

WHITEPAPER

How DSO optimization can supercharge your cash conversion cycle & where it falls short



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Table of Contents

- 2** Introduction
- 3** Understanding DSO
- 5** Where DSO falls short: Expand your focus to the cash conversion cycle
- 6** DSO and its importance to key stakeholders
- 8** Role of tech and automation in DSO reduction
- 8** DSO Optimization is within reach: Strategies for improving the cash conversion cycle
- 11** Appendix A: Where to reduce DSO
- 12** Appendix B: Zone & Co DSO calculator
- 13** Appendix C: How Zone & Co clients reduce DSO
- 14** Appendix D: FAQ



This guide was compiled by experts with decades of ERP and billing experience to help controllers and their CFOs better understand and advocate for their automation needs and, ultimately, the health of their business.

Introduction

Cash is the oxygen of every business, and as far as most finance leaders are concerned, automation in their OTC and **DSO processes** is a key contributor to cash flow health. Since working capital is a premium during leaner economic times, automating these processes is a major priority for CFOs and Controllers.¹

Even with increased visibility on day sales outstanding (DSO) and efforts across industry verticals to optimize the order-to-cash (OTC) process, companies nationwide have seen an increase in the number of outstanding dollars owed.

The modern struggle to keep cash on hand

Cash on hand is hard to come by in today's business and economic landscape. And so it would make sense for DSO to be a leading buzzword, especially with 65% of CFOs reporting increased expectations for engagement and accountability from their CEOs since 2020, according to a **McKinsey survey**.²

In the Hackett Group's **2023 Working Capital Survey**, nonfinancial U.S. companies saw a 13% decrease in cash-to-liability ratio (down to 0.29) and a 9% decrease in cash flow as a percentage of revenue (the lowest in five years).³

Dun and Broadstreet's Q1 2024 report⁴ shows 23 of 207 industry segments with over 10% of their outstanding revenue 91+ days overdue (up from 2023). Leading all industry types, computers and software, passenger car rentals, home furnishings and repair services each average 15% grossly delinquent receivable dollars or more.

A December 2023 PYMNTS survey found that 32% of healthcare providers report more than \$100,000 in outstanding insurance payments.⁵ The same study reported 100% of construction firms report they receive payment late.⁶

DSO optimization as a cash flow opportunity

Uncertain economic conditions have businesses relying more on the company's financial function to play a strategic role. With greater responsibility comes greater opportunity.



CFOs and controllers have more opportunity than ever to implement optimization processes that will scale as they grow, increasing the company's operating capital and reducing losses and revenue leaks in the OTC process.

One such process optimization, business automation, has evolved by leaps and bounds in recent years to support the scalability of business processes to eliminate DSO bottlenecks during rapid growth.

In a study by American Express,⁷ businesses that rely on a manual accounts receivable process have a 30% longer average DSO than businesses that incorporate automation.

Another added perk of automation is decreased billing errors and increased customer satisfaction. In a survey of 100 CFOs from US companies with \$250 million or more in annual revenues, 63 said automation reduced invoicing discrepancies.⁸



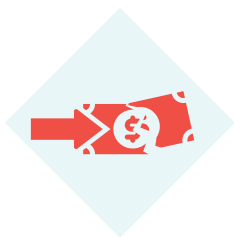
Customers are happier to pay on time when the invoice is correct, easy to understand, and received promptly.

Understanding DSO

DSO = (Accounts Receivable / Credit Sales) * Number of Days

This DSO formula looks slightly different for every business and every industry. Companies may have their own way of calculating the metric, but knowing your DSO can help identify problems in invoicing and accounts receivable management processes. *Note: If you're a NetSuite user, they have a Days Sales Outstanding form to help maintain ongoing visibility into the metric.⁹

For CFOs, controllers, and finance strategists, DSO can be a lagging indicator of other, harder-to-identify issues in your OTC processes. In some cases, it can even indicate (or influence) customer satisfaction. An unexpected spike in DSO could mean:



Broken payment portals



Lack of payment Portals



Product or service delivery issues



Low customer satisfaction



Confusing or incorrect invoices



Since high DSO is the result of many different problems, finding the root cause of delays in the cash conversion cycle can solve efficiency and cash flow problems at once. As DSO rises and falls, finance departments may see the following trends:



The positive implications of a low DSO

- ◆ Increased working capital
- ◆ Lower cost of cash
- ◆ Near-term investment and development opportunity
- ◆ Transparent **billing** processes
- ◆ Reduced **OTC** timeline
- ◆ Reduced manual task requirements



Negative implications of a high DSO

- ◆ Higher cost of cash
- ◆ Lower working capital
- ◆ **Revenue leakage**
- ◆ Collections process inefficiencies
- ◆ **Invoicing** confusion & high error rates
- ◆ Customer dissatisfaction
- ◆ Poor free cash flow **forecasting**

Factors that affect DSO

- ◆ Ease of moving info from **CRM** and quoting system to the invoice
- ◆ **Invoice automation** and invoicing speed
- ◆ Accuracy of invoices
- ◆ Ease of understanding invoices
- ◆ Accessibility of invoices and payment Portals
- ◆ Product and service delivery dates
- ◆ Customer satisfaction
- ◆ And many more

A company's DSO will vary between measurement periods, but monitoring for trends or inconsistencies allows finance departments to catch problems before they get out of control.

How DSO relates to working capital

“For ease of calculation, let's say a company has \$365 million in annual revenue. Any day, it should be invoicing or receiving a million dollars in revenue. “So if they can reduce DSO by two days, they're able to have the company bill and receive \$2 million more in free cash flow each day. They don't have to go find funding for new projects and initiatives because they can self-fund them.”

– Jim McCarthy, Zone & Co senior account executive.





“There is something implied but missing within the DSO metric. We cannot underestimate this additional component: Timely billing. With DSO, you get the invoice out, and the clock starts. But if that invoice was sitting there for two weeks or 30 days, DSO is missing half the story.”

- Chad Wonderling, CFO at Zone & Co

Where DSO falls short: Expand your focus to the cash conversion cycle.

DSO focuses largely on the process between sending the invoice and the customer paying, but that's only a piece of the actual number of days your company goes without payment.

Most of what we hear and read about DSO focuses on the back half of the cash conversion cycle: How quickly can we receive payment? But that focus allows invoicing and billing optimization to fall by the wayside.



How finance leaders traditionally think about DSO discounts the amount of time it takes many sales and finance departments to get an invoice out the door. To get a better understanding of your cash flow, you must focus on the entire cash conversion cycle or free cash flow optimization, not just the DSO portion of OTC.

“In my finance departments, I like to monitor cash balance and collections to date on a daily basis because they indicate problems we may not otherwise see,” Chad Wonderling said. “In a previous company, we were experiencing great business success, but I could see something was wrong because I monitored the entire cash conversion cycle. Our cash on hand was going down. Our accounts receivables were growing, and our DSO wasn't increasing. But our cash flow was down. That was a lagging indicator that our lead-time-to-bill was in trouble. Even during success, decreased cash can be a key lagging indicator that DSO might miss.”

What does a better cash conversion cycle look like?

The focus on DSO puts the customer time-to-pay at the center, but that isn't in your company's control. The finance department can only control the time required to send the invoice and how easy it is to pay.

Widening the focus to the entire cash conversion cycle, including the sale-to-invoice timeline, can help finance departments find more opportunities for optimization.

For finance departments, it's a good practice to check the following three metrics, in addition to DSO, daily:

Cash balance

Collection to date

Lead-time-to-bill



“Using ZoneBilling, our customers regularly see decreases in invoicing from more than seven days to two or three days because they're automating those rote data translation and amendment tasks and getting the payment window started sooner. To achieve those results, you either have to automate or hire more people.”

- **Jim McCarthy**, Zone & Co senior account executive

DSO and its importance to key stakeholders

The cash conversion cycle impacts more than KPI reporting and business forecasting. DSO impacts everyone involved in a business, from the sales team to the customers and the VC firm thinking about investing. Your finance department has a tangible opportunity to increase your business's profile on nearly every front.

The customer

Whether the customer wants to pay their bill on time or is using the terms as leverage to control their company's cash flow, a complicated process isn't any more motivating.

Poor billing and incorrect invoicing cause decreased customer satisfaction and attention, regardless of product or service quality, and in many cases, lead to the loss of the account. Steve Cakebread, who helped take Salesforce and Pandora public, stresses the importance of sending invoices within days to maintain customer contact and keep sales momentum.¹⁰





In ZoneBilling, you can create the customer fields you want displayed on your invoices and map them back to your quoting and CRM system. This eliminates the manual step.



“Before serving as CFO for Zone & Co, I was a ZoneBilling customer. Once we implemented the new new ZoneBilling invoices, our invoice questions went down by something like 70%.

“Guess what? Your customers are more likely to pay if they know what you are charging them for. On the other hand, DSO increases when customers don't understand what they're being charged for.”

- Chad Wonderling, CFO at Zone & Co

The board

Directors are more interested in working capital and the cash conversion cycle than DSO. But DSO optimization impacts so many areas of business, so reducing the metric can drive success in many of the other KPIs your directors are interested in. The more velocity there is in the cash conversion cycle, the more opportunity there is for increases in:

- ◆ Increment GTM Investment
- ◆ Customer value
- ◆ Customer retention
- ◆ Billing capacity
- ◆ Investible cash (R&D, feature enhancement, etc.)

But more importantly, **unrecognized revenue** is revenue that cannot be invested or used to pursue business opportunities in the present, and inconsistent free cash flow makes business forecasting difficult.

The investor

Free cash flow and DSO are two of the first metrics private equity and venture capital groups look at when considering a new company to purchase or invest in. While PE firms may be attracted by rapid scaling, outgrowing billing capacity can be an investment red flag.



Optimizing the OTC process, starting with invoicing, can prove to those firms that rapid scaling is not an obstacle to healthy business growth. Zone & Co's [Optimizing Order-to-Cash at Every Growth Stage](#) is a great guide to help.

Role of tech and automation in DSO reduction

Aside from streamlining manual processes or hiring more employees, investing in technology and automation is the only viable route to DSO reduction and cash conversion cycle optimization.

For many growing companies, a large portion of financial brainpower is tied up in moving data from one system to another. Those manual processes are massively time consuming and often lead to costly errors, both financially and reputationally.

Automating processes through software like ZoneBilling can translate that data across systems, ensuring you send accurate invoices without having to translate and verify data as you move a deal through your CRM, pricing, ERP, and other cash conversion cycle systems.

A company with manual processes may have a 15- to 30-day billing time once a sale is complete, whereas an automated process can complete the task in minutes.

DSO optimization is within reach: Strategies for improving the cash conversion cycle.

Automation can't solve all of your DSO problems, but thinking about business growth in relation to your company's automation maturity stage can be helpful. The strategies for reducing your organization's DSO are similar to those strategies outlined in the [OTC Maturity Model](#).

Baseline assessment

Taking stock of your order-to-cash process can clarify where things stand and where they could improve. The [order-to-cash maturity assessment](#) evaluates your OTC process across key areas like billing automation, DSO management and cross-department collaboration. In a few questions, it identifies your company's maturity stage –



Read the OTC
whitepaper here



from Reactive to Advanced – and offers actionable suggestions for improvement and insights from 200+ finance leaders. It can be a helpful benchmark as you consider the next steps in optimizing cash flow.

Role maturity

When the finance function of your organization is reactive, keeping up with the policies and strategies set by other, likely siloed, departments, leaders are usually spending more time wrangling outstanding invoices than optimizing cash flow. But a finance team that proactively coordinates with other departments can break down silos and optimize business processes for cash flow.

- Document your entire DSO, invoicing, and payment process.
- Advocate for the finance function to have a consultative role across departments.
- Create a governance structure to increase company-wide buy-in and decrease siloed activity.

Employee maturity

Do your finance employees serve in more task- or strategy-oriented roles? In present- and future-focused finance departments, employees focus efforts on optimization, cash-flow projects, and even strategic growth planning. Find the places where your finance employees spend the most time for the least return and explore ways to save time by automating or standardizing workflows.

- Identify repetitive tasks currently being completed by skilled finance professionals.
- Establish automated or standardized data processes to reduce required manual task-focused labor.
- Plan for future personnel, technology, and business investments based on cash flow projections and market conditions.

Reporting maturity

Bill faster, spend less, optimize. These are easy to say and hard to do, especially without specific direction. When your finance team can bring consistent, accurate, and easy-to-understand reports to the rest of the business, you can build buy-in. It's easier for a department to spend less or invoice faster when they understand where they fit in the larger puzzle and how they can directly contribute.

Transparent reporting is also an undeniable way to prove your finance function's worth. It's hard to focus on other initiatives when the need for (and benefit of) cash-flow optimization is so clear.



Calculate your organization's time-to-invoice and **use our calculator** to see how much money you could save by reducing invoicing time.



- Create buy-in and trust by updating policies to be more transparent across departments.
- Establish consistent cash-flow projection updates weekly or more frequently.
- Build departmental reputation as a strategic leader through projections.

Process maturity

Once a manual task is eliminated, it buys more time for further optimization. Your team can reinvest its optimization into more process optimization before ultimately eliminating procedural tasks to focus on finance as a strategic function.

- Create a central data repository from which all invoicing processes can be pulled.
- Seek optimization opportunities, even when DSO is nearing target levels.

Technology maturity

Most finance professionals have experienced highly manual interfaces and “old-school” finance departments. But a recent Zone & Co survey¹¹ of finance leaders showed outdated and disconnected tech is creating billing bottlenecks and contributing to revenue leakage.

- Create end-to-end tech stack connectivity so that departments aren't duplicating tasks or customer requests.
- Ingrate each of your business operations and intelligence tools for seamless data transfer.
- Fully automate your invoicing process so that each step is triggered by the last.

[Book a demo today ▶](#)

Up Next:

APPENDIX A: Where to reduce DSO

APPENDIX B: The Zone & Co DSO calculator

APPENDIX C: How Zone & Co clients reduce DSO

APPENDIX D: DSO FAQ



Streamline your accounting, finance and payroll workflows in NetSuite

All your finance and payroll operations. Just one login.

- ✔ Cloud-native apps, built for NetSuite
- ✔ Trusted by thousands of leading organizations
- ✔ Billing, reporting, AP automation, payroll & more

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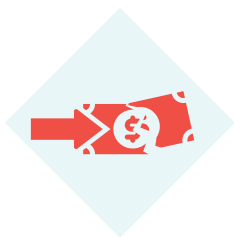
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Payment Terms and Conditions

If your company negotiates Net45 billing as a policy, it's unlikely you will see your DSO drop below 45 any time soon. Renegotiating more favorable payment terms and conditions can be a quick win for any finance team trying to speed revenue recognition. Not every client will be willing to renegotiate, but speeding the payment cycle for a fraction of customers can have a big impact.

Customer Payment Behavior

You can only optimize your process so far until it's ultimately in your customers' hands. But you can still use sophisticated tools to identify patterns in customer behavior. Customers who never pay on time may need to renegotiate their terms. Customers who always ask for clarification may give insight into a speed bump in the process. And even knowing which customers will likely pay (just a little late) can help with ongoing cash-flow projections.

APPENDIX B: Zone & Co DSO calculator

Try the calculator

The ZoneBilling days-to-invoice calculator shows finance leaders how much money and how many work days their department can save by automating the invoicing process. Automation results in more than savings. Invoicing faster can lower total DSO, increase cash flow, reduce revenue leakage, more accurately report and project, and allow you to better allocate human resources.

The screenshot shows a web-based calculator with two input fields on the left and a results panel on the right. The first input field is labeled 'What is your company's annual revenue?*' and contains '\$10,000,000'. The second input field is labeled 'How many days on average does it take you to create an invoice and deliver it to your customer?*' and has a slider set to '15'. The results panel on the right displays 'Estimated annual cost savings \$ 39,452', 'Your current time to invoice 15 days', and 'Time to invoice with ZoneBilling 3 days'. A teal box at the bottom of the results panel states 'With ZoneBilling, you decrease your total DSO by 12 days'. At the bottom of the calculator interface, there is a link: 'Want to see for yourself how ZoneBilling can shorten your total DSO by optimizing your complex subscription management and revenue recognition in NetSuite?'.

Input	Value
Annual Revenue	\$10,000,000
Current Time to Invoice	15 days
Time to Invoice with ZoneBilling	3 days
Estimated Annual Cost Savings	\$ 39,452
DSO Reduction	12 days

APPENDIX C: How Zone & Co clients reduce DSO

Sourcegraph reduced revenue recognition time by 70% with automation.¹³

Sourcegraph is a code intelligence platform that transforms the way developers understand, fix, and automate their code, but was having trouble solving its own billing and revenue recognition in NetSuite.

In ZoneBilling, Sourcegraph's finance team integrated with the existing CRM and ERP to automate usage-based billing tasks. The integration reduced the team's revenue recognition time by 70%, increasing their billing capacity by 72 hours.

Sourcegraph was able to scale while maintaining a healthy cash conversion cycle.

Devoli cut billing time by 80% with ZoneBilling¹⁴

When one of New Zealand's fastest growing telecom providers saw soaring revenues in 2021, their legacy billing systems weren't cutting it. **Devoli's** annual revenue jumped from \$12 million to \$100 million in four years, and it needed a better billing platform to handle the larger transaction volume and provide better visibility, all while offering security and integration with its existing NetSuite ERP system.

In ZoneBilling, Devoli was able to reduce billing time by 80% by automating revenue recognition, invoicing, and other accounting processes. The company was also able to 8x revenue processing paucity per employee because the platform supported complex pricing models.

Devoli was able to scale without increased back-office strain, and the integration into Devoli's existing ERP allowed for a centralized view of financial data.

Tech Soft 3D eliminated manual invoicing with streamlined billing¹⁵

Tech soft 3D creates software development kits for visualization tools, but the company faced challenges visualizing its own complex royalty and fee structures. The recurring fees combined with commercial-use-based distribution royalties made automated billing seem like an impossibility. They were unable to gain insights into customer behavior or forecast revenue, despite already implementing NetSuite ERP.

After three years of NetSuite, Tech Soft 3D integrated ZoneBilling into the ERP, which is built to handle complex pricing models within the existing ERP framework. With the automated and streamlined billing system, the finance department at Tech Soft 3D was able to eliminate manual invoicing and save nearly a month per year (24 business days).

Lattice freed up financial specialists and increased billing efficiency.¹⁶

Lattice relied on multiple systems, like NetSuite, Salesforce, and Stripe, within their OTC process, requiring a level of manual data processing power that wasn't scalable as the company grew. The process tied up specialists and resulted in lengthy billing cycles, delayed invoices, and, ultimately, higher DSO.

In ZoneBilling, Lattice integrated its existing systems to create one source of truth for customer data, quoting, invoices, and payments. Lattice could incorporate more diverse pricing structures, implement mid-contract changes, and have confidence in prorated billing while reducing the number of hours spent on menial data translation tasks.

After moving to ZoneBilling, Lattice saw a 90% increase in billing efficiency as well as improved financial accuracy and better compliance.

APPENDIX D: FAQ

1. What is Days Sales Outstanding (DSO)?

DSO is a financial performance indicator measuring the average amount of time between when a company makes a sale and receives payment. This timeline gives insight into how well the company manages its cash flow and is used as a shorthand score for the speed at which a company can convert trade into cash.

2. Why is DSO important for businesses?

DSO directly impacts a company's cash flow and, in turn, its working capital. A low DSO indicates that a company can bill for a service and collect payment quickly. Low DSOs usually correlate to financial liquidity and long-term stability. On the other hand, a high DSO can indicate issues with sales, billing, and even customer service.

3. How do I calculate DSO?

The most common formula for calculating DSO is more of a rolling average than a literal metric: (Accounts Receivable / Credit Sales) Number of Days. Example: For a company with \$1,000,000 in accounts receivable and \$3,000,000 in credit sales over a 90-day period, the DSO would be $[(1,000,000 / 3,000,000) 90 =]$ 30 days

4. What are common factors that affect DSO?

The most common factors that have a negative impact on a company's DSO are incorrect invoices, long payment terms, poor economic conditions, invoicing bottlenecks, customer service issues, and the accessibility of the invoice (how easy it is to understand and pay). Complex pricing models can also lead to a higher DSO.



5. What are some industry benchmarks for DSO?

What constitutes a healthy DSO for each company is different, but for the most part, 45 days is a solid measuring stick. A private equity firm interested in investing in a business will likely take a closer look at the OTC process of a company with a 50-day DSO compared to 40 days.

6. How can streamlining invoicing processes reduce DSO?

Much of the DSO reduction conversations focuses on the time it takes a customer to pay. But companies have much more control over their own ability to issue invoices accurately and efficiently. Reducing average invoicing time directly reduces the amount of time it takes to collect payment.

7. What are the benefits of reducing DSO?

Aside from looking better to private equity firms, companies with lower DSO collect payment faster. That means less revenue leakage in the OTC pipeline, better cash-flow projects, and often more cash on hand.

8. What technologies can help reduce DSO?

The adoption of technology is a great approach to reducing DSO. The most time-consuming speed bumps in most companies' DSO and OTC processes are the manual steps. Using technology like ZoneBilling to translate data between systems and automate manual steps can immediately lower DSO.

1. [Proprietary Zone & Co Financial Leader OTC Survey Data](#)
2. [Mastering change: The new CFO mandate](#)
3. [2023 Working Capital Survey](#)
4. [U.S. Accounts Receivable and Days Sales Outstanding Industry Report, Dun and Broadstreet](#)
5. [Nearly One-Third of Healthcare Providers Are Waiting for \\$100K+ in B2B Payments](#)
6. [Late Payments Plague 100% of Construction Companies](#)
7. [B2B Payments Innovation Readiness, American Express and PYMNTS](#)
8. [Accounts Receivable Automation Smooths Order-to-Cash Continuum](#)
9. [Oracle DSO](#)
10. [Steve Cakebread, The IPO Playbook: An Insider's Perspective on Taking Your Company Public and How to Do It Right](#)
11. [2024 Zone & Co Finance Leader Survey](#)
12. [How We Pay Digitally, PYMNTS](#)
13. [How Sourcegraph cut revenue recognition time by 70% with ZoneBilling](#)
14. [How Devoli Cut Billing Time by 80% with ZoneBilling](#)
15. [How Tech Soft 3D Freed Up One Month of Accounts Receivable Work with ZoneBilling](#)
16. [How Lattice achieved 90% increase in billing efficiency with ZoneBilling and ZonePayments](#)

