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Yale SCHOOL OF MANAGEMENT

On the Nature of Working Capital: Understanding its Mysteries and Complexities

To drive ROIC,[a] make capital work for you, not against you

"We were always focused on our profit and loss statement. But cash flow was not a regularly discussed topic. It was as if we were driving along, watching only the speedometer, when in fact we were running out of gas."

– Michael Dell, founder and CEO, Dell Technologies

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The academic definition of working capital[b] is a simple one: take current assets and subtract current liabilities; the difference provides a firm's working capital. However, such simplicity disguises the importance of the calculation. Few young, first-time, and inexperienced entrepreneurs (and even seasoned operators) seem to truly internalize the influence and importance of working capital on free cash flows in a business.

In any business (but especially small ones), working capital can make or break the organization's financial health. Attractive working capital dynamics can transform a seemingly meager bottom line into hearty free cash flows. Conversely, weak working capital dynamics in a growing company can – despite an impressive bottom line on the income statement – create a perpetually cash-strapped situation. Some companies with particularly large working capital demands may even find that high revenue growth – a metric exalted by many – can lead to declining free cash flows. Business operators need to beware. Working capital is the blood and oxygen that sustains a business. Without adequate levels, the business perishes, regardless of how good everything else looks.

As investors and entrepreneurs, we understand the challenges of bridging the topic of working capital from the classroom to reality. It is hard to fully comprehend the importance and palpability of working capital dynamics from a classroom conversation; however, we certainly wish we more fully understood the nuances of working capital at the incipient stages of our entrepreneurial ventures. This is a topic that truly matters and is worth deep study and understanding. Entrepreneurs fully understand working capital when they rush the postal delivery person to see what checks have arrived in the daily mail or sheepishly call vendors with requests to delay payment.

While this topic is wonky and lacks the glamour of strategy, it can be a huge driver of business success. Despite this, we often hear friends regale us with stories of revenue growth and compounding EBITDA,[c] but never much about working capital. Nonetheless, working capital is

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[a] Return on invested capital
[b] In this case note, we use the term "working capital" synonymously with "net working capital."
[c] Earnings before interest, taxes, depreciation, and amortization

like health: Ignore it at your own peril, because when it flags, it will be the only thing you think about.

This case note – through a variety of both fictional and real-life examples – encourages business operators to prioritize working capital management. We will cover the following:

- An academic overview of working capital to provide a synopsis of the topic for the inexperienced reader
- An in-depth analysis of why working capital matters and why the business operator should aspire to maintain low working capital levels
- An exploration of how strong working capital dynamics drive exceptional returns on invested capital
- An overview of negative working capital and why this business characteristic is so powerful
- Examples of strong and weak working capital positions from a variety of businesses, both small and large
- A strategic overview of the role working capital plays in business acquisitions
- A list of tactics and strategies business operators can use to improve working capital positions

Understanding Working Capital

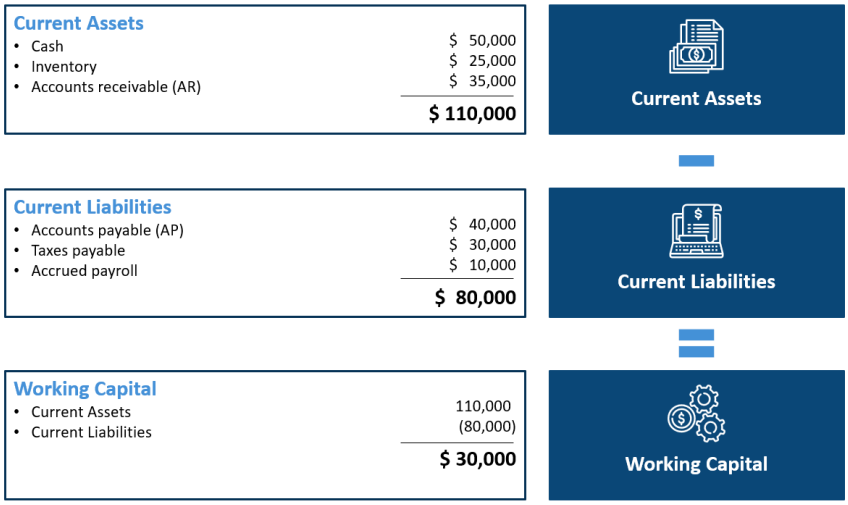
Working capital is defined as "the money a company needs to finance its daily operations."[5] Many activities fall under the banner of "daily operations," including inventory purchasing, extending payment terms to customers, and prepaying expenses. While the aforementioned activities require capital from the business, these requirements are offset by other activities, including receiving lengthy payment terms from suppliers and serving customers who pay early for services not yet rendered. A company's working capital requirement is the amount of capital required by daily operations minus any offsets.

To calculate working capital, we look to the balance sheet, which lists current assets (sources of cash) and current liabilities (uses of cash).[d] Some balance sheets may have specific line items dedicated to current assets and liabilities; others may omit these line items and require the simple addition of the various subcategories which constitute current assets and liabilities. For most small businesses, current assets will include cash, cash equivalents (stocks, bonds, etc.), accounts receivable (AR), inventory, prepaid liabilities, and other assets that are reasonably expected to be consumed within one year of business operations. Similarly, current liabilities are short-term financial obligations due within an annual operating cycle, such as accounts payable (AP), payroll, short-term debt, and taxes payable.

By summing the subcategories that comprise current assets and liabilities and then subtracting current liabilities from current assets, we arrive at working capital. **Figure 1** displays the calculation of working capital for a fictional company.

[d] An important aside must be made on the importance of accurate and timely accounting. Without reliable balance sheets, an operator cannot properly calculate working capital. Curing an unhealthy working capital position is impossible if the operator lacks knowledge of its existence.

Figure 1: Working Capital Calculation



Source: Case Authors

Working capital provides a snapshot of a company's capital requirements. It fails, however, to adequately depict the interconnection between customer payment terms and working capital needs, and the corresponding pain that can ensue when customers fail to pay in a timely manner or when suppliers demand payment far in advance of product delivery. For this, we must instead turn to a close cousin of working capital, the cash conversion cycle (CCC). While working capital includes all current assets and current liabilities, the CCC includes only the three line items which typically affect working capital the most: inventory, AR, and AP.

The cash conversion cycle is the number of days it takes a company to convert an investment in inventory or service provision into cash. This investment typically begins with a payment to a supplier. Ideally, for the operator, that payment occurs after raw materials have already been delivered, speeding the rate at which the business can convert its inventory investment into cash. Next, the firm must hold inventory on its balance sheet. Finally, businesses must await payment from customers, which could come immediately, well after, or even before a product or service is delivered.

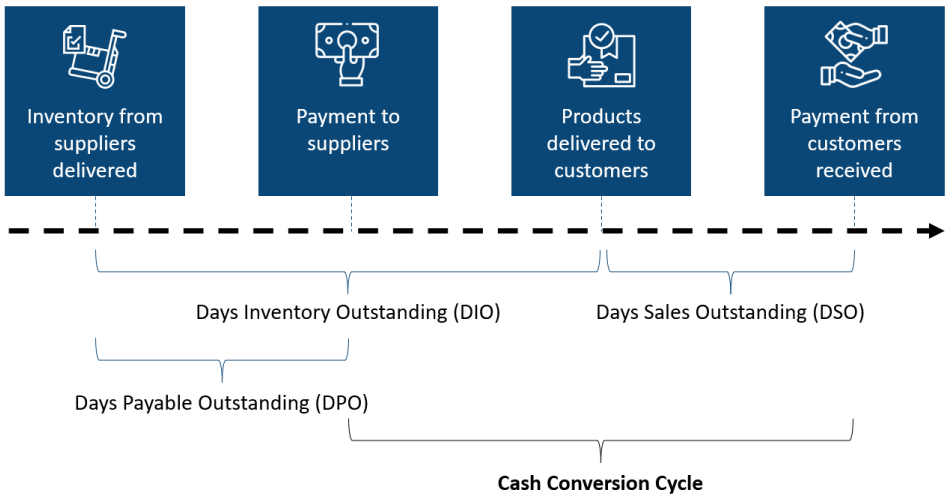
To calculate a cash conversion cycle, first convert AP, AR, and inventory, respectively, into days sales outstanding (DSO),[e] days payable outstanding (DPO),[f] and days inventory outstanding (DIO).[g] Then, a simple equation provides the cash conversion cycle:

$$CCC = DIO + DSO - DPO$$

The longer the CCC, the higher the working capital requirement, and vice versa. **Figure 2** provides a graphical example of the cash conversion cycle.

[e] DSO = AR/Sales * 365
[f] DPO = AP/COGS * 365; COGS = cost of goods sold
[g] DIO = Inventory/COGS * 365

Figure 2: Cash Conversion Cycle



Source: Case Authors

Less is More

A key observation should already be clear: *Less* working capital and a *shorter* CCC are beneficial to the business. This might be counterintuitive to some when we have been ingrained to believe that owing people money is bad. However, when you owe people money, less capital is invested and tied up in your business.

Effectively managing a low working capital balance is no easy task, but the undertaking is an essential one. Two interlocking reasons – one static and one dynamic – drive that imperative.

First, from the static perspective, working capital management has a direct impact on the immediate-term cash position of a company. A firm with large current assets (outstanding AR balances or high inventory levels) and few current liabilities (AP, customer deposits, etc.) to offset those current assets essentially places its cash profits in the hands of its customers or an inventory bin. We call this "dead money"; avoid it. Dead money cannot be used to invest in growth or returned to shareholders. It is extraordinarily difficult (or at least much harder) to earn a superior ROIC when there are very large working capital demands in a business.

By reducing working capital, operators realize a one-time win. A decrease in working capital of $10,000 allows $10,000 to be removed from the business *once*. Recall that the calculation from EBITDA to free cash flow requires subtracting the *delta* (change) in working capital, not the total amount. Therefore, reductions in working capital must be maintained for the cash to be freed in perpetuity. If lower working capital is maintained, there can be long-term benefits.

The second – dynamic – reason working capital is important relates to growth and scalability. A business with lower working capital requires less investment to grow. For many businesses, growth in revenue requires significant investment. Normally, we think about this in terms of capital expenditures, such as on vehicles or equipment. But often, growth also requires an investment in working capital. More revenue creates more AR, inventory, and payroll, which require more cash to fund. By lowering a static working capital position, an operator can reduce the working capital investment required to grow and scale the company. With low working capital needs, growth is cheap. On the other hand, a high-growth company

with high working capital needs will quickly see its rising EBITDA diminished by ballooning working capital needs during growth years – potentially putting the business in danger of running out of cash.

The Math Behind Working Capital

A series of simplistic examples help clarify working capital's effects. To begin, imagine a hypothetical firm – Company A – which realizes $1,200 of annual revenue by selling one $100 product per month. With 10% EBITDA margins, Company A realizes $120 of annual EBITDA. The business operates like clockwork. On the first day of each month, Company A pays a supplier $70 for raw materials, with cash on delivery terms. One month later, it sells the product to a customer for $100, also with cash on delivery terms. The table below summarizes the company's annual financials and working capital calculation:

Table 1: Working Capital Calculation for Company A

	Company A
Revenue	$1,200
COGS	$840
Gross Profit	$360
SGA	$240
EBITDA	$120
EBITDA %	10%
AR	$0
Inventory	$70
AP	$0
Working Capital	$70

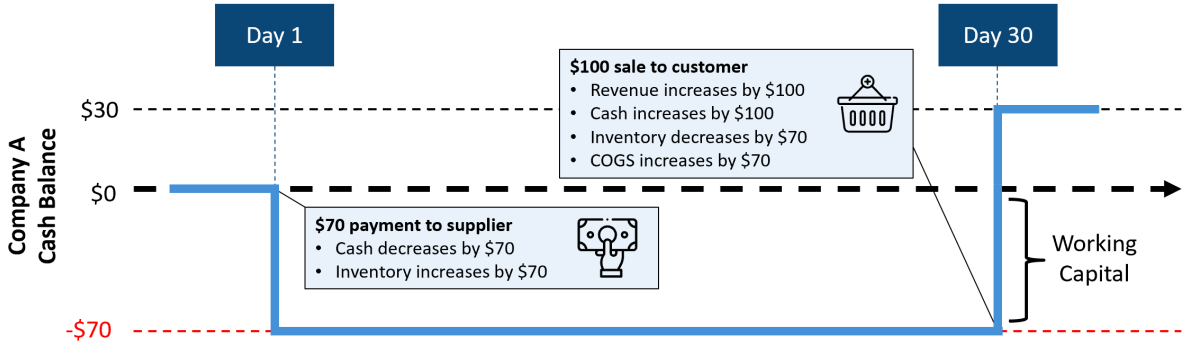
Because of the immediate payment terms, Company A's AP and AR balances are both zero. The inventory balance, however, is perpetually $70, as the company always has one $70 product in its warehouse (inventory is booked at cost-value). As current assets are $70 and current liabilities are $0, the company's working capital is $70. We can also calculate Company A's CCC with the given information. First, we calculate DSO, DPO, and DIO. Then, finding the CCC requires just simple addition and subtraction:

Table 2: Cash Conversion Cycle for Company A

Metric	Formula	Calculation	Result
Days Payable Outstanding (DPO)	$DPO = \frac{AP}{COGS} * 365$	$DPO = \frac{\$0}{\$840} * 365$	DPO = 0 days
Days Sales Outstanding (SDO)	$DSO = \frac{AR}{Revenue} * 365$	$DSO = \frac{\$0}{\$1,200} * 365$	DSO = 0 days
Days Inventory Outstanding (DIO)	$DIO = \frac{Inventory}{COGS} * 365$	$DIO = \frac{\$70}{\$840} * 365$	DIO = 30 days
Cash Conversion Cycle (CCC)	CCC = DSO + DIO – DPO	CCC = 0 + 30 – 0	**CCC = 30 days**

Figure 3 provides a visual representation of Company A's cash position over one month:

Figure 3: Company A Cash Dynamic



Source: Case Authors

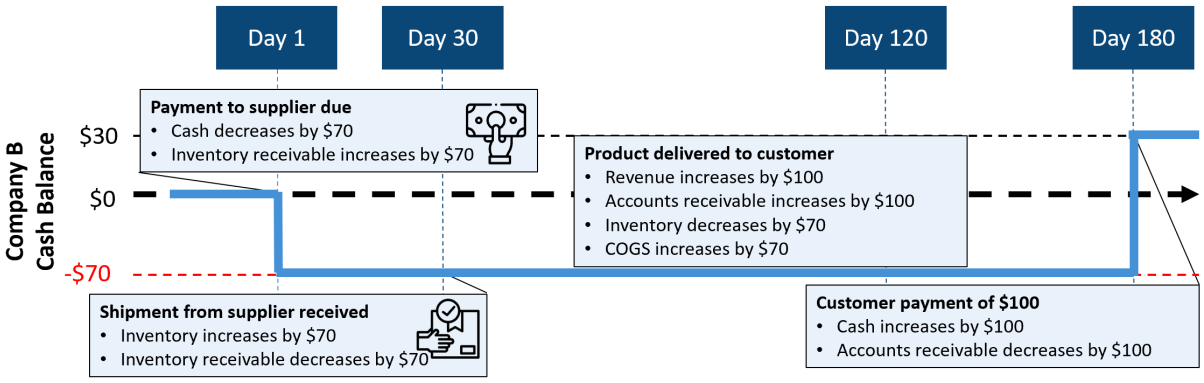
Let's now compare Company A to another fictional firm, Company B. Company B shares an identical profit and loss (P&L) statement to Company A. However, instead of cash on delivery terms for both customers and suppliers, Company B offers 60-day terms to customers and must pay suppliers 30 days in advance. Lastly, Company B has a less efficient inventory management system that requires three months of inventory to be in the warehouse at any given time. The table below compares Company A and Company B, demonstrating how the new payment terms and inventory management strategy have no effect on the P&L, but damage both working capital and CCC:

Table 3: Working Capital and Cash Conversion Cycle Calculations for Company A and Company B

	Company A	Company B
Revenue	$1,200	$1,200
COGS	$840	$840
Gross Profit	$360	$360
SGA	$240	$240
EBITDA	$120	$120
EBITDA %	10%	10%
AR	$0	$200
Inventory	$70	$210
AP	$0	($70)
Working Capital	$70	$480
DPO	0 days	-30 days
DSO	0 days	61 days
DIO	30 days	91 days
CCC	30 days	183 days

Company B must maintain higher working capital than Company A. No P&L items have changed, only the timing of cash payments. Nonetheless, the operators of this firm require an additional $410 to fund working capital – an increase equal to over 34% of revenue. Similarly, the CCC has increased from 30 days to 183 days. **Figure 4** provides a graphical representation of one product's journey through Company B:

Figure 4: Company B Cash Dynamic



Source: Case Authors

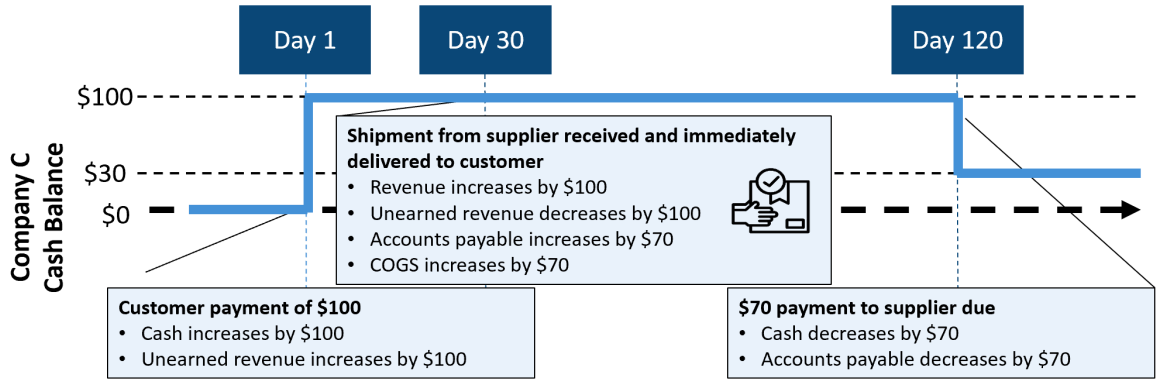
One highly desirable working capital position is worth highlighting in our final example. Some companies carry *negative* working capital. This as an incredibly favorable business dynamic that further applies the mantra that *less is more*. To illustrate the holy grail of negative working capital, consider Company C, which has improved terms with both suppliers and customers compared to Company A and Company B. Company C's customers pay one month in advance (creating a liability account typically called unearned revenue). Suppliers offer 60-day terms. Finally, Company C operates with zero inventory – products are delivered directly from the supplier to the end customer in a "drop-shipping" model. The business is summarized below, alongside Company A and Company B:

Table 4: Working Capital and Cash Conversion Cycle Calculations for Company A, Company B, and Company C

	Company A	Company B	Company C
Revenue	$1,200	$1,200	$1,200
COGS	$840	$840	$840
Gross Profit	$360	$360	$360
SGA	$240	$240	$240
EBITDA	$120	$120	$120
EBITDA %	10%	10%	10%
AR	$0	$200	($100)
Inventory	$70	$210	$0
AP	$0	($70)	$140
Working Capital	$70	$480	($240)
DPO	0 days	-30 days	61 days
DSO	0 days	61 days	-30 days
DIO	30 days	91 days	0 days
CCC	30 days	183 days	-91 days

Company C's impressive *negative* $240 working capital balance can be reinvested elsewhere in the business or returned to shareholders. And if Company C grows, so too will the negative working capital balance. A company with negative working capital gets paid to grow! Vendors and customers become the bank providing growth financing without any interest cost (the holy grail of working capital). **Figure 5** illustrates Company C's cash position with the negative working capital dynamic.

Figure 5: Company C Cash Dynamic



Source: Case Authors

While we are unabashed fans of negative working capital businesses, we caution entrepreneurs about being lackadaisical and cavalier with customer or vendor funds. Any time a customer pays for products and services in advance (a key part of the negative working capital dynamic), a liability is recognized on the balance sheet to fulfill the products and services customers have paid for. Customers expect something for their previous payments. If entrepreneurs consume the aforementioned payments and are incapable of delivering the previously paid-for products and services, considerable damage will follow for the business. While negative working capital is wonderful and easy in a growing business, it becomes much harder to manage in a shrinking business when new funds are not coming in at the same rate as liabilities for products and services come due. So, seek negative working capital situations, but manage the business with prudence and integrity to prevent getting caught in a cash trap.

Working Capital and Its Impact on Return on Invested Capital

The true benefit of low or negative working capital becomes apparent when we examine the ROIC of each fictional company. To calculate ROIC, we utilize Wharton Professor David Wessels' formula:[h6]

$$\boldsymbol{ROIC = \frac{Operating\ Profit * (1 - Tax\ Rate)}{Working\ Capital + Net\ Fixed\ Assets}}^{[i]}$$

The numerator, after-tax operating profit, is identical for all companies: $1,200. To calculate the denominator, we turn to the balance sheet, where we assume all companies have net fixed assets of $500. Let's begin by calculating Company A's ROIC. With working capital of $70, we find ROIC as follows:

$$\boldsymbol{ROIC = \frac{Operating\ Profit * (1 - Tax\ Rate)}{Working\ Capital + Net\ Fixed\ Assets} = \frac{\$120}{\$70 + \$500} = 21\%}$$

ROIC provides an ideal measure of the equity holder's return, showing the annual returns generated relative to the capital necessary to reap those returns. Only if ROIC is above WACC[j] is value created for the investor. As working capital resides in the denominator of the formula, an increase in working capital reduces ROIC. This is keenly demonstrated by calculating Company B's ROIC, which, due to the higher working capital

[h] See Chapter 9 of Koller, et al. (2010) for a detailed explanation.
[i] Net Fixed Assets = Fixed Assets – Accumulated Depreciation
[j] Weighted average cost of capital

requirements of $480, is just 12%. On the other hand, Company C realizes a superior ROIC of 46%! This benefit manifests without any changes to the P&L. Instead, the ROIC gains are realized solely through inventory reductions and more favorable terms with buyers and suppliers. The table below provides the full comparison between the three fictional firms:

Table 5: ROIC Calculations for Company A, Company B, and Company C

	Company A	Company B	Company C
Revenue	$1,200	$1,200	$1,200
COGS	$840	$840	$840
Gross Profit	$360	$360	$360
SGA	$240	$240	$240
Operating Profit After Tax	$120	$120	$120
Operating Profit After Tax %	10%	10%	10%
AR	$0	$200	($100)
Inventory	$70	$210	$0
AP	$0	($70)	$140
Working Capital	$70	$480	($240)
DPO	0 days	-30 days	61 days
DSO	0 days	61 days	-30 days
DIO	30 days	91 days	0 days
CCC	30 days	183 days	-91 days
Net Fixed Assets	$500	$500	$500
ROIC	**21%**	**12%**	**46%**

One last example helps further highlight the immense power of negative working capital. Consider a magazine company where one thousand customers pay $120 on January 1 for twelve monthly magazine issues. The company receives a huge $120,000 cash influx long before it must incur costs to create the magazine content customers paid for. When the customer pays in January, just one-twelfth of the payment ($10,000) is booked as revenue. The remaining eleven twelfths ($110,000) is booked as unearned revenue, a current liability. Though no net income is immediately realized from unearned revenue, the line item provides a huge increase to current liabilities. The customer's early payment gives the magazine company a bucket of cash to spend throughout the year.

The table below highlights the salient line items for the discussed magazine company and compares it to a nearly identical company with one key difference: Customers pay monthly instead of annually. We use a current liability of $60,000, which is the average liability outstanding for the year. If customers pay monthly, the hefty working capital benefits (and corresponding advantages to ROIC) are eliminated.[k] With annual prepayment, ROIC is an astonishing 200%; with monthly payment, it is just 46%.

[k] For simplicity, the example assumes $25,000 of current assets and no current liabilities other than unearned revenue. Net fixed assets are $50,000.

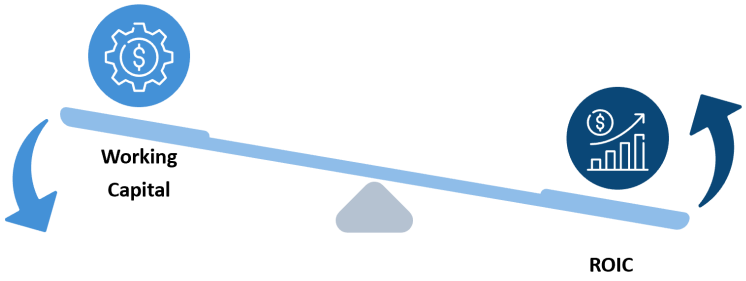
Table 6: ROIC Calculations for Two Magazine Companies[1]

	Magazine company with one annual payment on January 1	Magazine company with twelve monthly payments
Revenue	$120,000	$120,000
Operating Profit After Tax %	25%	25%
Operating Profit After Tax	$30,000	$30,000
Net Fixed Assets	$50,000	$50,000
Current Assets	$25,000	$25,000
Current Liabilities	**$60,000**	**$10,000**
Working Capital	($35,000)	$15,000
ROIC	**200%**	**46%**

In addition to the quantitative benefits of negative working capital, the business operator also experiences qualitative benefits. Managing cash is an omnipresent worry for the small business operator; low working capital requirements ease the burden by freeing additional cash. Often, cash availability worries culminate with a biweekly payroll obligation. A business in danger of missing payroll is a business in danger of insolvency. By minimizing working capital, these concerns are alleviated, reducing stress for the business operator. Furthermore, the business operator with low or negative working capital can avoid reliance on a bank revolver for cash. In exchange for cash from a bank, the operator is often subject to strict covenants, which can restrict the operator from running the business in the way that most increases its value. Managing a relationship with the bank takes time and mental (and emotional) bandwidth. By reducing working capital, these burdens can evaporate.

There is a direct and perfect inverse correlation between working capital and ROIC. As working capital decreases, ROIC increases, and as working capital amplifies, ROIC compresses. Managing working capital is an activity that is rewarded with return, and ignoring working capital is punished with shriveling returns. Of course, increasing after-tax operating profit and decreasing fixed assets also impact ROIC positively.

Figure 6: The Inverse Relationship Between Working Capital and ROIC



It would be impossible for us to overemphasize the importance of ROIC. Unfortunately, many MBA students and entrepreneurs do not fully internalize the magnitude of this concept. At its essence, ROIC is the long-term earning power of any business. ROIC is not equal to an investment return, which would also include expansion or contraction of entry and exit multiples and valuation. Furthermore, for any firm to create value, positive arbitrage between its weighted average cost of capital and its ROIC must be present.

[1] In this table, unearned revenue (current liabilities) has been annualized to its average amount.

To highlight the priority of ROIC, we offer a few quotes[7] on the topic from the power duo of investors Warren Buffet and Charlie Munger (who run Berkshire Hathaway Inc.):

- "The ideal business is one that earns very high returns on capital and that keeps using lots of capital at those high returns. That becomes a compounding machine." – Warren Buffett
- "Over the long term, it's hard for a stock to earn a much better return that the business which underlies it earns. If the business earns six percent on capital over forty years and you hold it for that forty years, you're not going to make much different than a six percent return – even if you originally buy it at a huge discount. Conversely, if a business earns eighteen percent on capital over twenty or thirty years, even if you pay an expensive looking price, you'll end up with one hell of a result." – Charlie Munger
- "The higher return a business can earn on its capital, the more cash it can produce, the more value is created. Over time, it is hard for investors to earn returns that are much higher than the underlying business' return on invested capital." – Warren Buffett
- "If you get access to an enduring and free (or less-than-free) float — whether it comes from insurance underwriting, derivatives contracts, trading stamps, travelers' cheques, stored value cards, deferred taxes or any other source — then assets financed with such a float will become 'an unencumbered source of value' for your stockholders. This will happen because (1) the assets financed with such a float would still be valued on the basis of their expected future earning power; but (2) the true value of the liability represented by the float will be far lower than its carrying value, provided the float is both costless and long-enduring." – Warren Buffett

It is no wonder that Buffet and Munger have owned and operated many businesses with negative working capital that enhance ROIC. For example, their insurance companies accumulate cash through premiums paid and hold and invest that cash until it is needed to pay for the losses of insureds. In the insurance world, this negative working capital is called float. Buffet and Munger also own a large position in American Express, which used to generate large negative working capital through the sale of travelers' cheques – customers would provide American Express with cash and receive a check to be cashed at some point in the future. A final example would be the NetJets cards sold in the private aviation business. NetJets takes cash from customers in advance, which acts as a deposit for future flight times – negative working capital.

Buffet and Munger have plenty of businesses without negative working capital dynamics, but their businesses with negative working capital have helped finance and expand their empire. Negative working capital is a free source of cash and tends to drive attractive ROIC. Be like Warren and Charlie.

Dispelling Myths

Many seem to doubt the notion that "less is more" when it comes to working capital. We posit three reasons for the misconception.

First, some mistakenly assume assets are always good and liabilities always bad. Since more current assets cause working capital to rise, the argument goes, more working capital is better. But unnecessary assets are wasted investments and diminish ROIC. Let's consider physical investments, as opposed to more nebulous working capital assets, to help demonstrate the point: If a firm has several factories, but needs only one to satisfy customer demand, it should sell the unused factories and return the proceeds to investors (or extinguish debt or invest in growth opportunities). The same goes for working capital: If a firm can lower unnecessary working capital (by either shrinking current assets or growing current liabilities), it should.

Second, others incorrectly seek large working capital positions at the direction of bankers and creditors, who encourage operators to maintain high current ratios,[m] which equate to high working capital balances. Bankers prefer high current ratios to minimize risk. If a company's current assets are twice its current liabilities (a current ratio of 2.0x), it is unlikely to be in danger of insolvency. But a current ratio fails to provide the whole story. If current assets consist entirely of non-cash items (AR, inventory, etc.) and lack cash, a firm can still face unexpected insolvency. Conversely, if current assets are comprised entirely of cash, the bank is right to be pleased about a low probability of immediate default. But the bank's incentives do not match those of the operator. Unnecessary cash protecting against insolvency is wasted cash, which could likely be used to generate higher returns for the operator elsewhere.

Third and finally, neophytes sometimes confuse the role of the business operator with that of the business acquirer. In a subsequent section, we outline why the business acquirer prefers *higher* working capital. However, the operator's beacon remains unchanged: Less is more.

As we dispel these misconceptions, we must add a cautionary note. Minimizing working capital is not foolproof; it is no panacea. Careful attention must be given to the tradeoffs that come with reductions in working capital. We further explore these tradeoffs at the end of this case note when discussing strategies to effectively manage working capital.

Working Capital in Action

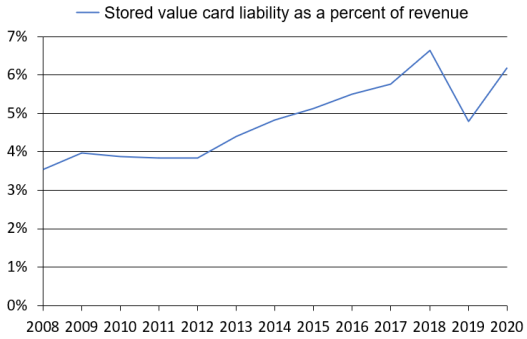
Four examples of companies' working capital dynamics help solidify the importance of working capital and demonstrate that an overemphasis on EBITDA alone can lead to subpar financial results and equity returns.

Starbucks – the Seattle-based coffee behemoth – launched its customer loyalty program in 2008.[8] The development of the program provides an illuminating example of the benefits of strong working capital dynamics and large current liabilities. Loyalty programs come with a variety of benefits. Most often, adherents point to their ability to, as the name implies, build loyalty among customers. While companies must fund perks (in Starbucks' case, occasional free coffees) in exchange for loyalty, the benefits normally materially outweigh the costs. In return for perks, loyal customers provide recurring revenue, have greater price inelasticity, and require lower marketing spend to retain than non-participants.

However, in Starbucks' situation, the chief financial officer likely shows as much excitement about the program as the chief marketing officer. In addition to loyal customers, the loyalty program creates huge working capital benefits (reductions in working capital) by encouraging users to preload funds onto an app. These funds are booked on the balance sheet as a current liability under "stored value card liability and current portion of deferred revenue." **Figure 7** shows the growth of this current liability line item as a percent of revenue from its birth in 2008 to 2020. In 2020, Starbucks had an astonishing $1.456 billion in stored value card liabilities on its balance sheet. As current liabilities are subtracted from current assets to obtain working capital, the loyalty program *lowered* working capital by $1.456 billion in 2020. Less is more.

[m] A company's current ratio is calculated by dividing current assets by current liabilities.

Figure 7: Growth of Starbucks' Loyalty Program



Source: Starbucks Annual Reports[9]

In essence, Starbucks' $1.456 billion decrease in working capital amounts to a crowd-sourced, interest-free, covenant-free, zero-fee, short-term loan. By considering the resources – both pecuniary and temporal – required to obtain a $1 billion+ loan through a bank, the benefits of lowering working capital become clear. Furthermore, the $1 billion loan will likely not be paid to customers on a dollar-for-dollar basis – not everyone will fully redeem their prepaid loyalty cards – it's a loan that does not need to be paid back in full!

Mini-profile: Merchology

Founded in 2014 by the Ward family, Merchology sells branded custom logo apparel to corporate clients across the U.S. In just seven years, the company has grown to more than $60 million in revenue under the leadership of Dick Ward and his children, Ally Delgado, and Andrew Ward. Today, the company employs more than 230 people across three U.S. facilities that embroider and screen print customers' company logos on apparel from brands like Patagonia, Under Armour, and Nike (the company additionally laser etches logos on drinkware). Co-founder and CMO Ally Delgado (Harvard Business School 2013) reflected on the role of working capital in Merchology's explosive growth:

> When I was in business school, the goal was to raise huge sums of money and grow as quickly as possible. Rarely did people want to pursue healthy free cash flows at the birth of a business. That's not our strategy at Merchology.
>
> Our eCommerce model allows us to maintain extremely low working capital and high free cash flows. Most customers pay on purchase with a credit card, meaning the cash is immediately available to us. We then use that cash to purchase inventory from our suppliers, which arrive the next day at our embroidery facilities. These facilities are strategically placed near suppliers to minimize inventory days. Products are generally delivered to customers within 3 to 10 days. But most suppliers don't require payment for 60 days! To get another few days, when possible, we pay with a check instead of electronically. This dynamic has allowed us to fund our growth with working capital and stay away from bank loans and the associated covenants.
>
> If you want to go into business for yourself, there is nothing more important for an MBA to learn than the ins and outs of daily cash management and working capital.

Elementary math helps crystallize the sway effective working capital management holds on free cash flow at Merchology. With approximately $60 million in revenue and our estimation of 10% margins,

Merchology produces $6 million of EBITDA annually. If sold today at a 7x valuation (a conservative estimate given the high growth nature of the company), shareholders would receive $42 million (the company has no debt). The founders invested just $75,000 to start the company. The implied multiple on invested capital is therefore 560x. Working capital dynamics played a huge role in creating these impressive economic returns – because no major capital investments were required to create the $6 million EBITDA stream.

While Starbucks and Merchology provide stark examples of the potential benefits of working capital, Tiffany & Co. and another small business, BigMouth Inc., demonstrate a poor working capital position's ability to drain ROIC and stunt cash flows during growth.

TIFFANY & CO.

Tiffany & Co. manufactures and sells jewelry around the world.[10] The company, largely because of the nature of the industry it operates in, is forced to maintain a high working capital balance. An examination of Tiffany & Co.'s balance sheet allows for the calculation of the company's working capital position and cash conversion cycle.

Tiffany & Co.'s current assets totaled $3.875 billion in 2020, including $2.464 billion in inventory and $240 million in AR. Current liabilities totaled $970 million. By subtracting current liabilities from current assets, we calculate working capital as equal to $2.905 billion, a gargantuan 65.6% of 2020 revenues! Calculating the company's cash conversion cycle creates similarly shocking results. The table below summarizes the necessary calculations, revealing a mammoth 503-day cash conversion cycle.

Table 7: Cash Conversion Cycle Calculations for Tiffany & Co.

Metric	Formula	Calculation	Result
Days Payable Outstanding (DPO)	$DPO = \frac{AP}{COGS} * 365$	$DPO = \frac{\$261M}{\$1.662B} * 365$	DPO = 57 days
Days Sales Outstanding (SDO)	$DSO = \frac{AR}{Revenue} * 365$	$DSO = \frac{\$240M}{\$4.424B} * 365$	DSO = 19 days
Days Inventory Outstanding (DIO)	$DIO = \frac{Inventory}{COGS} * 365$	$DIO = \frac{\$2.464B}{\$1.662B} * 365$	DIO = 541 days
Cash Conversion Cycle (CCC)	CCC = DSO + DIO – DPO	CCC = 19 + 541 – 57	**CCC = 503 days**

Tiffany & Co. clearly perceives that the benefits of its large inventory holdings outweigh the costs associated with high working capital. Indeed, in its annual report, executives note that "the company's strategic priorities include maintaining substantial control over its product supply chain through internal jewelry manufacturing and direct diamond sourcing." Direct sourcing and the time-consuming activity of processing rough diamonds require a large inventory. Nonetheless, imagining a Tiffany's with 25% less inventory paints a clear picture of the benefits that arise from reducing working capital.

Cutting inventory by one-quarter would reduce working capital by approximately $616 million. This reduction translates into a one-time increase to free cash flows of the same amount. In 2020, Tiffany & Co.'s net cash flow from operations was $670 million. The inventory reduction would nearly double 2020 cash flows.

Mini-profile: BigMouth, Inc.

From 2018 to 2020, David Putt (University of Miami School of Business 1993) served as chief financial officer of BigMouth Inc., a private equity-backed consumer products company. BigMouth designs and manufactures novelty toys, including a variety of unique inflatable pool floats. Designed in Connecticut, all products are manufactured in China. By 2020, the business reached sales of approximately $50 million while experiencing 50% annual growth. However, a high working capital balance of 25% of revenue significantly increased the capital intensity of the business and required the maintenance of a large revolving line of credit through a bank to sustain adequate cash reserves. Putt expanded:

> Difficult terms with both suppliers and customers led to demanding working capital requirements. For suppliers, the norm was to pay 30% of the wholesale price upon order placement, with the remainder upon product delivery, approximately 60 to 90 days later.
>
> The situation did not improve with AR, where revenue came from two primary customer segments. Fifty percent stemmed from big-box stores like Target and Walmart. These customers picked up product directly from the manufacturer [creating zero inventory, a favorable dynamic] but then did not pay for 90 to 120 days. For these customers, the cash conversion cycle was a whomping 180 days. The other 50% of revenue stemmed from smaller specialty stores (i.e., pool supply shops). The AR dynamic here was little better. Transferring the product overseas, customs intake, and distribution took at least 30 days. Payment terms generally allowed customers 60 days before payment was due, creating a cash conversion cycle of 150 days for these customers.
>
> Selling more product direct-to-consumer through eCommerce channels would have significantly reduced the capital intensity of the business.

Working Capital in Acquisitions

The significance of working capital during business acquisition should come as no surprise after a detailed review of the topic's importance to the operator. But our analysis now takes a sharp turn. Previously, our lodestar has been the minimization of working capital. In contrast to the business operator, however, the business acquirer must approach working capital from the opposite angle: The acquirer benefits when working capital is higher – with the future ability to reduce working capital precipitously.

To clarify how the acquirer's working capital incentives differ from those of the operator, we analogize a business sale to a used car sale. The used car represents the business; the gas in the tank represents working capital. As previously reviewed, the current operator of the business (the seller) prefers to maintain a low level of gasoline in the vehicle – just enough to ensure it runs smoothly. From the operator's perspective, holding more gasoline than required represents an inappropriately large working capital position.

But at sale, while the seller prefers an empty tank, the buyer prefers a full one. For vehicles, this negotiation may seem trivial; the value of the gasoline is likely a minuscule portion of the total sale price. But in a business sale, working capital can represent a large portion of the purchase price. Consider a business with $10 million in sales and 20% margins being offered for 5x EBITDA. Quick math shows that the purchase price for the business is $10 million. Now assume that working capital is 20% of revenue, or $2 million. Depending on how the buyer and seller negotiate, working capital can swing the real purchase price of the

business anywhere between $8 million and $12 million – a $4-million swing equal to 40% of the agreed-upon purchase price. Working capital matters in negotiations.

Such a large range demonstrates the importance buyers and sellers alike must devote to working capital. In addition to revenue strength, margin analysis, and capital expenditures (CapEx) requirements, working capital analysis is one of many pieces of diligence that should be performed when considering a business acquisition. To perform this diligence, an acquirer should inspect two primary areas: the actual working capital position and the ideal working capital position.

To ascertain the target company's actual working capital position, the buyer simply calculates the difference between current assets and current liabilities. In a straightforward acquisition (of which there are few), a clean and accurate balance sheet allows for a speedy calculation. Two common complications frequently muddle the arithmetic:

- *Seasonality*. A business making most of its sales during a small portion of the year will exhibit lumpy working capital balances. To overcome this complication, entrepreneurs typically calculate working capital over the trailing twelve months.

- *High growth*. A high-growth business further complicates the equation. Using the trailing twelve month's working capital will likely underestimate the level of working capital needed to operate the business in future years. Instead, entrepreneurs can calculate working capital as a percentage of revenue to better account for growth.

Following the calculation of the business's actual working capital position, the acquirer should make a fair and conservative estimation of the business's ideal working capital position. Here, the acquirer imagines themselves as the current operator and asks what changes they would make to working capital. If the current owner of the business is effectively managing working capital, the ideal working capital position should be no different from the actual. But preferably for the acquirer, the current business owner has done a poor job of following the maxim that "less is more," leaving an opportunity for the next owner of the business to lower working capital and reap the associated benefits.

Armed with a thorough understanding of the target's working capital position, the acquirer next enters negotiations. Traditionally, a two-part process is used to align incentives around working capital between the buyer and the seller. First, before closing, the parties agree on how much working capital should be left in the business at the time of sale. This value is called the *peg*. Next, typically three to six months after closing, the second step of the two-part process occurs: *the true-up*. The transacting parties look back and calculate the exact working capital on closing day. While this number should be close to the peg, the vicissitudes of a going concern generally prohibit a perfect match. If the exact working capital on closing day was higher than the peg, the buyer must pay the seller the difference. If lower, the seller must pay the buyer.

Before the peg is finalized, the buyer wants to maximize working capital; the seller hopes to minimize it. Immediately after finalization, however, the incentives switch. The seller becomes incentivized to find ways to increase working capital. For example, imagine some current assets were omitted from the balance sheet prior to the peg calculation. When they are added to the balance sheet after finalization, working capital increases. The buyer would then be forced to pay for those current assets later in the true-up stage.

To highlight the practical application of pegs and true-ups, we present two example scenarios of the same transaction. Both examine a cash-free and debt-free[n] sale of a fictional business with the following fundamentals:

Table 8: Data Points for a Working Capital Peg Negotiation

Revenue	$8 million
EBITDA Margin	25%
EBITDA	$2 million
Current Assets	$2 million
Current Liabilities	$1 million
Working Capital	$1 million
Purchase Multiple	5x
Purchase Price	$10 million
Closing Date	July 1

In the first scenario, the buyer holds immense negotiating leverage. Such a position can arise from a seller's need for an expedited sale or a significant mismatch in negotiation abilities. To maximize working capital, the buyer demands that the peg equal current assets ($2 million) – with no buyer deductions made for current liabilities (this implies the buyer gets all the good and the seller keeps all the bad). To augment current assets, the buyer should ensure every possible asset is booked on the balance sheet. Are office supplies listed on the balance sheet? If the company has a large vehicle fleet, is the gas in the tanks accounted for? Does the inventory tracking system accurately depict the actual inventory in the warehouse?

Then, after the peg is finalized, in an effort to gain further value in the true-up stage, the buyer maximizes current liabilities – which is the seller's obligation according to the negotiation in the preceding paragraph. The keyword here is *accrual*. All current liabilities should be accrued up to the day of sale. Take employee bonuses as an example. If bonuses are paid yearly, and the closing date is in November, 11/12ths of employee bonuses should be accrued to current liabilities and therefore covered by the seller. A non-exhaustive list of common line items to accrue includes accounts payable, payroll, vacation days, healthcare, 401k contributions, and unearned revenue (service obligations). Under our scenario, since the transaction occurred at the year's midpoint, the seller must pay the buyer an additional $500,000 in the true-up – an amount equal to half of one year's current liabilities.

The second scenario explores a transaction wherein the seller holds the negotiation leverage. Here, the seller effectively argues that all current assets should be removed from the business upon close, in the way cash is retained by the seller in a cash-free, debt-free transaction. The seller claims that all AR, for example, belongs to the seller because the sale occurred under the seller's ownership. Unlike current assets, current liabilities become the buyer's sole responsibility. Such a transaction results in a requirement that the buyer invest an additional $1 million into the business on close, an amount equal to one-half of the year's current assets. This is not a favorable position for the buyer.

[n] In a debt-free, cash-free transaction, the seller retains all cash in the business upon close but must also pay all outstanding company debt.

The difference between the effective purchase price in the two scenarios demonstrates the importance of considering working capital in acquisition negotiations. In the first, the effective purchase price is $9.5 million. In the second, the amount is $11 million. This $1.5 million swing is equal to 15% of the agreed-upon purchase price! Do not overlook the salience of working capital in a business transaction.

Managing Working Capital in a Small Business

There are no silver bullets in the realm of small business working capital management. No single action will cut your business's working capital balance by half in one fell swoop. Instead of seeking home runs, operators must pursue singles. A focus on the numerous small things that affect working capital, along with a consistent dedication to instilling healthy cash management processes in your employees, will produce results. Working capital management is not sexy. MBA students entering high-powered consultancies are unlikely to advise clients on the topics discussed below. But in the small business arena, attention to such details creates attractive financial returns.

Effective working capital management requires constant dedication. We analogize it to weeding the garden. Stop weeding, and your progress will quickly recede. An individual with significant clout must lead the charge, as individual contributors have conflicting incentives. If the operations team manages raw material purchasing, inventory will bloom. If the sales team manages AR, customers are likely to receive overly favorable payment terms. Someone with a bird's eye view of the entire financial position of the business must be responsible for decisions related to working capital. In a small business, this person is often the CEO. Many CEOs sign every check; we approve of this practice. While time-consuming, the exercise is an effective way to keep a watchful eye on the company's cash position.

In this section, we present a non-exhaustive menu of tactics operators can use to minimize working capital.[o] We explore effective ways to reduce the two most common current assets (AR and inventory) and to increase the most common current liability (AP). We spend the most real estate exploring AR, which, in our experience, is where the most fruitful working capital reductions are available. Whether employing unmentioned tactics or the ones from this case note, operators must carefully weigh the benefits and risks of each strategy – many come with downsides that are beyond the purview of this case note to explore in detail.

Accounts Receivable (AR)

The overarching goal of accounts receivable management is to get customers to pay as early as possible – or, better yet, in advance. The first step to achieving that goal is the development of a competent system to monitor AR. Effective management of AR is impossible without accurate measurement. A cash dashboard (which should also include snapshots of AP and inventory levels), reviewed weekly, will give the operator a periscope into a business's cash position, the ability to establish cash flow trends, and sufficient knowledge to track deviations from the baseline. See a sample cash dashboard in **Exhibit 1**. At a minimum, this dashboard should include an AR aging report. The AR aging report allows the dashboard user to quickly determine whether any customers are deferring payment. **Figure 8** provides a sample.

[o] In addition to the authors' personal business experience, this section uses ideas from Harvard Business School's *Cash Management Practices in Small Companies* (9-699-047), published December 4, 1998.

Figure 8: Sample AR Aging Report

	<30 days	30 to 59 days	60 to 89 days	>90 days
AR Balance	$150,000	$40,000	$0	$12,000

Source: Case authors

We now review, in rough chronological order from invoice presentation to eventual payment, a list of tactics operators can use to decrease AR.

- *Invoice presentation*. Invoices should be designed to reduce friction for the payer. The service provided should be described in sufficient detail, including mention of the contract the invoice is associated with. The due date and amount payable should be large and draw the eye. Simple instructions on how to pay should be included.
- *Invoice delivery*. Invoices must be delivered to the correct address, whether by mail or email. A customer's end-user, contract approver, and billing office may be three different addresses; ensure you are billing the right one. Employee turnover, spam filters, or a customer's internal organizational reshuffling can complicate delivery. Electronic delivery is preferable to traditional mail. With traditional mail, customers can easily claim the invoice never arrived.
- *Invoice Timing*. Operators should consider three subfactors regarding invoice timing:
  - *Invoice date*. Sooner is better. For monthly services, do not wait to bill until the end of the month. If your business provides services on the 1st of the month but does not date the invoice until the 30th of the month, you are providing, assuming 30-day terms, a 60-day interest-free loan to your customer. Bill early.
  - *Due date*. Generally, industry standards determine how many days after the invoice date payment is due. Ensure your policy matches the industry standard. Often, the standard is 30 days.
  - *Invoice delivery date*. Deliver your invoice before the invoice date. Some customers will pay immediately upon receipt. Others will pay 30 days after receipt, not 30 days after the invoice date. Encourage such customer behavior – it decreases AR.
- *Payment type*. Operators should encourage electronic, automatic payment from customers (auto ACH and recurring credit card charges). These should be the default payment options.
- If you must offer payment by check, require customers to make a specific request for such treatment. Using a lockbox[p] can help minimize the time required to convert checks into cash.

[p] Lockbox services, often provided by banks, allow customers to send payment via mail to a variety of bank locations. Businesses provide the mailing address of the lockbox address nearest the customer, which minimizes the time the check spends in the mail. This speeds the conversion of AR into cash.

- *Initial follow-up*. Do not wait to ensure the customer received the invoice until payment is late. Follow up well before the due date, particularly for new customers or customers with a history of late payments. Depending on the number of customers your business serves, this follow-up can be automated via email or initiated by an employee.

- *Ongoing follow-up*. If payment is late, follow up immediately. One late payment, if not quickly addressed, is likely to turn into recurring late payments. Not only do untimely payments create unfavorable cash positions, but they also signal customer dissatisfaction. Often, customers refuse to pay when unhappy with the service provided. Quickly resolving unpaid accounts can help uncover and mend negative customer sentiments.

- *Customer monitoring*. Track which customers are paying late. Research shows that large customers routinely slow-pay smaller suppliers.[11] For these large customers, the small businesses may be forced to accept the slow payment. But for smaller customers, operators should consider the cost and benefits of "firing" misbehaving customers.

Inventory

Operators should reduce inventory to the lowest levels possible without compromising their ability to serve customers. Running lean and employing just-in-time inventory management practices will set operators on the right track. Effectively applying such tactics requires expertise in supply chain management. Large bodies of academic and practical research explore this subject. Familiarize yourself with the topic or hire someone who already has.

In general, managers must differentiate between strategic and superfluous inventory. Strategic inventory provides value; superfluous inventory does not. Imagine a business whose supply chain is occasionally interrupted by bad weather. The business likely benefits from keeping some extra strategic inventory on hand so that production can continue when supply chains are hindered. Determining adequate levels of strategic inventory to maintain is particularly difficult in seasonal and cyclical businesses. In these environments, managers must carefully adjust inventory levels to demand. Adjusting production levels is generally preferable to maintaining a steady but large inventory stockpile.

No matter the appropriate inventory levels, operators must ensure they have an accurate system in place to track inventory. Only then can informed decisions be made about how to change inventory. Recurring inventory audits help ensure alignment between the shelves and the books.

Accounts Payable (AP)

Generally, operators should aim to increase AP by waiting to pay suppliers as long as possible. This strategy keeps cash in the bank. Below, we suggest a few rules of thumb to help in operators' pursuit of this goal:

- *Never pay early*. If payment is due in 30 days, do not pay in 29 days; pay in 30 days. Every day matters.

- *If offered, take 2/10 Net 30 terms*. Every rule has an exception. If offered a large discount, it is often advantageous to pay early. 2/10 Net 30 terms are one such example. When a supplier offers 2/10 Net 30, they agree to provide a 2% discount on price for payment within 10 days, instead of 30 days. The effective annual rate on this discount is 36.7% – a fantastic return.

- *Selectively test vendors*. Some vendors do not have adequate policies in place to track the timeliness of customer payments. Operators should consider delaying payment to suppliers who they suspect will fail to notice. Such a strategy can help significantly increase the effective terms for a select group of suppliers. Choose wisely which vendors to test. If you slow-pay an office supplies vendor, your business is unlikely to cease operations. The operator who slow-pays the power utility will likely face more severe consequences.

Mini-profile: Starc Systems

Chris Vickers (Harvard Business School 1992) joined Starc Systems as CEO in 2017 when the company had just $5 million in sales. After four years, Vickers quintupled sales to $25 million, enabling much of that growth through the implementation of a modernized working capital management system. Starc Systems manufactures and sells reusable temporary walls designed for use in occupied building renovations. The walls separate dust and debris between construction sites and occupied areas. Ninety percent of sales are in the healthcare industry, with the remaining balance in airports, education, and commercial. Vickers explained the development of working capital management practices during his tenure as CEO:

> When I first started, Starc was essentially using cash accounting to manage the business. So, step one was to rebuild the financial management system of the company so we could accurately track how cash moved. Only once we had a clear picture of the company's financial position could I improve our working capital dynamics. Given the company's rapid growth, I didn't want to curtail inventory. Instead, I focused on building repeatable processes and systems that maximized AP and minimized AR.
>
> We increased DPO from 30 to 40 days by selectively slow-paying larger vendors. Most vendors offer net 30 terms. To maintain strong relationships with our small vendors, who needed our checks to survive, we paid on time. But many of our larger vendors seemed not to notice or care when we paid late. Importantly, we always pay immediately when the vendor calls.
>
> For AR, we decreased DSO from 60 to 40 days through the implementation of a regimented collections escalation process. Invoices were sent by both email and mail, generally on net 30 terms. When customers demanded longer terms, we explained that the small size of our business required that we receive cash soon after product delivery. Often, these appeals were successful. Customers then received an automated follow-up email after 15 days. If payment was late, customers received additional automated emails followed by a genial call from a clerk 45 days after the invoice date. If customers still hadn't paid after 60 days, we developed individualized plans to collect, which often included salespeople, the accounting manager, or the CFO making a collections call.
>
> Much of our success in minimizing AR came from being bolder in what we asked for. When you call, people pay. When we requested immediate credit card payment on purchase, many customers agreed! If you don't ask, you won't get it.

Conclusion

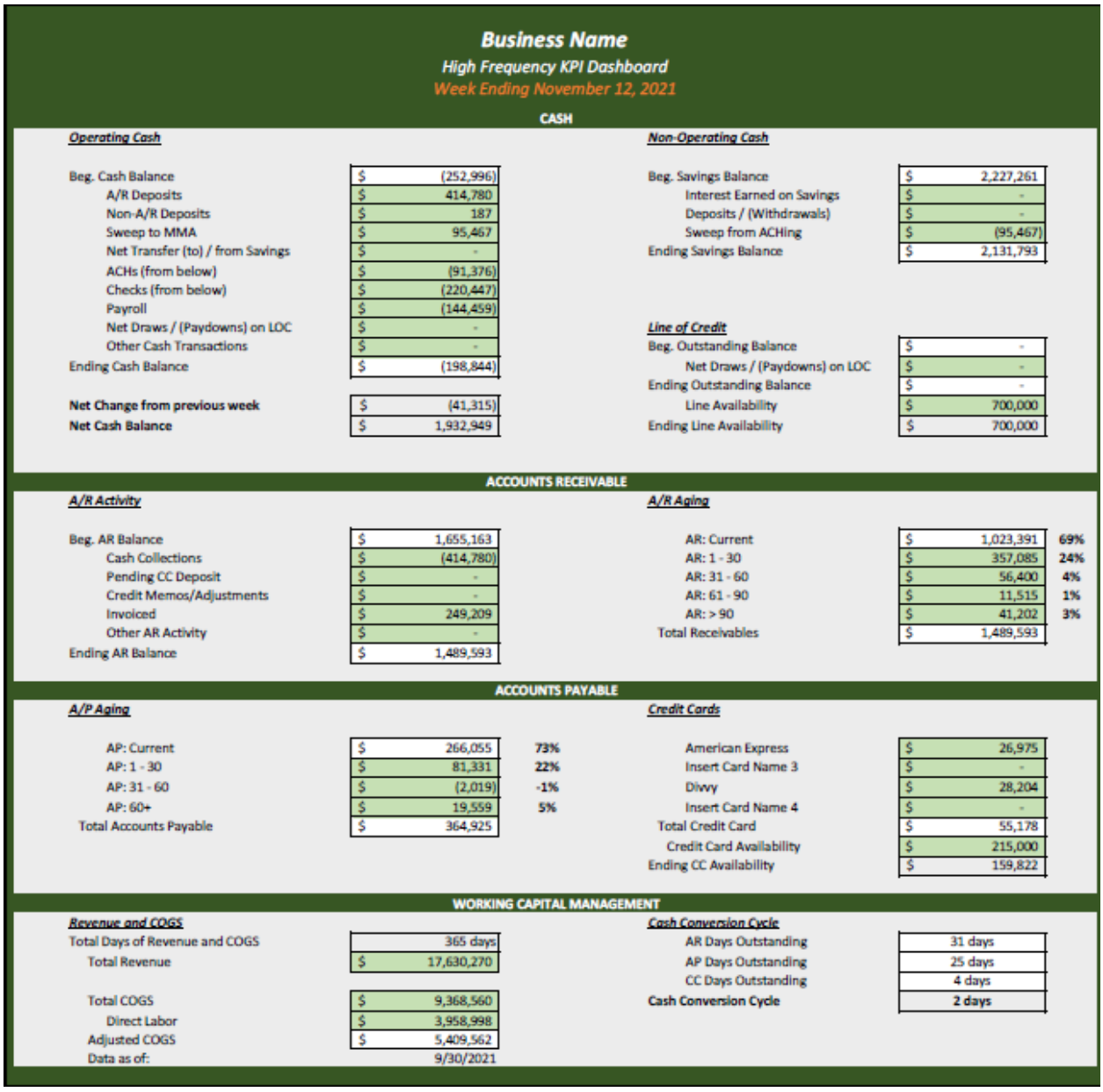
In 1998, Andrew R. Jassy, then an MBA student at Harvard Business School, co-wrote a case note under Professor Kent Bowen titled *Cash Management Practices in Small Companies*.[12] Today, Jassy is the CEO of one of the world's top 5 largest companies: Amazon. Perhaps, as an MBA student, Jassy was presciently laying the groundwork for his future career by focusing on the business topics he deemed most important, working capital management among them. In 2020, Amazon's cash conversion cycle was *negative* 53.1 days, proving his ability to apply the lessons he wrote about in 1998.[13]

For the small business, working capital management is even more important than for Amazon. A ballooning working capital balance will stunt a business's free cash flows, even as EBITDA excels, and make achieving superior ROIC more challenging. Alternatively, a declining working capital balance provides a one-time benefit to shareholders. But for the growing company, the benefits extend beyond the one-off gain. Companies that are light on working capital can grow with modest or no capital intensity. In some industries, operators can produce negative working capital balances – a dynamic which, if maintained, means a business gets paid to grow.

Whether a business was recently acquired or has faced shoddy working capital management in recent years due to neglect, a sharp eye on the nitty-gritty topic of working capital can reverse the situation and keep cash requirements under control. Redesigning invoices and making collection calls may not be the work that comes to mind for the high-flying entrepreneur, but in small businesses, it's the work that fills the coffers – and drives equity returns.

Good luck in your entrepreneurial and working capital journeys!

Exhibit 1: Sample Cash Dashboard



Business Name

High Frequency KPI Dashboard

Week Ending November 12, 2021

CASH

Operating Cash

Beg. Cash Balance	$ (252,996)
A/R Deposits	$ 414,780
Non-A/R Deposits	$ 187
Sweep to MMA	$ 95,467
Net Transfer (to) / from Savings	$ -
ACHs (from below)	$ (91,376)
Checks (from below)	$ (220,447)
Payroll	$ (144,459)
Net Draws / (Paydowns) on LOC	$ -
Other Cash Transactions	$ -
Ending Cash Balance	$ (198,844)
Net Change from previous week	$ (41,315)
Net Cash Balance	$ 1,932,949

Non-Operating Cash

Beg. Savings Balance	$ 2,227,261
Interest Earned on Savings	$ -
Deposits / (Withdrawals)	$ -
Sweep from ACHing	$ (95,467)
Ending Savings Balance	$ 2,131,793

Line of Credit

Beg. Outstanding Balance	$ -
Net Draws / (Paydowns) on LOC	$ -
Ending Outstanding Balance	$ -
Line Availability	$ 700,000
Ending Line Availability	$ 700,000

ACCOUNTS RECEIVABLE

A/R Activity

Beg. AR Balance	$ 1,655,163
Cash Collections	$ (414,780)
Pending CC Deposit	$ -
Credit Memos/Adjustments	$ -
Invoiced	$ 249,209
Other AR Activity	$ -
Ending AR Balance	$ 1,489,593

A/R Aging

AR: Current	$ 1,023,391	69%
AR: 1 - 30	$ 357,085	24%
AR: 31 - 60	$ 56,400	4%
AR: 61 - 90	$ 11,515	1%
AR: > 90	$ 41,202	3%
Total Receivables	$ 1,489,593	

ACCOUNTS PAYABLE

A/P Aging

AP: Current	$ 266,055	73%
AP: 1 - 30	$ 81,331	22%
AP: 31 - 60	$ (2,019)	-1%
AP: 60+	$ 19,559	5%
Total Accounts Payable	$ 364,925	

Credit Cards

American Express	$ 26,975
Insert Card Name 3	$ -
Divvy	$ 28,204
Insert Card Name 4	$ -
Total Credit Card	$ 55,178
Credit Card Availability	$ 215,000
Ending CC Availability	$ 159,822

WORKING CAPITAL MANAGEMENT

Revenue and COGS

Total Days of Revenue and COGS	365 days
Total Revenue	$ 17,630,270
Total COGS	$ 9,368,560
Direct Labor	$ 3,958,998
Adjusted COGS	$ 5,409,562
Data as of:	9/30/2021

Cash Conversion Cycle

AR Days Outstanding	31 days
AP Days Outstanding	25 days
CC Days Outstanding	4 days
Cash Conversion Cycle	**2 days**

Exhibit 2: Additional Resources

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Endnotes

[1] David Cotton is a case writer and MBA candidate at the Yale School of Management (2021).

[2] Trish Higgins is a founder of Chenmark Holdings, a long-term oriented holding company based in Portland, Maine, that seeks to acquire and operate small-to-medium businesses.

[3] James Higgins is a founder of Chenmark Holdings, a long-term oriented holding company based in Portland, Maine, that seeks to acquire and operate small-to-medium businesses.

[4] A. J. Wasserstein is the Eugene F. Williams, Jr. Lecturer in the Practice of Management at the Yale School of Management.

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