Funds Flow along the Supply Chain

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Abstract

There are three major flows in a supply chain – the physical flow of goods and services, information, and funds. All are necessary if a supply chain is to function and flourish. The most visible flow is that of the goods and services. In manufactured products, they originate in the extraction (mining) industries and farms, and flow toward the consumer through fabricators, assemblers, distributors, and retailers. Although not yet perfect, this flow is improving rapidly. For the most part, it receives major management attention and resource commitment. Of the three supply chain flows, this one is in the most advanced state of development. However, information and funds flow are equally important and in need of extensive refinement before supply chains will be completely effective.
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Introduction

Many companies, especially those growing rapidly, are discovering, or rediscovering, that profits are different from cash flow. Does participation in a supply chain help or hinder cash flow? Sometimes, it depends on where your company fits in the supply chain. Would companies like to improve their flow of funds? Almost universally, especially small companies, who are often the most pressed for funds to pay their bills.

What do we mean by cash flow? One definition is that “the financial supply chain is the flow and uses of cash throughout the physical supply chain. Where products, services, and/or information are transferred, there is an accompanying flow of cash.” (Roberts 2002)

We will use “funds” to describe the flow of money along the supply chain because most companies do not use actual cash to satisfy their obligations. While the use of cash has decreased in business-to-business transactions, it is still a significant factor with consumers. Rajamani, Geismar and Sriskandarajah (2006) provide a comprehensive study of the supply chain used to keep cash flowing in the United States from the U. S. mint through banks to ATMs to consumers. Some believe that cash has its disadvantages and advocate programs to eliminate the use of cash. (Warwick 2004)

Flows in a supply chain

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The most visible flow is that of the goods and services. In manufactured products, they originate in the extraction (mining) industries and farms, and flow toward the consumer through fabricators, assemblers, distributors, and retailers. Although not yet perfect, this flow is improving rapidly. For the most part, it receives major management attention and resource commitment. Of the three supply chain flows, this one is in the most advanced state of development. Much has been written about this flow; we will not add to its discussion in this article.

Information flow is also receiving a great deal of attention. A supply chain requires only a minimal amount of required information, such as customer purchase orders, shipping notices, and invoices, to keep it operating. Most companies provide this information willingly and promptly. This minimal information is necessary to create the flow of funds along the supply chain. Additional information flows on a voluntary basis among supply chain participants. This includes sales results, demand forecasts, and plans for special events, such as sales or product promotions. This additional information makes it possible for goods and services to flow faster and more smoothly. It also helps funds to flow more smoothly. Information flows in both directions – toward the consumer and from the consumer up the supply chain toward the suppliers. New technologies, and advances in collaboration among supply chain participants, is making information flow better, although it still encounters some turbulence in most supply chains.

Funds flow, or the flow of money, is required in a supply chain. The money flows from the consumer upstream in a supply chain until all suppliers have received payment for the goods and services they provided. Although there are other funds flow in a company, such as for equipment purchases and payroll, we will only be concerned with the flow along the supply chain, which affects the working capital of a company – its accounts receivable, inventory and accounts payable. While the flow of funds is mandatory if a supply chain is to exist, it is still an uncoordinated and sub-optimized flow in most supply chains. Grealish (2005) reports that most mid-size and large corporations agree that shuffling paper invoices and checks will be gone in ten years, but adds, “Today, however, the paper shuffle is common.” Krishnan and Shulman (2007) studied the level of supply chain risks – cash flow included – and found
that approximately 40% of the executives felt their companies were, at best, “somewhat capable” of mitigating the risks or were spending enough time on risk management.

**Different performance measures**

One of the problems affecting funds flow is the performance measures used by different functions. The financial accounting part of a business and its creditors look at working capital and current ratios. Total working capital is the sum of accounts receivable and inventory minus accounts payable. The current ratio is calculated by dividing the sum of accounts receivable and inventory by accounts payables (in dollars). From this perspective, high accounts receivable, high inventory and low accounts payable are desirable because it indicates a greater capability to repay loans issued by the creditors. The higher the current ratio, the better. The general rule in many accounting books has been that the current ratio should be about 2.0 or better. Investopedia (2008) suggests that a ratio of 1.2 – 2.0 may be reasonable because some companies have reduced their excess inventory.

Management accounting is more concerned with how well the company is using its resources. From this perspective, low accounts receivable, low inventory and high accounts payable are desirable. The performance measures include days of receivables, days of inventory, and days of payables. While appropriate, the measures are looked at from a local viewpoint, or in silos. The credit department is responsible for accounts receivable, the inventory managers for inventory, and the accounts payable department for extracting extended terms from their suppliers. In recent reports, Wal-Mart reported a current ratio of 0.8, Lowe’s reported 1.1, Dell 1.2, and Hewlett-Packard 1.3. These results pose a contradiction to the generally accepted norms.

A more contemporary approach is to look at cash-to-cash cycle time, which is an integrated approach. It is calculated by adding the days of accounts receivable and days of inventory, and subtracting the days of accounts payable. The lower the better, because it means that the company is using less cash to manage its business. See Crandall and Main (2002) for a fuller description of cash flow. Farris and Hutchison (2002) describe the cash-to-cash cycle and offer a number of examples of its effect in such companies as Dell and J.C. Penney.

In summary, goods and services flow relatively well and information flow is erratic but improving. Funds flow lags, because it depends on the flow of products and information. Funds flow is also disconnected and biased, sometimes for reasons unrelated to the flow of goods and information.

**Benefits of improved funds flow**

The primary benefit of improved funds flow would be to reduce the cash-to-cash cycle time. Most of the large retail companies operate with cash-to-cash cycle times in the 15-20 day range. Dell is quite unique with a negative cash-to-cash cycle time – they have minimal receivables and inventory and get extended payables terms from their suppliers (Farris and Hutchison 2002).

Improved funds flow would improve customer-supplier relationships and, conversely, improved customer-supplier relationships would improve funds flow. As the flow of goods and services improve and information sharing advances, funds flow will improve. If payments were made more promptly and consistently, relationships would improve. The result would be a win-win situation throughout the supply chain.

Improved funds flow would also tend to reduce the imbalances among supply chain participants. Large retailers tend to demand more liberal payables terms from manufacturers. In turn, large manufacturing companies tend to demand more liberal payables terms from their smaller suppliers. If funds flow were aligned with product and information flows, and integrated along the supply chain, it would tend to reduce the inequities resulting from company size or creditworthiness. (Grealish 2005)
Obstacles

If improved funds flow is so desirable, what is keeping companies, and their supply chain partners, from doing it? Researchers have found several reasons that appear to be the biggest obstacles.

Technology. Companies are not using the latest technology available. While few companies use cash anymore, many are still using checks. Checks are slower and less secure than electronic funds transfer (EFT) methods (Warwick 2002). In addition, companies have not adequately integrated funds flow with goods and information flows. Other companies have moved aggressively into web-based systems. Gentry (2006) describes how Rite-Aid deployed a Web-based platform to economize international payments.

Administrative processes. Many companies have not yet streamlined their internal procedures. Although lean methodology is making great progress in manufacturing and distribution to create flow of physical goods, it is still waiting in the wings to make its entrance into most paperwork processes. As mentioned earlier, many administrative processes are still functionally separated into silo-like stations. Accordingly, batch processing of purchase orders, invoices and checks is still more the norm than the exception.

Errors. Errors in the physical flow of goods and services, such as partial shipments or defective goods, cause funds flow to be delayed. Customers will not complete payment until their orders have been satisfied. Even if the physical flow is correct, there may be errors in the paperwork. Satisfactory reconciliation of purchase order, receiving report and invoice is a prerequisite to payment. Even small discrepancies can cause delays and expenditures of employee time to resolve. Roberts (2002) lists 24 different invoice errors that delay funds flow.

Adversarial attitude. Many companies have not yet made the transition from an adversarial attitude toward their customers and suppliers to a collaborative one. It almost seems natural or inbred to say to customers “Pay up or else.” Credit managers develop an aura of being unyielding and unsympathetic. On the other hand, it is equally natural to push suppliers for extended credit terms because of “all the business we do with you.” This is especially true if the supplier is smaller and heavily dependent on “our business.” In addition, money is not something most companies want to talk about in mixed company (customers and suppliers). It is among the most confidential of topics. Companies may be willing to reveal their sales information or planned promotions, but they are not about to reveal their bad debt ratio or how well they are pressuring their suppliers for extended terms.

Ways to Improve

What can companies do to improve the flow of funds along the supply chain? First, companies should work to improve the physical flow of goods and services, and information flows, because funds flow depends on their proper and complete flow. They should align the funds flow more closely with the first two flows. As Bernabucci (2008) puts it, “Fixing a cash-flow problem requires companies to examine and improve the three key flows of commerce: goods, information and funds.” Roberts (2002) warns, “If a method for optimizing the physical supply chain hinders the financial supply chain, it is not an optimal method for the overall supply chain.”

Companies should try to integrate more closely the processes dealing with funds flow. Eliminating the batch processing and the functional silos would be desirable. However, if this is not feasible or appropriate, at least they should view the process as continuous and try to create a semblance of flow for funds.

A number of researchers herald the move to E-Financial Supply Chains. Grealish (2005) provides a good overview of this topic and insists that it can be a win-win solution for both buyer and seller. She points out
that E-Financial supply chains have come a long way toward acceptance in just a few years, and lists a number of companies that are using these systems, such as Dell, Honeywell, Payless and Verizon.

Supply Chain Finance (SCF)

Supply chain finance (SCF) is a new concept that is beginning to get closer attention. “Pressure to release capital and work collaboratively with sourcing and distribution partners make supply chain finance (SCF) an idea whose time has come. While controversy still rages over SCF’s ability to get inventory off balance sheets in an GAAP/IAS/IFRS-compliant manner, there is little dispute that invoice-based financing techniques like so-called ‘reverse factoring’ are gaining traction rapidly – particularly in the US, but also increasingly in Europe and elsewhere internationally.” (Lewis 2008) Banks and large retailers are adding SCF departments, technology providers are promoting SCF platforms, and e-procurement companies are trying to decide how best to add an SCF add-on to their software.

Banks are interested because it offers them an opportunity to get additional business. The customer – the buyer – gets extended payment terms from the lender – a bank or some other financing organization. The lender pays the supplier after discounting the payment, but at terms they would extend to the larger buyer, which are lower than the terms for the smaller supplier. “The result is that the supplier’s working capital costs are reduced, even though its payment terms have been extended. It is then in a position to convert this cost reduction into price reductions to satisfy the buyer; the buyer gets the benefit of extended terms, lower prices, reduced capital costs and alignment of its procurement and finance interests; and the lender gets the benefit of a higher margin on the exposure to the buyer company.” (Kerle 2007)

The Aberdeen Group published several Supply Chain Finance reports recently. In one, they build the case for use of Supply Chain Finance (SCF). They indicate that the use of SCF practices will make the entire supply chain more competitive with other supply chains. Companies have been able to achieve significant benefits, including 10%-35% savings on the cost of goods purchased. Their study found most companies are still leaving money on the table because they fail to take into account the SCF opportunity when undertaking low-cost country sourcing (LCCS). They conclude that SCF can help a buying organization optimize its working capital, reduce product unit costs and reduce supply base risk “by enabling faster and more predictable payments to emerging market suppliers.” (Sadlovski and Enslow 2006)

In another report, the authors report “Supply Chain Finance (SCF) is strongly appealing to companies that seek to create a cost-advantaged supply chain. Finance, supply chain, and procurement groups need to ensure their companies are actively exploring how to use SCF or risk missing the next wave of cost improvement. More than two-thirds of companies report that they are investigating or putting in place SCF programs to lower end-to-end costs.” (Sadlovski and Enslow 2006a)

In an even more recent study, the authors compared the level of activity in SCF in 2007 versus 2006. They found a slight increase in the percentage of companies with firm plans to enhance SCF (18% versus 15%) and those actively using SCF techniques (15% versus 13%). Even so, the total for the two groups was only 33% of the total companies surveyed. The conclusion is that, while there is considerable interest, less than half of the companies are seriously pursuing SCF initiatives. The key pressures for buyers to consider SCF is the desire to lower cost of goods sold and to work closer with strategic suppliers to reduce costs and improve processes. The key drivers for suppliers are to lower the cost of goods sold and to shorten Days Sales Outstanding (DSO). The primary solution/service providers are financial institutions, information technology providers, and consulting companies. (Sadlovska 2008).

Automation of the information is an important step in the SCF implementation process. One of the most important considerations when selecting SCF technology is the ease of interaction among the parties involved – buyers, suppliers, and third-party financial institution. Some of the processes that leading SCF users are automation include:

- Electronic invoice presentment
• Trade-related document preparation and management
• Invoice matching/reconciliation (internal)
• Invoice approval process (internal)
• Purchase order management
• Electronic payment process
• Collaborative invoice discrepancy management
• Invoice discount management
• Charge-back management (e.g. invoice deductions)

The top challenges encountered by study participants during their deployment and implementation of their SCF technology included:
• Internal integration issues
• Need to redesign business processes to fit the new solution
• Staff resistance
• Training time and costs
• Lack of internal IT resources (Aberdeen 2007)

Collaboration is an active concept in the physical flow of supply chains. Collaboration is gaining greater acceptance in information flows. It follows that collaboration among supply chain participants will improve funds flow. Knechtges and Watts (2000) say this is especially important for the small business. They believe “If the entire channel and the entire chain is working together to serve the customer’s expectations to the highest levels, it can truly be a win-win partnership. The common goals go back to being able to have a positive impact on customer service, profit, cash flow, and transportation costs. Long-term, well-managed partnerships can help everyone in the supply chain achieve their goals.”

Summary

Successful supply chains manage three areas. First, they manage the physical flow of goods and services that provide value to the consumer. Second, they manage the information flow that documents and supports the physical flow. Finally, the information flow becomes an essential input to the funds flow from the consumer upstream in the supply chain until all suppliers receive compensation for their efforts. New technologies are making it easier for companies to improve the funds flow. As competition increases and supply chain lengthen around the world, the time required for reimbursement also grows longer. To maintain effective supply changes, and to assure the effective flow of funds, the large companies and third-party providers will become important links in keeping the small, struggling suppliers alive and well.

References


