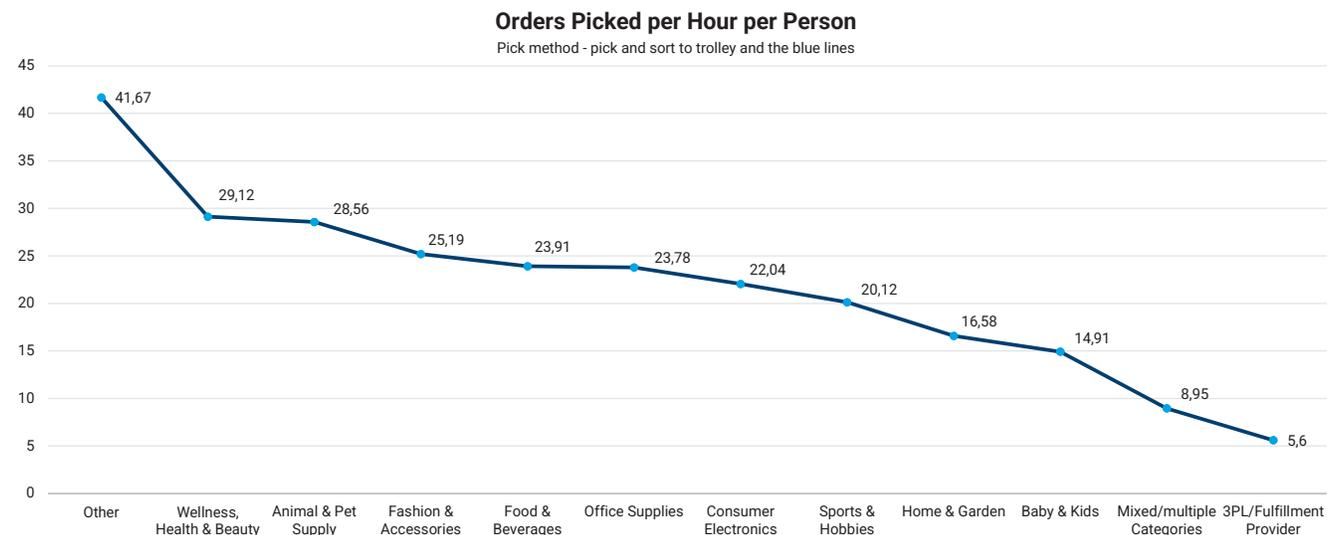
$$\textit{Labour Productivity (picks per hour per person)} = \frac{\textit{Toial Picks}}{\textit{Total Hours Worked x Number of Employees}}$$

What should you be aiming for?

For Descartes Peoplevox customers, the average number of orders picked per hour per person is **23.50**.

One of our customers – a North American apparel company – is managing to significantly beat that with a score of **128**.

Here is a breakdown by sector:

Orders Picked per Hour per Person
Pick method - pick and sort to trolley and the blue lines

Sector	Value
Other	41,67
Wellness, Health & Beauty	29,12
Animal & Pet Supply	28,56
Fashion & Accessories	25,19
Food & Beverages	23,91
Office Supplies	23,78
Consumer Electronics	22,04
Sports & Hobbies	20,12
Home & Garden	16,58
Baby & Kids	14,91
Mixed/multiple Categories	8,95
3PL/Fulfillment Provider	5,6

Common problems:

- Productivity data often focuses narrowly on picking tasks. This is because measuring productivity outside of small, defined processes can be difficult, especially if you have variable product types and unpredictable workflows.

- Assessing labour productivity in isolation ignores the fact that productivity in your warehouse directly impacts your customer experience, reputation, brand, and growth. How quickly your team is completing tasks is not necessarily an accurate indicator of how well they are completing those tasks.

- High staff turnover and fluctuating seasonal demands will likely influence your labour productivity. High turnover rates are common due to the nature of the work, which often involves unskilled, temporary, and mobile labour – particularly true during peak periods, such as Black Friday. Onboarding new staff quickly becomes a challenge, especially if you are still using manual or highly specific processes.

VRG GRL

Testimonial

"Everything's running like a well-oiled machine now, with our fulfilment solution in place. It's a much better working environment for the team, and when we bring new staff in, instead of it taking weeks to get them up to speed, it's just a matter of hours before they're effective, using the barcode scanners, and picking orders."

Cale Suesskow, CEO, VRG GRL

Find out more

Steps to improve:

- **Use technology to optimise workflows**
  Implement user-friendly barcode scanning technologies and design flexible and scalable warehouse layouts. This will not only streamline processes and reduce errors but will also significantly speed up employee onboarding.

- **Understand why productivity matters to your business**
  Ensure that productivity targets are tied to your business' wider objectives. What benefits are you looking to achieve by tracking and improving labour productivity? Are you looking to reduce costs, drive improvements for customer satisfaction, or scale more effectively?

- **Think about productivity holistically**
  Isolated metrics are useful, but they need to be considered as part of the bigger picture. By looking at how various, smaller processes work together and contribute to overall performance, you can identify bottlenecks and focus areas. For example, if your picking per person per hour is high but picking errors are also high, this indicates that there is a problem with either your workflows or your performance targets.

The reality of automation

The last few years have seen an explosion in interest in warehouse robotics and automation. Many businesses feel pressured to adopt automation to emulate companies like Amazon. But achieving reliable, fast, and accurate delivery does not require the large-scale investment needed to create fully-automated warehouses.

Automation isn't a one-size-fits-all solution. It might not be suitable for ecommerce businesses with a large number of SKUs and low volume, as opposed to businesses like Amazon with small stockholding and high volume. Automation is also currently a significant risk, especially if your business outgrows its current warehouse setup and you need to invest even more to automate your new space.

For businesses experiencing inconsistent volumes throughout the year, maintaining flexibility with a human workforce and tailored software solutions is likely to deliver more cost-effective investment value.

BWRETAIL solutions

After implementing Descartes Peoplevox, BW Retail saw labour efficiency improve by 45-60% and onboarding time reduced to 15-20 minutes compared to 2-3 weeks with the company's previous system.

Find out more

unimart

By rearranging its warehouse inventory, Unimart can ensure every item is picked correctly and shipped on time. The result: a reduction in average order fulfilment time by 54% which helped contribute to a 90% increase in revenue over two years.

Find out more

KPI #2: Mean time to ship (MTTS)

MTTS measures the average time it takes from when an order is received to when it is ready for shipment. It is tied directly to customer satisfaction and service level agreements (SLAs). A high MTTS indicates a longer time for orders to be processed and ready to send. This suggests operational inefficiencies that could result in customers having to wait for their orders, failure to meet SLAs, and an inability to compete with competitors offering faster deliveries.
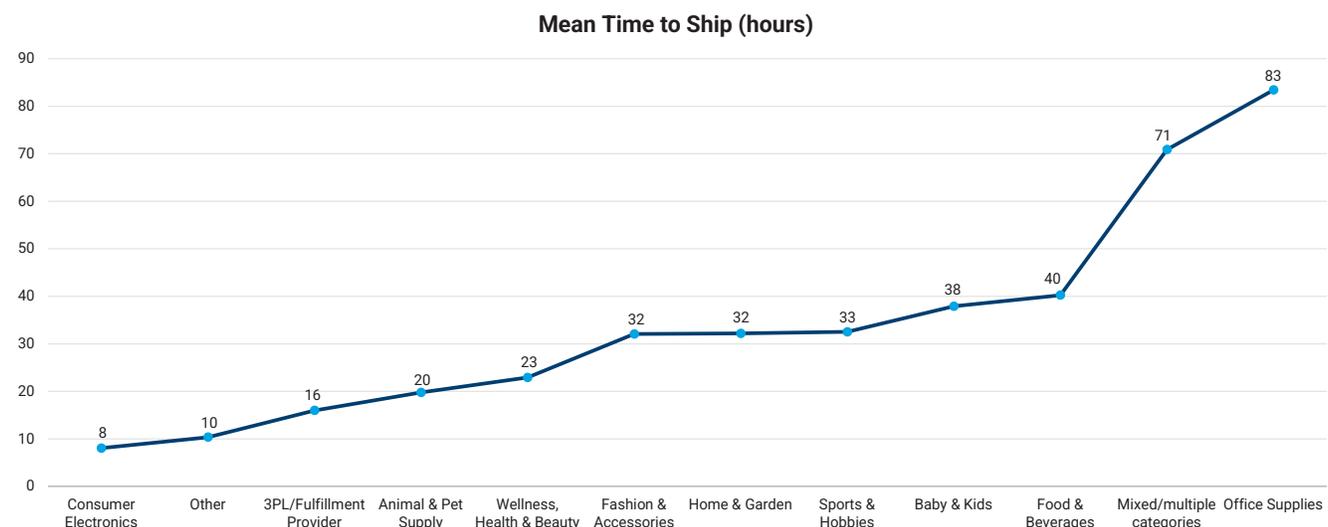
How to calculate it?

This metric measures how well the internal processes of your warehouse are working. It can be calculated as the difference between the pick start time and the label creation time stamp.

What should you be aiming for?

For customers using Descartes Peoplevox, the average MTTS is **34.96 hours**.

One of our customers – a UK-based online retailer – is managing to significantly beat that with a MTTS of **1.56 hours**.

Here is a breakdown by sector:

Mean Time to Ship (hours)

Sector	Hours
Consumer Electronics	8
Other	10
3PL/Fulfillment Provider	16
Animal & Pet Supply	20
Wellness, Health & Beauty	23
Fashion & Accessories	32
Home & Garden	32
Sports & Hobbies	33
Baby & Kids	38
Food & Beverages	40
Mixed/multiple categories	71
Office Supplies	83

Common problems:

- Many ecommerce businesses still rely on paper-based processes. This means workflows are slower than they could be and more prone to errors. These manual processes also complicate inventory tracking and order management while limiting your agility and ability to adapt to change.

- Not having a prioritisation system in place to help manage urgent or high-value orders can lead to disorganised packing stations and bottlenecks.

- Packing inefficiencies are frequent challenges in busy warehouse environments. This affects shipment speed and risks compromising accuracy and overall customer experience. When errors creep in, the impacts can quickly create a ripple effect due to the need for more manual checks and doubling up work to correct mistakes.

Steps to improve:

- **Get rid of as many manual processes as you can**
  Implementing a WMS is the best option for automating workflows, improving inventory visibility, and enabling real-time order tracking at scale. Otherwise, you can start by seeing where your bottlenecks are and focusing on improving those processes first. Prioritization systems will help you manage urgent or high-priority orders effectively and ensure they are shipped on time.

- **Take a look at your packing bench workflows**
  Cutting-edge packing stations minimise unnecessary movement, keep materials readily accessible, and use technology to guide packing processes. All of which significantly boost efficiency. Make sure to look at what is actually on the packing bench too.

- **It's not all about speed**
  The need for rapid delivery should be balanced with measures that enhance operational performance and accuracy. While fast shipping can enhance customer satisfaction, it may not always be the most cost-effective option. Your shipping strategies need to be part of a sustainable business model while also meeting customer needs.

SKATEHUT®

The UK's leading action sports retailer introduced real-time inventory synchronisation, barcode scanning, and centralised stock movement tracking. As a result, it was able to extend its same-day dispatch cut-off time from 3pm to 7pm. The company now has a five-star rating from 99% of its customers.

Find out more

KPI #3: Inventory count accuracy per location per unit

This metric measures how accurately the recorded inventory matches the physical stock available at each location, down to the unit level. It's a direct reflection of the precision of your inventory management process and your ability to prevent overselling and underselling.

How to calculate it?

You could argue that accurate inventory is the foundation of any efficient warehouse. Making sure the right items are picked and shipped to the right customers is an essential part of ecommerce. This KPI will show you where the gaps are and help you improve stock reliability.

You can start to calculate it as: Number of SKUs with a variance as a % of total SKUs in your warehouse. You are comparing the actual physical inventory counts to the recorded inventory levels in the system.

What should you be aiming for?

For customers using Descartes Peoplevox, the average stock take count percentage average is 1.00.

Here is a breakdown by sector:

Average of Stock Take Count Accuracy Percentage
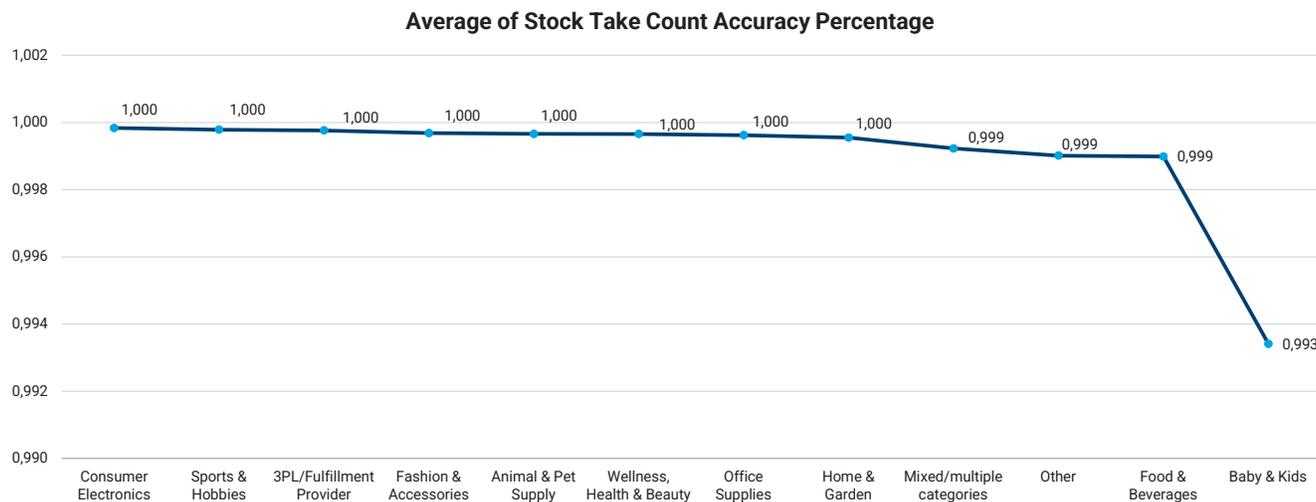
Common problems:

- If your inventory data is inaccurate or incomplete, you increase the risk of overselling, stockouts, and non-compliance with SLAs. It also makes it harder to perform accurate demand forecasting, leading to inaccurate stock purchasing and replenishment. Accurate inventory starts at goods-in/goods receiving. If you don't track every item coming in against the purchase order details, you'll never have accurate inventory. Rolling stock checks/cycle counting are a good addition to this, but they can't help you if you haven't got a clear picture of what's coming into the warehouse in the first place.

- A disorganised warehouse space often leads to stock not being stored systematically. Disorganization can mean items stored haphazardly with no clear organization, but a lack of proper labelling or similar items being stored in different locations are also common problems. In practice, disorganisation results in misplaced items, inefficiencies in locating products, and higher error rates in order fulfilment.

- Many businesses rely on "tribal knowledge". These are processes and inventory details that exist only in the minds of experienced staff, rather than being properly documented or systematised. This lack of standardisation creates a bottleneck, making operations dependent on a handful of individuals and making it harder to onboard new team members.

Steps to improve:

- **Increase your oversight**
  To enhance inventory accuracy, conducting regular stock takes and spot checks is crucial. These audits should be paired with ongoing optimisation of inventory management processes to ensure consistency and reliability. It is important to note that you will need to do a full-stock audit to launch a WMS.

- **Explore what a WMS could do for your business**
  A robust WMS will track every SKU and its location in real time, leading to better inventory control, faster order fulfilment, and data-driven decision-making.

- **Break the knowledge siloes**
  Your core staff members are vital assets, but they shouldn't be the only people that know certain key information. You can democratise their knowledge by implementing system-driven processes. This creates a more scalable and resilient operation where accuracy and efficiency are built into the system rather than reliant on a few people.

ClothingSites

The business replaced its paper-based picking system, which required a manual match-up of packing notes and courier labels, with a WMS, resulting in 99.84% stock accuracy and a 50% increase in orders picked per person per hour.

Find out more

KPI #4: Cancellation rate

The success of your business relies on customers receiving complete orders. When orders are shipped in full, it enhances customer satisfaction as well as reducing the costs and complexities associated with follow-ups, replacements, and cancellations. On the other hand, a high cancellation rate or frequent incomplete orders erode trust, damage your brand reputation and impact profitability.

How to calculate it?

Your cancellation rate is the percentage of orders that are cancelled before they are completed. Cancellations can occur for two main reasons. Firstly, a customer cancels an order due to long wait times or they find a better price elsewhere. Secondly, the business makes cancellations for reasons like stockouts, pricing errors, or inability to fulfil the order as promised.

You can work out your cancellation rate like this:

$$\text{Cancellation Rate } (\%) = \left(\frac{\text{Number of Cancelled Orders}}{\text{Total Number of Orders Placed}} \right) \times 100$$

Testimonial

"Instantly we were able to improve picking accuracy and efficiency. We no longer needed to keep our warehouse layout in SKU order, which had been a particular challenge previously. The system has allowed us to scale up to 100+ people during peak periods, and we can train new staff within hours, which beforehand would never have been possible."

Paul Maynard, Head of Operations, AYBL Group

Find out more

What should you be aiming for?

The Warehouse Education and Research Council (WERC) benchmark of 2021 shows best in class at >99.56% with a median of 98%.

Common problems:

- Consumer expectations around ecommerce have shifted significantly over the last decade. This creates a potential disconnect between customer expectations and the actual capabilities of a company's fulfilment operation. Customers expect speed, accuracy, and products in pristine condition. And when operational processes or systems fall short, they are unlikely to come back a second time.

- Paper-based inventory management or those based on siloed legacy systems increase the risk of incomplete orders caused by stock shortages, inventory discrepancies, or errors during picking and packing. These gaps disrupt the order fulfilment process, creating inefficiencies and increasing the likelihood of cancellations or negative customer feedback.

Steps to improve:

- **Look for the root causes**
  Businesses should track the root causes of incomplete orders and cancellations. You need to know whether issues stem from inventory inaccuracies, order processing errors, or problems in the picking and packing stages. This insight will allow you to implement targeted solutions to address them. For instance, inventory discrepancies can be reduced by conducting rolling stock takes and implementing robust tracking systems.

- **Use alerts to address issues early**
  Using inventory alerts greatly enhances picking operations by flagging potential shortages before they impact order fulfilment. This proactive approach makes it easier to maintain stock availability and get every order completed and shipped on time.

FISHING TACKLE & BAIT

After seeing a sales spike of over 250%, the company's manual fulfilment operation overwhelmed. After implementing a WMS, mis-picks have almost entirely been removed, and customer service queries have reduced by 70%.

Find out more

KPI #5: Mis-ship percentages

Mis-ship percentages measure the frequency of orders that are shipped incorrectly, whether it's the wrong item, quantity, or destination. Reducing mis-ship rates is vital for improving customer satisfaction, preventing costly returns and avoiding negative word of mouth.

How to calculate it?

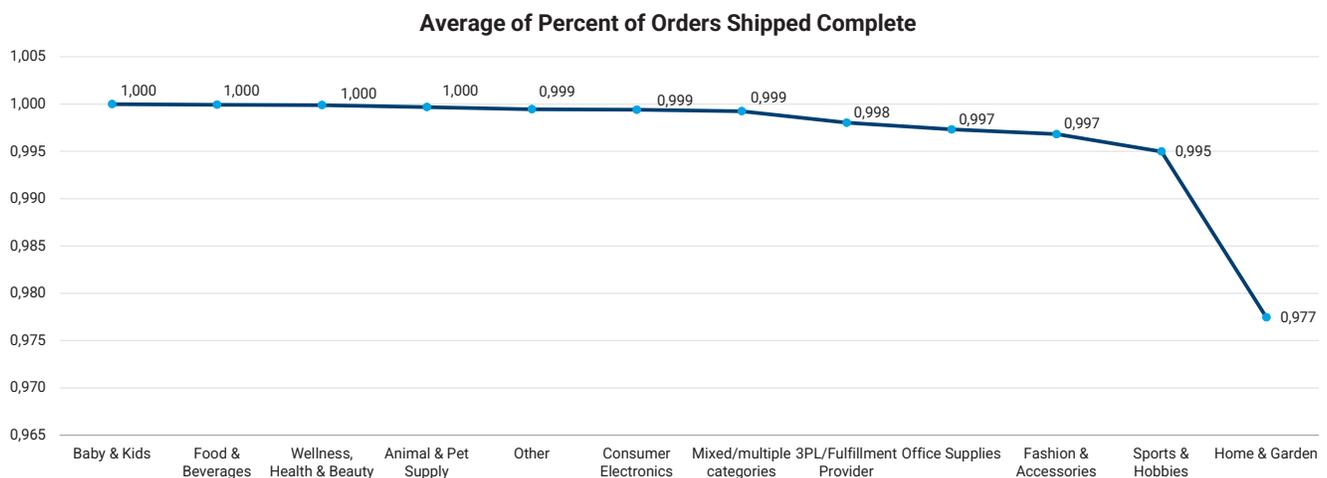You can find your mis-ship percentage using the following formula:

$$Mis-Ship\ Percentage\ (\%) = \left(\frac{Number\ of\ Mis-Shipped\ Orders}{Total\ Number\ of\ Orders\ Shipped} \right) x\ 100$$

What should you be aiming for?

While many businesses accept occasional mis-ships as inevitable, with the right systems and processes in place, it is possible to achieve a mis-ship percentage of 0%.

For customers using Descartes Peoplevox, the average percentage of orders shipped complete is **1.00**.

This varies significantly between sectors. Here is a breakdown:

Average of Percent of Orders Shipped Complete

Category	Value
Baby & Kids	1,000
Food & Beverages	1,000
Wellness, Health & Beauty	1,000
Animal & Pet Supply	1,000
Other	0,999
Consumer Electronics	0,999
Mixed/multiple categories	0,999
3PL/Fulfillment Provider	0,998
Office Supplies	0,997
Fashion & Accessories	0,997
Sports & Hobbies	0,995
Home & Garden	0,977

DESCARTES

Common problems:

- A mis-ship happens when a customer receives an incorrect order. This usually happens due to inaccurate data entry. Consistent errors in recording order details or inventory levels can quickly wreak havoc throughout your fulfilment process and increase incorrect shipments. Additionally, a lack of system checks, such as validation steps during picking, packing, or labelling can mean that errors go unnoticed until the order reaches the customer.

- Even with effective data entry and tracking, it is still difficult to have an accurate idea of how many mis-ships your business is making. The main way most brands find out is when a customer complains. But even the most ethical customers are unlikely to complain if you accidentally send them two items instead of one. As a result, many businesses simply do not have a clear picture when it comes to mis-ships.

Steps to improve:

- **Take a system-guided approach**
  There are a range of ways that businesses can leverage technology to reduce human error, improve efficiency, and create experiences that drive longer customer lifetime value. A WMS can (among other things) guide staff through the most efficient picking routes, use barcodes or Radio-frequency identification (RFID) tags to increase picking accuracy, optimise packing instructions, and automate order prioritisation. Getting the most out of these solutions requires a focus on team training and upskilling to avoid people falling back into old habits.

- **Centralize returns data tracking**
  By creating a single source of truth for your returns data, you can identify recurring patterns or common issues that contribute to mis-ships. Once these problem areas are clear, you can introduce targeted measures to address the root causes and drive long-term improvement.

Before implementing Descartes Peoplevox, each mis-shipped order cost the company an average of $400. By reducing its mis-ship percentage to less than 1%, the company is saving around $50,000 each year.

Find out more

KPI #6: Average growth of ecommerce customers

Achieving your target level of growth sustainably requires the right systems and processes. While there are huge number of factors that contribute to your ability to grow your company, your warehouse is one of the most important enablers you have. Any issues you face today will be magnified as you take on more orders. This KPI measures your growth year on year from a baseline to show exactly how any changes you make impact long-term performance.
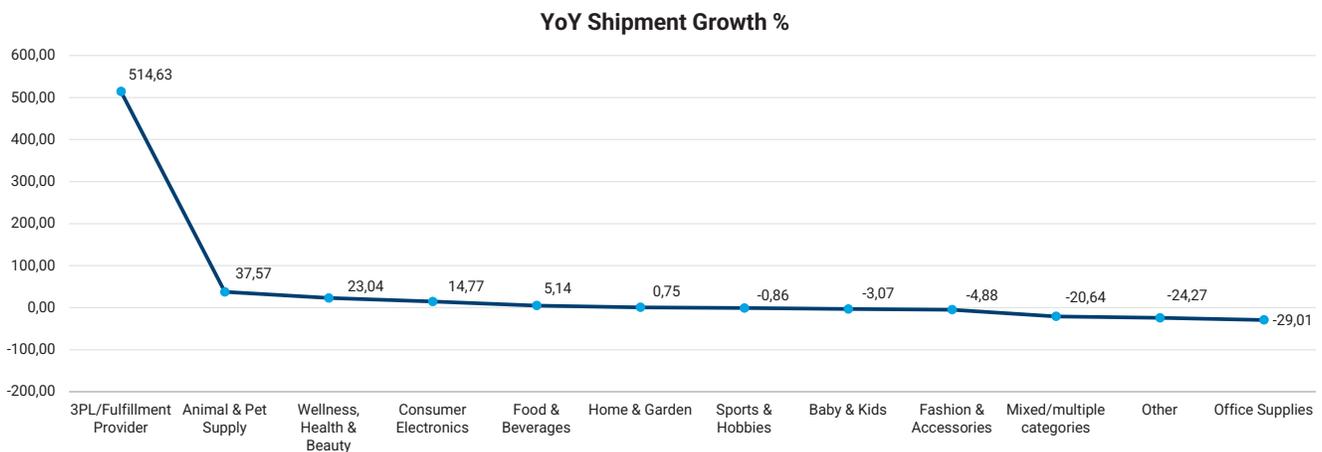
How to calculate it?

You can show your YoY growth by using packages shipped as your key metric. A normalised percentage and setting the first year of measurement as your benchmark will give you a clear indication of your average growth.

What should you be aiming for?

The ideal growth rate for your business depends on a huge range of factors. But ideally, it should be higher than market growth to gain market share, sustainable within your cash flow and profitability constraints, reflective of operational capacity and customer demand, and flexible enough to adapt to real-time performance.

For customers using Descartes Peoplevox, the year-over-year (YoY) shipment growth is **3.63%**.

This varies significantly between sectors. Here is a breakdown:

YoY Shipment Growth %

Sector	Value
3PL/Fulfillment Provider	514,63
Animal & Pet Supply	37,57
Wellness, Health & Beauty	23,04
Consumer Electronics	14,77
Food & Beverages	5,14
Home & Garden	0,75
Sports & Hobbies	-0,86
Baby & Kids	-3,07
Fashion & Accessories	-4,88
Mixed/multiple categories	-20,64
Other	-24,27
Office Supplies	-29,01

Common problems:

- Businesses often lack understanding about how their growth compares to that of their peers. Without industry benchmarks, it's difficult to assess whether your current performance is on par, ahead, or lagging behind competitors. But knowing industry benchmarks is only one part of the story – without being able to compare your own data, you are still stuck in the same position of uncertainty.

- Another common issue is the difficulty of linking growth directly to operational improvements. For example, businesses may grow their customer base but struggle to identify which process changes or investments have contributed most to that success. This makes it harder to create data-based strategies.

Steps to improve:

- **Support your growth ambitions with specialised solutions**
  Your success as an ecommerce business increasingly relies on your agility and adaptability. Customer expectations, technology, regulations, and market environments are constantly changing, and your choice of tools directly impacts your ability to evolve too. We built our WMS around the concept of an agile technology stack that suits the needs of modern retailers and brands.

- **Use benchmarks to create real-world comparisons**
  Comparing your own performance to the average growth rates highlighted in this report can offer valuable insights. Understanding how you stack up against industry averages can pinpoint areas for improvement and uncover opportunities for further growth. Focusing on both operational efficiency and benchmarking is crucial for positioning your business for sustained success in the competitive ecommerce landscape.

AYBL | GROUP

Testimonial

"We've saved 200,000 AUD a year on staff. Putting Descartes Peoplevox in has meant we're able to do more with less people. Three of the team have moved on from the warehouse team and are now working elsewhere in the business, but there's been no need to replace them. If and when we do have a sales surge, we could always bring them back in if needed. But actually, the system is so intuitive that I can get temp staff in now as required and get them trained up in the warehouse picking orders within minutes."

Andrew Owen, Co-Founder of Amaroso Boutique

Find out more

Let's turn your warehouse into a growth engine

Ecommerce never stands still and 2026 will present both challenges and opportunities. Your warehouse defines your ability to deal with both. It determines whether your business is positioned to drive growth or continues to be slowed by entrenched bottlenecks. The benchmarks in this report show how problems in your warehouse can quickly become issues for your customers that impact your profitability and scalability.

One thing links the KPIs we've covered. Whether it's labour productivity, inventory accuracy, order fulfilment rates, or mis-ship percentages, it is clear that a well-optimised warehouse is essential for sustainable growth. Without the right systems, you increase the risk of inefficiencies, rising costs, and unhappy customers.

Using these benchmarks will show you where you are right now as well as where you need to be. One of the most impactful steps ecommerce businesses can take today is implementing a WMS. A solution like the one provided by Descartes gives you a scalable framework that enhances accuracy, efficiency, and fulfilment speed. Beyond immediate gains, it makes it so much simpler to adopt best practices and new technologies seamlessly for continuous improvement without disruption. In a world of ever-evolving customer expectations, this agility is key to staying competitive.

Our WMS is built to tackle the challenges highlighted in this report. We have a proven track record of helping businesses like yours optimise their warehouses, improve inventory accuracy, streamline fulfilment, and reduce errors. We'll help you bring your performance in line with these industry benchmarks with changes that create value for years to come.

Ecommerce success isn't just about gaining customers. It's about ensuring operations can support and sustain growth. With the right warehouse strategy and a powerful WMS, you can navigate 2026's challenges with confidence and turn operational excellence into a lasting competitive advantage.

BFM

In the first 12 months after rolling out its WMS, the business saw monthly growth of between 20%-70%. To maintain a lean operation, the company used the data from its WMS to understand how many users it needed to hit the fulfilment targets each month. It was then able to target investment in new pack benches and users to meet these monthly targets.

Find out more

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