

How to increase cash by 4.1% of sales (or any other target amount)

One of the most common barriers to healthy cash flow with many field service providers is the length of time it takes them to get paid for work performed in the field.

This is especially true for oilfield service companies whose customers / operators have imposed their own unique and complex requirements to verify the work that has been performed before they remit payment. This sometimes requires multiple trips back to the job site to track down the company man to get his signature, stamp, or coding on a field ticket. Some operators require that invoices have supporting field or delivery tickets attached, with pictures, be summarized and sorted a certain way, and be delivered or submitted through their designated invoice or ticket portals.

Many companies respond to these requirements manually with an overworked billing staff that must decipher information that was hand-written in the field, re-enter it into an internal invoicing system, check prices against the customer’s MSA, use Word or Excel to create a proper invoice, and upload the ticket and/or invoice into the customers’ preferred portal. They are often weeks behind submitting all the paperwork required to be paid, so days sales outstanding (DSO) [Note 1] increases, and cash flow suffers. As revenue grows, so does their DSO as they fall further behind. Their choices: do nothing and liquidity suffers; increase billing staff and watch labor and related overhead costs climb; or automate the process – saving time, money, and resources, while improving accuracy and customer satisfaction.

Fortunately, for most oilfield service providers, automating the invoice / field ticket preparation and delivery process is one of the easiest methods to lower DSO and improve cash flow. Due to the complexity in their customers’ requirements mentioned above, and the unusually high DSO characteristic of the industry, the number of days that can be cut is often significant. Yet some companies are skeptical as to whether their cash increase will be material, or they think their billing process is too complex to be automated any more than it is today. (Although we have had tremendous success in automating simple to complex billing processes using the ofsERP® extension to Microsoft Dynamics 365 Business Central Essentials. *)

In this post I intend to prove, from a financial accounting perspective, that shaving days off the invoice preparation and delivery process results in a real increase in cash on hand, and how to calculate this amount using the change in the Accounts Receivable balance. Followed by an easy-to-use shortcut method.

Figure 1 Proof via change in A/R balance (“long method”)

FINANCIAL ACCOUNTING PROOF:		Blue fields are for entry, all others are calculated.		
Annual Sales Revenue	INPUT 1	\$ 30,000,000		
- Subtract Sales not on terms (paid COD,% complete, etc.)	INPUT 2	\$ (2,000,000)		
= Sales made on net terms		\$ 28,000,000		
Original Accounts Receivable (A/R) Balance	INPUT 3	\$ 5,000,000		
Original # Days Sales Outstanding (DSO) = A/R / Sales on terms x 365		65		
			Scenario 1	Scenario 2
# of days reduced in invoice process (Decrease in DSO)	INPUT 4	-5	-15	-25
Revised DSO (Days)		60	50	40
DSO% of a 365 day year		16.49%	13.75%	11.01%
Revised A/R balance = DSO% x Sales on terms		\$ 4,616,438	\$ 3,849,315	\$ 3,082,192
Less Original A/R balance (from input above)		\$ 5,000,000	\$ 5,000,000	\$ 5,000,000
The difference A/R balance = Increase in cash		\$ 383,562	\$ 1,150,685	\$ 1,917,808

Figure 1 and Figure 2 both illustrate how to calculate the cash increase using a fictitious company with \$30,000,000 in annual sales of which \$28,000,000 is sold on net terms. Each figure shows the same 3 scenarios: decreasing the invoice preparation and delivery process by an expected 5, 15, and 25 days.

Figure 1 illustrates that, in an environment where the time to prepare and submit a proper invoice can be reduced by 15 days (typical of the oilfield service industry), the Accounts Receivable balance (A/R) decreases from \$5,000,000 to \$3,849,315, a credit of \$1,150,685, which needs an offsetting debit to balance. There is no mention of a change in revenue, cost of goods, expenses, profit, liabilities, or equity in the example. Thus, the offsetting \$1,150,685 debit needed to balance can only reasonably be the asset Cash on hand.

Figure 2: "Shortcut method"

MATHEMATICAL SHORTCUT: (only 2 inputs required) *		Scenario 1	Scenario 2	Scenario 3
# of days reduced in invoice process (Decrease in DSO)	INPUT 1	-5	-15	-25
# of days reduced in invoice process / 365		1.3699%	4.1096%	6.8493%
Sales made on net terms	INPUT 2	\$ 28,000,000	\$ 28,000,000	\$ 28,000,000
Increase in cash via shortcut method		\$ 383,562	\$ 1,150,685	\$ 1,917,808

* Note that it is the **change** in DSO days that affects the amount of cash increased. Whether the Original DSO is 65 and the Revised DSO is 50, (or 95 and 80) the change is still -15 days, and the increase in cash is still 4.1096% of the amount of Sales sold on net terms.

Figure 2 shows the shortcut formula for quickly calculating the increase in cash with only 2 pieces of information. Note that A/R balances are not part of the required inputs in the equation. Instead, the increase in the amount of cash on hand is calculated as a % of sales sold on net terms. The cash balance increases by almost 4.11% of total \$28,000,000 sales made on net terms: \$1,150,685, the same as in Figure 1.

Shaving 15 days off the invoice process (all other things being equal) will always result in an increase in cash flow of ~4.11% (15/365) X sales made on terms; 5 days=1.37% (5/365), 25 days=6.85% (25/365), etc.

**The invoice process automation that we did for a \$15m client based in Houston, TX was so significant that their CFO called ofsERP a "Real Game Changer". The company has since grown to over \$110m, with substantially the same level of back-office labor and large increases both in profit and cash flow.*

Find out why Microsoft Dynamics 365 Business Central with ofsERP® is "the shortest route from tickets to cash"

Terms Defined

Note 1. Days Sales Outstanding (DSO) is a key business metric which measures how long it takes to receive payment from customers after a sale or services are performed. $DSO = \text{Accounts Receivable} / \text{Annual Sales sold on net terms} \times 365$. A high DSO means it takes longer to convert its sales into cash, which can affect its liquidity and has put many companies out of business. A low DSO results in a lower accounts receivable balance and more cash available to support operations and healthy growth.

Note 2. ofsERP® is the oilfield services industry solution extension of Microsoft Dynamics 365 Business Central Essentials ERP. Learn more: <https://www.cbsi-corp.com/cbsi-ofserp>

About the author: **Dennis Smith** is the Founder/CEO of Computer Business Solutions, Inc. <https://cbsi-corp.com>.



Dennis graduated from Southern Methodist University with a BBA in Finance and minor in Economics. He developed a promising career at Exxon Oil by automating business processes in the Western Division Controller's IT and Finance departments. After earning his MBA, he started his own company to automate processes for smaller and mid-sized clients. At CBSi, his team has designed and created ofsERP®, an extension of Microsoft Dynamics 365 Business Central Essentials ERP functionality; an Industry Solution preferred by oilfield service company owners and private equity firms.