Releasing working capital across the supply chain

Roswitha Tertea, Stephen Abseck, Florian Bergener and Boris Herzog

In a credit crisis, one common way of finding cash is by reducing working capital. However, successfully reducing working capital within one company can damage other businesses in the supply chain, exacerbating an already difficult situation all round. This article shows how substantial reductions in working capital can be achieved across the entire supply chain by dispensing with the traditional adversarial stance in favour of a collaborative approach. It offers a set of guidelines that enable everyone in the supply chain to raise the funds needed to remain strong, while giving them the best chance of making it through the capital shortage intact.

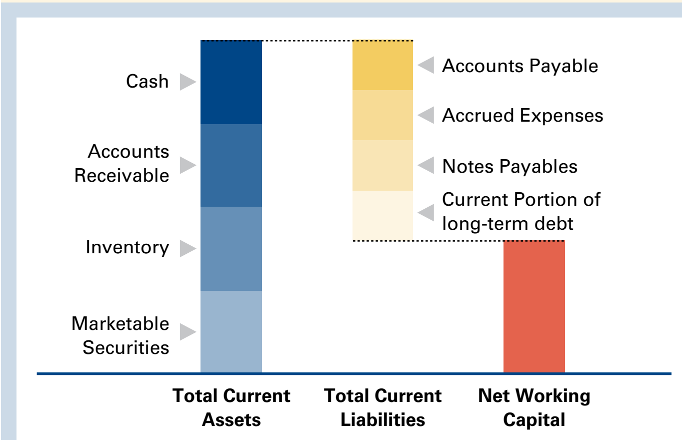
When credit is scarce, companies have to be creative to find the capital required to make investments, fund innovation and finance ongoing operations. One well known course of action is to reduce working capital: trim inventory, bring receivables down and increase payables. Unfortunately, the successful reduction of working capital within one company often has a detrimental effect on the working capital requirements of another company in the supply chain. For example, one company's gain in payables may be the other's loss in receivables. Powerful companies in particular can quickly turn working capital reduction programmes into fierce supplier-customer conflicts, eventually creating a hole in their supply chain due to a supplier's insolvency.

Clearly a new view is required of how companies can simultaneously optimise their working capital and strengthen the supply chain of which they are a part. Instead of treating working capital optimisation as a survival game of one company against another, executives should consider that their company's success is co-determined by the fate of their suppliers and customers. When optimising the processes that have an impact on working capital, they should not limit their initiatives to the boundaries of their own company but extend them to all companies in the supply chain. In fact, in a growing number of industries such as personal computers, apparel and aircraft, it is entire supply chains rather than individual firms that are competing with each other.

In this article we will show how companies across a supply chain can all benefit from lower working capital levels through close collaboration. First we will give meaning to the otherwise spineless notion of "collaboration." Then we will describe a roadmap for attaining lower working capital levels across the supply chain. Finally we will provide four guidelines for making the journey toward lower working capital levels successful (see side text for a description of "working capital").

The constituent elements of working capital

Working capital is a financial metric that represents the amount of day-by-day operating liquidity available to a company. It is a monetary figure, referring to a particular and exact point in time – mostly a clear date. The level of working capital is calculated on the basis of a company's balance sheet:



Source: Arthur D. Little analysis

The indicators that are used to track progress toward lower working capital levels often include the following three:

DSO (Days Sales Outstanding) is the ratio that indicates the average time to collect receivables and is a measure of the capital locked up by Accounts Receivable.

DIO (Days Inventory Outstanding) is the ratio that indicates how many days on average an inventory item is held in the system. This ratio is highly dependent on industry sector and company.

DPO (Days Payables Outstanding) is the ratio that measures the average proportion of trade payables to sales. In addition to DPO, an ageing of the accounts payables is important to determine the payment behaviour of a business.

The meaning of collaboration

If you were to ask executives about their greatest frustration about past initiatives to reduce working capital levels, chances are fair that they will point to the lack of sustainability. While levels are reduced initially, they tend to creep up again only a few months after the initiative has ended. The lack of sustainability in most cases is due to insufficient collaboration between the parties involved, be it between functions within a company or between companies across the value chain. It appears hard to instill working capital thinking across boundaries.

Simple "thou shall collaborate" appeals to the parties involved do not work. To give collaboration a chance, three conditions must be fulfilled:

- Transparency: the end-to-end availability and visibility of information across boundaries within a company or supply chain. It means real-time exchange of information about the factors that impact costs and cash flow, such as delivery time, volumes and backlog. Companies that know the status of supply chain requirements and transactions – both internally and externally – can make timely decisions and optimise the use of resources and working capital. Transparency requires strong communication loops.

- Flexibility: the ability of an organisation to react to unforeseen but necessary changes in its plans within a given timeframe. A flexible organisation is able to process new information (e.g. about lower volumes or changes in product mix) and adapt its plans as required. For example, sub-optimal flexibility with regard to production lead times often leads to buffers and additional stock.

- Reliability: the ability of an organisation to perform a defined action within known and agreed terms relating to lead times, quality and quantity. The competitive success of a supply chain depends on the reliability of every single company that is part of it. To enable the optimal functioning of each company, the supply chain as such has to define reliability criteria, i.e. what is required as an input in order to be able to deliver the defined output within the defined period of time.

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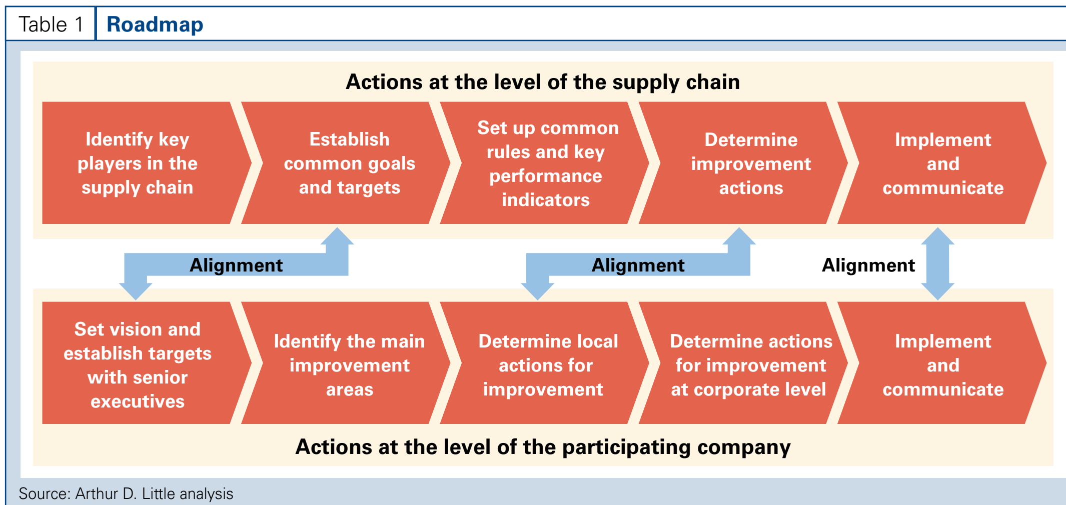
A roadmap for attaining lower working capital levels

In order to lower working capital levels across the supply chain, each company in the supply chain must engage in two sets of actions: actions related to the supply chain in its entirety, and actions related to the company itself (see Table 1).

Table 1 **Roadmap**



Source: Arthur D. Little analysis

The first step is to identify the relevant key players to participate in a joint working capital programme, for example on the basis of purchasing or sales volume realised with other companies within the supply chain. For the programme to be successful, the senior executives of the participating companies must establish a common understanding that working capital is a topic that affects all and that collaboration will benefit all.

Once they have agreed on the guidelines for collaboration, they should set up a working capital forum. It acts as the steering committee for defining the strategy for the supply chain, setting the common targets and monitoring progress during implementation. The operational management of the forum is entrusted to the supply chain managers or chief controllers of the participating companies. It should report quarterly to the CEOs or CFOs of the participating companies.

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When taking actions to reduce working capital levels, whether at supply chain or company level, adherence to the following four guidelines should ensure sustainable success:

- Set clear top-down targets;
- Design working capital thinking into the business processes;
- Create awareness and provide training at the operational level;
- Enable people to act toward achieving the targets.

In the following sections we will detail each of these guidelines. The side text gives two case studies of the benefits of collaboration across the supply chain.

Case study 1: manufacturing industry

An original equipment manufacturer (OEM) producing water, sewerage and heating systems asked us to take a close look at its supply chain (component supplier, OEM and customer) to help reduce working capital through increased collaboration and improved agreements including bonuses and penalties.

A critical part of the improvement programme was to understand which changes in the reciprocal requirements of the three parties would make life better for all.

First, the lot size of components made by the supplier used to be determined by the volume and frequency of delivery to the OEM, without any link to production needs. Bringing production and planning from both supplier and OEM to the table enabled the definition of lot sizes that were an improvement for both and reduced working capital through lower inventories.

Second, payment by the large customer to the OEM was contractually agreed to take place at the end of a project. Unfortunately for the OEM, as project size and length had been increasing over time, payment took up to 12 months. On the other hand, the customer had no means to react to poor quality or delivery issues. Both issues were resolved by setting up a staged payment scheme for projects of a clearly defined size. It brought the payment cycle to the OEM back to acceptable levels and provided the customer with good levers for enforcing delivery quality.

Collaboration (Supplier ↔ Manufacturer) — Collaboration (Manufacturer ↔ Customer)

	Supplier	+	Manufacturer	+	Customer	=	Supply chain
Inventories	32 m€ ↓		50 m€ ↓		23 m€ ↓		↓
Accounts receivable	21 m€ ↓		40 m€ ↓		2 m€ ↓		↓
Accounts payable	11 m€ ↑		10 m€ ↑		5 m€ ↑		↑
Total	**64 m€**	+	**100 m€**	+	**30 m€**	=	**194 m€**

Source: Arthur D. Little analysis

Besides the substantial reduction in working capital by €194 million, the three companies experienced further benefits. The increased cash flow visibility and reliability improved planning accuracy and led to improved negotiating power with banks and investors. The project led to greater collaboration across the supply chain as well as across the internal functions within each company.

Case study 2: construction projects industry

Work in the construction industry takes place through projects. The customer pays the construction company according to an often complicated variety of conditions, terms and exclusions thereof. As a consequence it often leads to late payments. A penalisation system is a powerful method of stimulating the customer to make timely and regular payments. Ideally, the penalisation system gives a discount to the customer for early or on-time payments.

Below is an example of an effective penalisation system. The construction company agreed with two customers A and B on a maximum credit limit of €15k and maximum payment terms of 30 days.

	Incurred credit	Actual payment made in time	Actual payment terms	Modified conditions: Credit limit	Modified conditions: Payment terms
Customer A	€10k	€10k	35 days	Unchanged €15k	25 days
Customer B	€10k	€8k	30 days	€13k	Unchanged 30 days

Source: Arthur D. Little analysis

Customer A used only €10k credit but exceeded payment terms by 5 days. As a consequence of the agreed penalty system, the maximum payment terms were subsequently reduced by the same number of days by which the customer had exceeded the initial terms: by 5 days to 25 days.

Customer B also used €10k credit, of which he paid back only €8k in time. As a consequence, the maximum credit limit was subsequently reduced by the amount the customer failed to pay in time: by €2k to €13k.

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1. Set clear top-down targets

Initiatives to reduce working capital levels must be driven by a combination of top-down leadership and bottom-up involvement. Senior executives should establish clear reduction goals and targets, derived from the company's strategy and supply chain improvement programme. Employees should be involved in the definition of measures that will lead to the achievement of the targets so that their commitment is ensured.

To determine the overall targets for the company, you can use benchmarks from within and outside the industry. Of course you should take into account country-specific constraints or conditions such as payment terms regulated by law or regional payment behaviours. You can then translate the overall targets into sub-targets by product line, customer group, regional or cultural setting, or any other adequate basis for differentiation. Furthermore, you should set the timeframe within which results should be achieved and allocate the necessary resources and funding. Finally, as senior executives you should convey your commitment and a sense of urgency to employees at all levels and functions in the organisation.

2. Design working capital thinking into the business processes

Setting top-down targets is a good start and may indeed lead to singular reductions in working capital levels. However, once the top-down pressure has lessened, improvements tend to fade away – and you are back to square one.

One of the keys to sustainable success is to design working capital thinking into the business processes. That in turn requires alignment between the various functions involved in these processes. Often the functions optimise the activities within their own boundaries without considering the process as a whole:

- The purchasing function strives to achieve optimal prices regardless of lot sizes, delivery frequency and payment terms, thus increasing inventory and reducing trade payables.

- The production function optimises lot sizes and schedules for an ideal utilisation of equipment and thus builds up inventory of finished goods. In the worst case, despite full warehouses the products required by customers are lacking, which leads to hedging of finished goods.

- The sales function makes optimistic forecasts, leading to high levels of inventory in subsidiaries and lack of capacity in production for the products actually required. Payment terms are accepted as proposed by the customer instead of being optimised from the perspective of liabilities and overall customer satisfaction, i.e. product delivery as requested.

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In other words, working capital improvement requires a holistic approach, within a company and across the supply chain, for each of the three key business processes: order-to cash, purchase-to-pay, and inventory management.

Order-to-cash

The order-to-cash process comprises all activities related to incoming customer sales orders, order fulfillment, logistics, invoicing and cash collection. It affects the level of accounts receivable. The two main levers for streamlining order-to-cash and reducing accounts receivable are:

1. Negotiate optimal supply chain payment terms with customers;

2. Enforce adherence to existing payment terms (i.e., minimise late payments).

Purchase-to-pay

The purchase-to-pay process comprises procurement activities and outgoing payments. It affects the level of accounts payable. The two main levers for improving accounts payable performance are:

1. Negotiate optimal supply chain payment terms;

2. Ensure an efficient supplier payment process.

Inventory management

Inventory management is successful when it builds on optimal stock levels enabling order fulfillment within defined delivery times. The two main levers for optimal end-to-end inventory of a supply chain are:

1. Make a reliable and accurate sales forecast and, derived from it, production plans. Communication of changes in forecasts across the supply chain increases their reliability. Ideally a "customer pull" principle is implemented throughout the supply chain. In practice this means that manufacturing and shipping of products, ordering of materials and delivery of services only occur when requested by a customer.

2. Implement logistical concepts with sufficient flexibility. For example, harmonisation of batch sizes is a simple but effective lever for optimising inventory of incoming goods. On the sales side, a mix of direct delivery, regional distribution centres and delivery-to-stock increases flexibility.

Equally important, though, is the human element. The key to sustainable success is building commitment throughout the organisation and instilling behavioural changes. The people who run the daily operations are the ones who can watch working capital levels continuously.

3. Create awareness and provide training at the operational level

Setting top-down targets and designing working capital thinking into the business processes are essential measures to reduce working capital levels. Equally important, though, is the human element. The key to sustainable success is building commitment throughout the organisation and instilling behavioural changes. The people who run the daily operations are the ones who can watch working capital levels continuously. Their actions ultimately control working capital levels.

As a consequence, it is crucial to first raise awareness about working capital. People cannot manage working capital if they do not understand what working capital is, how their decisions influence it, and why keeping it low is important. Everybody involved in sales and customer payment collection, inventory management, and purchasing and supplier payments should receive training to comprehend how their jobs influence working capital levels.

4. Enable people to act toward achieving the targets

Once people have an understanding and awareness of the importance of working capital levels, two further conditions must be fulfilled. First they should receive up-to-date information that shows how their day-to-day decisions influence company results. Dashboards indicating performance on working capital metrics help sustain awareness.

You should ensure that responsibility for a target resides with people who have direct authority over the actions and decisions that drive performance towards that target.

Secondly, successful companies align individual performance metrics and targets with company goals. They incorporate company goals into individual scorecards in such a way that people naturally pursue the company goals for their own benefit. Of course, you should avoid situations in which people are held accountable for performance metrics that they cannot control adequately. You should ensure that responsibility for a target resides with people who have direct authority over the actions and decisions that drive performance towards that target. You should also ensure that people do not receive contradicting targets, in particular when pursuing reductions in working capital levels across the supply chain through collaboration.

Insights for the executive

When credit is scarce, reducing working capital levels is both an attractive and often inescapable way for a company to raise funds for investments. Furthermore, a collaborative approach across the supply chain makes it possible to reduce working capital levels for all companies that are part of it. Collaboration avoids losses caused by opposing interests. It leads to increased liquidity, lower credit costs, better ratings, improved transparency and reliable relationships with customers and suppliers.

While quick wins can be had within three months, achieving sustainable reductions in working capital levels that stretch beyond the current economic downturn requires a structurally different approach to working capital. First, senior executives should establish clear top-down overall targets and translate these into sub-targets, thereby involving the people who will have to work towards achieving them. Second, they should design working capital thinking into the order-to-cash, purchase-to-pay and inventory management processes by aligning the functions involved in these processes. Third, they should raise awareness and provide training so that people at the operational level understand what working capital is, how their decisions influence it, and why keeping it low is important. Finally, they should provide their people with the information and authority that enables them to work toward achieving the targets for working capital levels.

Roswitha Tertea
… is a Principal in the Düsseldorf office of Arthur D. Little, where she heads the Manufacturing Excellence team. She is a Member of the Operations Management Practice.
E-mail: tertea.roswitha@adlittle.com

Stephen Abseck
… is a Manager in the New York office of Arthur D. Little, and a Member of the Strategy & Organization Practice. His project experience encompasses various areas of financial performance improvement
E-mail: abseck.stephen@adlittle.com

Florian Bergener
… is a Consultant in the Munich office of Arthur D. Little and a Member of the Automotive and Manufacturing Practice. He has successfully delivered projects with a focus on working capital and operational performance.
E-mail: bergener.florian@adlittle.com

Boris Herzog
… is a Business Analyst in the Munich office of Arthur D. Little and a Member of the Operations Management Practice. His project experience covers the areas of working capital improvement and transaction support.
E-mail: herzog.boris@adlittle.com