Employing Available Capital Wisely – How Operational Excellence Creates Economic Value

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Introduction

These are unusual and turbulent economic times. It is difficult, if not impossible, to recall any similar extended time period in which so many opposing forces have collided. Corporate profits are impressive, yet capital investments are constrained. At the same time, the rate of growth in output of goods and services has declined and not yet recovered, while the volume of financial assets has expanded at a rapid pace. Those looking to invest are experiencing a "time of capital superabundance," as described by Bain & Company in a recent report.1

Corporations have earned available capital at impressive rates. Many have earned high rates of capital through "free cash flows," which result from the cash left over from revenues minus expenses and taxation.

Most of these earnings-rather than having been reinvested into the business, paid out in increased dividends to shareholders, or used for mergers and acquisition (M&A) purposes-are sitting in banks and other financial investment products. Surveys consistently show capital investments in individual businesses continue to be severely constrained. The Return on Invested Capital (ROIC) measure has literally become dormant in most corporations.

This paper makes the case for employing available capital wisely in order to improve the company's economic value. Tompkins International's (Tompkins) experiences with client companies have shown that the intelligent employment of capital into initiatives that build effective operational and supply chain capabilities enable smart companies to increase free cash flow even further-and can increase the value of the business over the long-term.

An earlier paper by Tompkins, *Leveraging the Supply Chain for Increased Shareholder Value*, points out the economic value that Supply Chain Excellence will create for any company that achieves high levels of supply chain performance. Throughout this paper, there will be references to that paper with updated perspectives.

Capital investments in Supply Chain Excellence can occur in several investment areas2:

- Supply Chain Facilities and Operations
- Supply Chain Information Technologies
- Supply Chain Processes
- Supply Chain Strategies
- Supply Chain People and Organizations
- Tax-Effective Supply Chain Management (TESCM)

While facilities and technologies are most often capitalized as fixed assets, the business and operations strategies, processes, and organizational models are more often viewed as intangible assets. Yet these areas can have (and generate) even more long-term economic value than fixed asset productivity.

Capital and Economic Value Defined

Capital, and its availability, is critical to any company's well-being. Access to discretionary capital enables companies to expand, develop new products, enter new markets, conduct acquisitions, finance asset-based investments, or any other purpose management deems important. In fact, access to capital is the primary factor in any company decision to go public (IPO), seek private investors, or borrow from financing sources.

A 2009 global survey conducted during the recession by Ernst & Young ("Why Capital Matters: Building Competitive Advantage in Uncertain Times") pointed out that capital

matters more than ever before. The scarcity of capital and increased risk aversion in strategic decision-making had substantially narrowed the margins for error in capital allocation. Executives were arguing for preserving capital, winning the competition for scarce capital, and preparing for a long period of high uncertainty and risk.

Many did just that. During the past few years, corporations have accumulated, and financial institutions have generated, what Bain & Company refers to as a “capital superabundance.” This high amount of total financial assets is estimated by Bain & Company to exceed $600 trillion. It is also expected to increase by 50% to $900 trillion by the year 2020, outpacing the growth of the world’s economy by far. And, from the perspective of free cash flows, the latest estimates of corporations’ cash holdings themselves have risen to more than $1.8 trillion.

These numbers are staggering. Even when allowing for bubble risks, the availability of mobile capital, and the options for investment, will challenge corporations and investors at an unprecedented level. Because the cost of capital will remain low, access to capital will not be the limiting constraint on growth. Rather, determining the best investment options will confound leaders for strategic capital employment.

In addition to the enormous availability of capital, expansion is expected over the next seven years. Business cycles are a fact of history. And despite the slow growth and recovery of Western economies, as well as the worldwide debates on the role of governments, more than 70% of global capital growth will come from the U.S., Europe, and China.

Economic value to corporations is created by free cash flow-or the amount of revenues remaining after the funding of total enterprise expenses and taxes. Free cash flow is then available for adding to the capital availability pool, increasing the corporation’s value. Current operations, then, create capital just as do shareholder value, brand value, market value, and other value indicators.

Thus, the marketplace is entering a multi-year period in which the superabundance of capital is matched by the volatility of tumultuous capital markets, low interest rates, vulnerable asset bubbles, and other challenges (e.g., higher commodity prices and unprecedented supply chain risks, especially in the global environment). Smart, well-justified investments in the company’s supply chains are the best approach to increasing the company’s economic value over time.

What Creates Real Economic Value?

Business and operations strategy-the formulation of strategies that drive investment, operations, and competitive positioning-is where all value begins. There are five strategic questions that need to be resolved for any business:

1. What business is the company in and why?

2. How should value be added to the business?

3. What are the target markets?

4. What are the products and why will customers buy from this company?

5. What capabilities are needed to assure that the company adds value and differentiates?

Most companies develop strategies for target markets and products (#3 and #4). Some at least consider #1 and #2. But, few resolve #5 effectively. This is generally because operations strategies are not developed, or implemented, with the same scenario planning or rigor given to the more often seemingly interesting issues of markets and products. The alignment of business and operations strategies is most often weak or non-existent.

“The fact is that 90% of business strategies are not implemented through operations as intended.”

Mission and vision statements, plans, goals and objectives, and even performance measures, while important for driving execution, most often do not ensure that capabilities will be built for scenarios from the business strategies. Therefore companies do not always have carefully developed alternatives for customer demand, new channels, competition, supply risks, and product development, to name a few. The fact is that 90% of business strategies are not implemented through operations as intended.

The respected business research firm Gartner publishes an annual list of “Top 25” Supply Chain companies (www.gartner.com/technology/supply-chain/top25.jsp). Well-known brand corporations such as Apple, Amazon, P&G, Cisco Systems, McDonald’s, Samsung, and the Coca-Cola Company are among the leaders. However, the evaluation criteria are sometimes challenged as being too financial (i.e., the measurements are return on assets, inventory turns, and revenue growth). But these companies have strong financial performance, and their supply chains are viewed as contributing to that. Likewise, customer satisfaction is strong-not only with their products, but also with their services (e.g., orders, processing, deliveries, in-stock). In effect, their operational capabilities enable them to excel in their target markets by including the value propositions that lead to customers buying their products.

Tompkins’ earlier paper on leveraging the supply chain for increased value conveys the value framework: the supply chain mega processes. It also covers how value can be created through smart supply chain choices that impact profitable growth, margin improvement, and capital efficiency. Some of these key messages with updates are repeated in this paper

to show why smart supply chain investments are right for any company.

The Value of Supply Chains

Innovation and investments move companies forward, and supply chains have the power to create long-term value.

“Many business leaders are quick to ‘blame’ others for inadequate business performance-the government, Wall Street, the global economy, investors, etc.-when in fact it is the obsession with short- term results that is the problem.”

The potential to create business value through a company’s supply chains is becoming better understood. As supply chain management is discussed more frequently in executive suites, questions continue to arise about its contributions to profitable growth-not just for bottom line operational excellence, but also for top-line revenue growth. Positive examples of the effects on business value are being noticed in almost all industry sectors, as leaders in supply chain performance almost always outperform their competitors.

While many organizations are beginning to learn about the supply chain value potential, others do not yet recognize it, or certainly do not act upon it. Many business leaders are quick to “blame” others for inadequate business performance-the government, Wall Street, the global economy, investors, etc.-when in fact it is the obsession with short-term results that is the problem.

In today’s market, companies face uncertainties, volatility, and economic swings. Yet, business leaders frequently overreact to short-term symbols of current events and actions, such as the behavior of the stock market, hiring and firing, public versus private ownership, employee malaise, and even yesterday’s sales figures. No wonder many companies are adrift, fail to innovate, and are largely inactive.

This position echoes recent statements by Clayton Christensen, Harvard Business School professor and one of the world’s top experts on innovation and growth: “…The short term view of earnings per share is often contrary to the creation of real value that comes about through innovation and growth…The emphasis on earnings per share diverts resources away from investments whose payoff lies beyond the immediate horizon…”

The Overall View of Supply Chain Value

The importance of supply chains and their effectiveness, or lack thereof, has never been more apparent. Yet the fixation on short-term financial results has limited not only supply chain effectiveness, but also business value.

As Jim Tompkins, supply chain expert and CEO of Tompkins International, recently noted, it

is time for leaders to stop managing companies as if they were looking outside to check the weather. “If it is sunny out, one may feel good about his or her business, and if it is raining, then they feel down and see a need to reduce their financial view. That is not really ‘running’ a company,” he said of the current plague of short-term business thinking. This section speaks to creating value for the long-term and how this can be achieved through improving business operations.

The ‘Amazon Cure’ provides a strong example of creating value even in the midst of a serious competitive challenge. See www.tompkinsinc.com/amazon-cure/ for more on this real world example.

Our definition and work with the supply chain mega processes, PLAN – BUY- MAKE – MOVE – DISTRIBUTE – SELL , shown in *Figure 1*, comprise the operations of the business. The four flows (materials/products, information, cash, and work flow) determine the effectiveness and efficiency of the operations.

Most companies have traditionally managed these mega processes as functional silos, with little information shared across functional boundaries. In today’s global economy, a supply chain is likely to have many interrelated trading partners spanning geographies, time zones, and cultures.

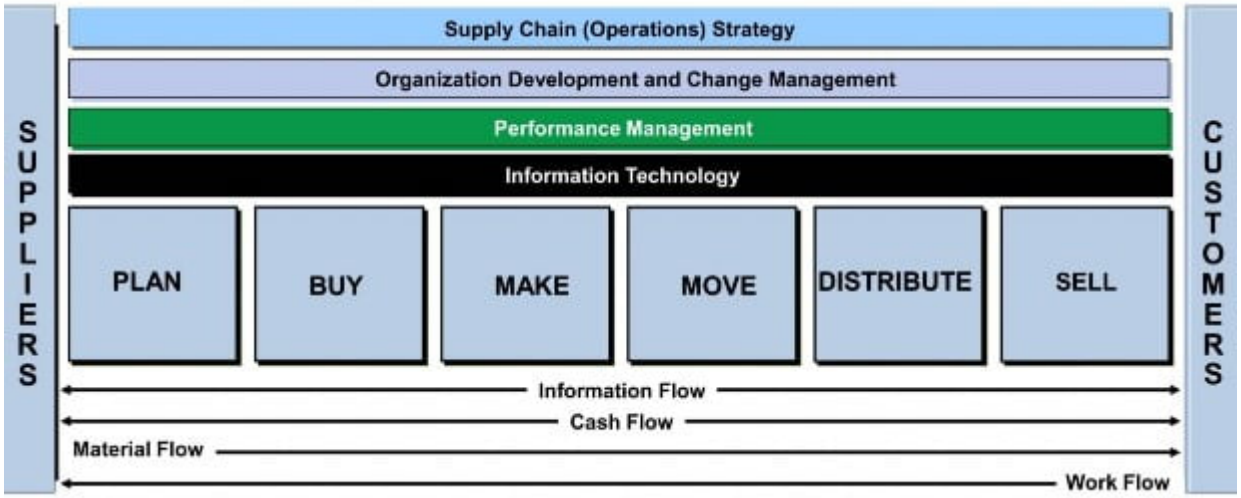


Figure 1: Overall Supply Chain View by Mega Processes

A. Profitable Growth

All growth is not profitable. Capturing new markets/customers or outperforming competitors are certainly growth drivers. This section discusses the supply chain actions and value drivers that- when executed efficiently and effectively-will contribute to profitable growth, and sometimes even create it.

Capture New Markets/Customers

Growth strategies are a way to counter stagnation, enhance performance, and increase revenue. The first step in developing a proper growth strategy is to examine all types: diversification, market development, product development, and market penetration. The supply chain becomes a key focus in all aspects of growth. Two vital questions for each strategy are: (1) How can the existing supply chains be leveraged, and (2) can they handle the additional capacity the growth strategy promises to deliver?

Growth strategies are an important part of a company's overall business strategy. Careful planning and due diligence will assure the growth strategy will be successful and contribute to the company's overall revenue and profitability. The most important planning involves evaluating the type of growth strategies to be considered and then applying a filter. The business plan will identify the addressable market, value proposition, competitive advantage, key factors for success, and entry options to further define the opportunity. Regardless of the type of growth strategy deployed, supply chains will be a key focus for operational efficiencies.

Outperform Competitors

Top-performing companies often maintain a dual focus: meeting and exceeding profitable growth objectives and outperforming competitors. In order to achieve these goals, it is critical to have a strategic market plan and the supply chain capabilities in place to deliver superior results (surpassing the competition). It is also vital that this strategic market plan addresses both internal and external activities.

The prime attribute of most top-performing companies is the most basic of business strategies: **a focus on the market**. Top-performing companies regularly develop and revisit a Strategic Market Plan (SMP) to ensure they understand customers' needs and wants better than their competitors. In support of an SMP, organizations need to continuously gather information about customers and markets, but this is just the starting point.

Thus, companies that achieve profitable growth and outperform competitors utilize an SMP process to deliver timelier, more robust, and better business intelligence than the competition. These same companies have proven means of using global supply chain technologies to share information throughout the organization to provide employees with business intelligence in a constant, clear, and succinct manner.

B. Margin Improvement

Operating margins represent the difference between operating revenues (sales) and operating costs (expenses). For a company that makes, buys, or sells product, it reflects the total costs of that product. It also reflects the productivity with regard to producing, buying, distributing, and servicing the product. Therefore, the company needs to work on reducing the cost of goods sold (COGS), as well as productivity and speed. In addition, supply chain

decisions impact the taxes paid by the organization around the world, which also adds to the costs of operations.

Reduce Cost of Goods Sold

The total COGS comprises all the operational costs that go into its transformation from BUY through to SELL-in other words, supply chains (*Figure 2*).

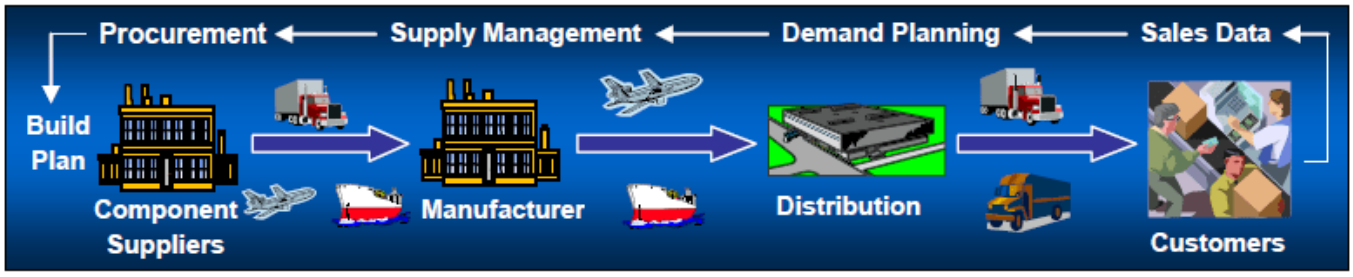


Figure 2. End-to-End Supply Chain Planning

BUY

Many people view buying as purchasing (a necessity of business) and, therefore, discount its ability to positively impact margin. However, the procurement (BUY) process has a distinct role in securing products and materials as a critical integrated component of supply chains. It is this integration that makes procurement a significant cost and value driver.

Until a company pulls all operational components together between the supplier and customer (e.g., purchase order acknowledgement, on-time delivery, correct quantity, correct quality, accurate invoicing), the true cost of the supplier-customer relationship cannot be determined. Procurement can serve as the steward of the supplier-customer relationship, monitoring all interactions and communicating back to the supplier. This level of relationship management can detect administrative and product quality drifts, and proactively address them, which minimizes impacts and additional costs.

The ability of a company's supply base to quickly respond to changes (e.g., change in demand, shifting of quality requirement, changes in taxation) can help a company gain margin or minimize cost. Unfortunately, this agility is not an inherent trait of most supply chains and, thus, must be developed to a mature, effective state.

A skilled procurement organization develops the business intelligence that alerts it to early failures, warns of changing demand, and signals the magnitude of a potential interruption. It also performs risk analysis and develops secondary and tertiary supply alternatives. These proactive steps not only minimize time and resources lost during interrupts, but they also reduce the cost associated with such events by pre-planning and negotiating before the crisis to eliminate price gauging during high-demand, low-supply scenarios. Procurement

manages information flow and supply chain risk that helps prevent margin erosion and minimizes impacts of supply chain interruptions.

By establishing the right strategy, designing efficient processes, staffing the right skills, enabling with the right technology, and designing an effective organization, procurement can achieve an agile supply base that delivers the best price, best quality, and best availability.

MAKE

Today's long-term issue about MAKE is where to produce and/or assemble goods. "Near-shoring" is the term given to the strategy of locating selected production and/or assembly nearer to the company's markets. This issue is complicated, and involves total costs, taxes, and market incentives, but it is expanding in executive interests due to numerous factors.

The COGS for the typical manufacturing company ranges from 55-95% of total revenue and averages 80%. Even modest changes to the COGS can have a staggering impact on a company's financial health. Making significant improvements in the COGS should be a high priority for all manufacturing companies. A 1% reduction can translate into a major improvement in gross profit margin.

The typical components of COGS in manufacturing are materials, labor, allocated overhead, and tooling and equipment. The most effective way for companies to make improvements in these cost buckets is to either reduce wasted expenses in their manufacturing processes or have a core competency in outsourcing to world-class manufacturers for product supply. Evaluate manufacturing processes to remove or reduce the time required for processing steps that do not add value to the product.

Reducing the waste in manufacturing processes through a focus on overproduction, waiting time, transport, over-processing, excess inventory, unnecessary motions, and defective parts using the tools of lean manufacturing, can be the best approach to reducing a company's COGS.

MOVE

In recent times, the cost to transport raw materials, work-in-progress inventory, and finished goods to market has increased substantially as a percentage of COGS. Transportation decision makers are faced with many challenges, including customer requirements, mode selection, carrier/fleet capacities, shipment visibility, performance management, and much more.

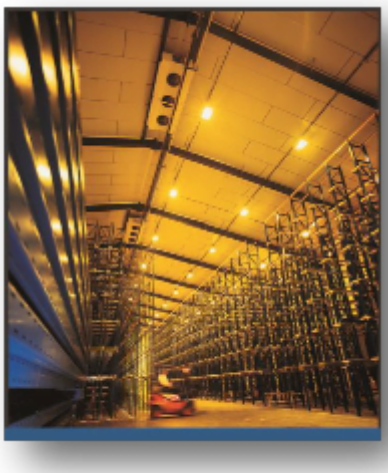
Fortunately, transportation planners can apply best practices and technology to develop a well- controlled freight management program.

Taking effective management control of freight spend can substantially reduce COGS and improve profits. Applying these strategies will not only reduce operating costs, but will also improve service and operational control.

DISTRIBUTE

There is an old saying in warehousing: “If there is available space, someone will eventually fill it”-and this usually happens sooner than later. It is not uncommon in most supply chains for warehouses and distribution centers (DCs) to be full, even during slow periods.

Normally, a storage facility will run out of space due to rapid growth, seasonal peaks, large discount buying, planned inventory builds for manufacturing shutdowns, facility consolidation, or even slow sales for the period. For consumer-driven environments in which seasonal planning and purchasing rely heavily on buying forecasts and shifting consumer tastes, the availability of the right merchandise to ship to the customer is vital to success and sales.



Hence, planners desire to have a wide selection of goods, as well as large quantities of “hot” items to fill customer orders. When it comes to supply chain space planning, everyone is driven by demand and forecast accuracy. The new focus on fulfillment centers (FCs) is a

good example of this point.

However, when looking at supply chains in general, warehousing is for the storage of materials that are used in manufacturing, packaging, and assembly, while DCs are for the transformation of bulk products from a multiple source into mixed load shipment. Storage, unto itself, is rarely a key part of the supply chain formula for low-cost distribution, yet it can be a best practice to maximize sales, customer satisfaction, and reduce total delivered costs.

There are much more important objectives in today's fast-paced economy than the efficient storage of goods. The business requirement to keep goods moving, reduce working capital investments, and fulfill increasing volumes of e-commerce orders, demands new thinking about the flow of goods. The so-called "flow-through" distribution operations, along with high-speed sortation equipment, turn traditional storage facilities into value-added operations. Moreover, "cross-dock" facilities allow for incoming trailer loads to be transferred to less-than-truckloads for smaller, more frequent deliveries-which are increasingly required by businesses and customers.

In addition, DCs often need to be replaced or supplemented by FCs. These are high-speed operations that "pick, pack, and ship" large volumes of product-often all day, every day-to fulfill Internet orders. Of course, Amazon operates numerous FCs, and other companies are realizing they need to invest more in these as well. Online orders are expected to increase by 30% each year for the foreseeable future.

The space and labor to effectively manage inventory come at a premium. The application of best practices, operational-specific solutions, and process management strategies will reduce the total COGS and improve margins for all organizations in the supply chain. However, improperly designed and managed storage will simply be full all of the time or, worse, empty because it was not coordinated with improvements in inventory Sales and Operations Planning (S&OP) throughout the organization.

SELL

Companies often underestimate the contribution that operational excellence (i.e., supply chains) makes to growing their customer base. Operational excellence is critical to sustaining the position of the preferred supplier, creating and entering new markets, and taking market share from the competition. Effective supply chain management has as much to do with revenue growth as it does with margin improvement.

Management is learning that Demand-Driven Supply Chains (DDSC) "pull" supply chains, stimulated solely by customer demand and characterized by customer service-intensive actions, do indeed contribute to revenue growth. Yet they also realize that, unless the company is 100% "make-to-order," DDSC chains are complex to master and grow open-ended, unless the company is a catalog or Internet-based fulfillment business. Today's marketplace of high fragmentation, additional channels, and rapid product proliferation

makes it even more challenging.

Consider Tompkins' recent video, "Facing the Titans" (www.tompkinsinc.com/titans/), as a strong example of new thinking required to maximize the SELL Process. Amazon and Walmart are the giants of e-fulfillment, and the range of product lines available for online ordering continues to expand, which is penetrating virtually every industry. The video provides not only the evidence of this real threat to all businesses, but also explores how Tompkins helps companies respond to it. Selecting the right "counter-offensive" is a critical need for competing and even surviving in the ever-expanding digital age.

Differentiation through service value is the critical success factor. Amazon, for example, has raised the service bar to customer delight through easy ordering and speedy delivery of the right products. Because they continually invest in customer satisfaction through their supply chains and reward innovation, Amazon is creating long-term value.

While many companies are beginning to measure perfect orders, the recognition that they are far from "perfect" becomes a wake-up call. What is the perfect order? It is the order that is easy to enter, simple to track, delivered on-time as promised, and in good condition, as well as perfect documentation and accurate invoicing with easy payment. It also involves proactively notifying the customer of the order status, being responsive, and keeping the order secure. Very few companies can report their perfect order rates as being in the 90% range.

Perfect order is one type of service that companies can use to differentiate themselves. Other services are made available by companies trying to achieve superior customer service. Differentiated customer service is not only profitable, but it can also be a true competitive advantage. An example of this is product-service bundling (i.e., channel-specific, product-service combinations developed to differentiate the company through service value).

Creating customer value is the end goal of the supply chain SELL process. By creatively improving the customer's performance, value is created for both parties. In fact, most supply chain managers do not think strategically about this goal; rather, they measure (and are measured) on discrete benchmarks, such as on-time deliveries or order fill rates.

There are various ways to satisfy today's ever more demanding customers. The challenge is to find methods that are profitable to both parties-those that create both customer value and supplier value. Over-serving all customers (without corresponding value) is the wrong strategy, but likewise, so is the separation of sales and marketing from supply chain.

The solution is to develop "service-products," targeted to the right markets, segments, and customers, so that win-win benefits will accrue to both parties. This is why SELL is a mega process of the supply chain.

Improve Speed and Productivity

The other major action to create value in margin improvement is through speed (doing things more quickly) and productivity (doing things less costly and more efficiently). These are related, but not necessarily integrated. Yet, the full potential for value creation is to design business processes that are speedier and more efficient.

SPEED

Quicker (and better) is a common goal these days. Time is the new measure of efficiency-time to market, time to benefit, time to delivery, time to cash, and even time to "insight" are all measures of greater supply chain velocity.

The consumer's desire for instant gratification and the ever increasing risks are driving companies to rethink their total supply chains. More and more, the economic focus is on total delivered cost (TDC) of goods to the paying customer, rather than their landed cost (TLC). As such, the proximity of production and distribution to specific markets has greater value than the lowest cost of production.

So, how do companies become quicker and smarter? They benchmark and leverage best practices. They develop strategic, tactical, and operational supply chain action plans. They factor supply chains into product development. They rationalize and strengthen supplier relationships. They employ appropriate, current technology. They optimize distribution network(s). They develop and monitor key performance metrics. They outsource where and as appropriate. And they listen to the voice of the customer.

These objectives are all embedded in the Demand-Driven Value Networks (DDVN) Operations Strategy, which integrates trading partners in order to all focus on true demand. This new operating model increases speed by significantly reducing the lead times required today to get trading partners to act based on a transaction, purchase order, disruption, or change order.

Perhaps the most important objective today is innovation. Being open to new ideas, designing new business processes, and embracing the Internet will generate the speed needed to remain competitive in today's world. And, as speed increases in these and so many other areas, margins improve and shareholder value grows.

PRODUCTIVITY

Companies recognize that an improvement in productivity can have a direct improvement on the bottom line of their monthly budgets. So what are they doing to improve value and reduce the bottom line?

Within supply chains, there are great opportunities to monitor and affect the current productivity with each element and across the entire supply chain. Productivity improvement can be found throughout supply chains, but the three most frequent areas of focus are direct labor, materials, and material handling.

Most of productivity is labor. Solutions have created optimal lot sizes and improved changeover times in manufacturing to increase productivity. The key is to know which business processes of the organization have not been challenged with improving productivity-PLAN, BUY, MAKE, MOVE, DISTRIBUTE, and SELL are all processes with productivity improvement opportunities.

In addition, improving the productivity within material can be critical to the success of an organization. From raw material purchase to consumer sell, it is the one component that consistently moves within the entire supply chain. Optimally, purchasing the correct quantity of material with the cost of handling calculated at different break points yields bottom line results throughout the entire process. Some effects include increased receiving, less space, lower utilities, reduced transportation, cost of capital for obsolesce, reduced replenishment labor, and improved inventory turns.

Certainly, materials handling equipment is also a key factor in improving productivity. By planning, selecting, installing, integrating, and managing the right equipment, companies can reduce the costs of DISTRIBUTE in major ways and can handle increasing volumes at lower variable costs. Tompkins is an expert at helping companies improve productivity across the supply chain, especially in labor-intensive centers where a high volume of work is required to receive, store, pack, and ship the right products to the right customers-faster, cheaper, and better.

Tax Effective Supply Chain Management

One of the key factors contributing to long-term value is the worldwide Effective Tax Rate (ETR) for companies that have operations on a global scale. The ETR is the indicator of all taxes the corporation pays based on the countries within which it operates, size of the operations, tax rates of those countries, and of course, the import/export duties and taxes for its goods movement.

The importance of the ETR to a company's financial health cannot be overstated. It is evident in its profitability, generation of free cash flow, and other measures of financial performance. It can seriously affect the company's competitiveness, its ability to invest in growth, and its total delivered cost and product pricing.

When a company undertakes a supply chain transformation, it can expect a 5-10% improvement in operating margins. If the ETR is not considered simultaneously, however, that operating gain could be neutralized by a higher ETR.

Since operating savings are viewed as pre-tax, approximately only 60% of these cost reductions will flow to the bottom line. Similarly, a 5% tax rate restructuring without concurrent supply chain optimization could increase the costs of operations at least that same amount.

Tax Effective Supply Chain Management (TESCM) is the process of integrating tax planning into the overall management of the company's supply chain. There are numerous methods available to tax planners and financial leaders to manage global cash, work with transfer pricing methods, obtain advanced pricing agreements (APAs), and manage financial risks.

It is unnecessary and impractical for supply chain managers to understand these methods or apply them. However, it is important for supply chain, tax, and finance managers to collaborate whenever changes are contemplated in the global network of facilities, in the flow of goods, in the operations organization, and in the allocations or locations of assets.

The achievement of tax effective supply chains may appear too complex or challenging for many. Yet the benefits-lower costs of operations and ultimately, true profitability and free cash flow rates-are too important to ignore. Working collaboratively, operations and finance

managers can make a significant difference in their company's long-term value.

C. Capital Efficiency

The capital efficiency of a company is measured by how well it manages its assets, both fixed and working. Fixed assets are those that are owned (e.g., plants, equipment, real estate, vehicles, computers). Working capital is required to finance the business. Although it is usually tied to inventory, it also involves other capital needs.

Reduce Working Capital

Working capital to finance inventories is determined completely by the supply chain strategy and how well it is executed. The mega processes of supply chains define how, when, where, and how much is bought, created, deployed, distributed, and serviced.

INVENTORY

Capital efficiency can be maximized through effective inventory management, specifically by minimizing inventory working capital while ensuring the required level of customer service. Inventory working capital has two primary components: (1) cycle stock, which cycles regularly through replenishment and consumption cycles; and (2) safety stock, a customer service hedge against forecast error, lead-time variability, and related issues.

How to Minimize Cycle and Safety Stock

- Accurate forecasting of routine demand and one-time demand events
- An effective business process for new stock-keeping unit (SKU) creation, forecasting, and determination of initial acquisition quantity
- An ongoing program of SKU rationalization, supported by an effective SKU discontinuation business process
- Measuring, reporting, reviewing, and continually improving inventory performance results in both financial and customer service areas

CASH-TO-CASH CYCLE MANAGEMENT

In virtually every industry, there is evidence of a never-ending quest to further improve business, while increasing efficiency, as well as drive greater profits to the bottom line and more cash to the bank. One of the most widely available and used measurements is the focus on improving the cash-to-cash (C2C) cycle.

This cycle is generally defined as “the length of time a company’s cash is tied up in working capital before it is returned in the form of collections of receivables.” In other words, this spans from the point of investing capital in inventories and labor to produce goods (and services) that are then delivered (sold) and, ultimately, paid for by customers.

So how is the cash-to-cash cycle calculated? For product-based companies, it is the number

of average days that cash is tied up in inventory and receivables, less average days' use of accounts payable (A/P) dollars (for COGS).

The calculation, which is a derivation of inventory, accounts receivable (A/R) and A/P turns, is simply converted to time as measured in days, as follows:

How Cash-to-Cash Cycle Is Calculated

Add: **Inventory C2C** (days cash tied up in inventories) = **Avg Inv / COGS x 365 days**

Add: **Receivables C2C** (days cash tied up in uncollected AR) = **Avg AR / Net Sales x 365 days**

Less: **Payables C2C** (days use of cash before paying for inv) = **Avg AP / COGS x 365 days**

When the resulting calculation is positive, this indicates that cash is being "tied up" for more days in unsold inventory (i.e., raw materials, work in progress [WIP], finished goods) and uncollected receivables, than the number of average days gained from use of vendor/supplier's cash.

As improvements are realized in the form of lower C2C days, continuous efforts should be made to compare performance and determine new opportunities for improvement. In this way, it is apparent how the management of the C2C cycle and continuous improvement go hand-in-hand to achieve improved performance within a business or organization.

C2C cycle measurement may be beneficial in formulating the strategic planning of maximum possible profit levels with a range of planned operations, as C2C targets become embedded in the assumptions behind targeted inventory levels within constrained cash/borrowing limitations.

Also, while planning to target business market valuation levels (to be attained), C2C targets can be used. Lower C2C cycles correlate to higher net present value of cash flows from deployment of assets, and thereby to higher enterprise value. This may be useful in longer range strategic planning for build-to-sell or various exit strategies.

In summary, C2C cycle measurement offers a very simple and versatile tool to employ in strategic planning and continuous improvement. It also enables a company to measure the results of targeted operational and financial improvements-not only in terms of how efficiently it utilizes cash in the deployment of its chosen strategies, but also in terms of how it performs in the marketplace versus the competition.

Reduce (Improve Return on) Fixed Assets

THE NETWORK

As companies continue to expand their global reach, the complexity and risks involved in supply chains understandably increase. Rising labor and fuel costs, political instability of offshore locations, erratic economic conditions, increasing regulations, the possibility of a merger or acquisition, and new competition (especially from offshore competitors) have put companies in a constant struggle to maintain or improve customer service. At the same time, reducing costs and increasing productivity in their supply chain networks is a critical strategy.

Supply Chain Network Design Can Answer These Questions

- How should the network expand or retract to optimally service present and future demand?
- How many plants and warehouses should exist? What are their sizes, locations, and capacities?
- How many distribution centers should exist? What are their roles, sizes, locations, and capacities?
- Where should inventory be stocked, in what quantities, and at what costs?
- What transportation modes and lanes are best to move products through the network and, ultimately, to customers?
- Which customers and products should be served from each facility?
- How much capacity will be needed at each plant or distribution location?
- As a result of a recent or proposed merger, what would an optimal combined supply chain network look like?
- What lead-times should be offered and what is the impact on service level?
- What is the impact of sourcing from various suppliers?

The leading companies realize that they must reinvent their supply chain networks in order to remain competitive. However, reinventing supply chain networks is a time-consuming and daunting challenge. It requires a deep understanding of all aspects of the current supply chains and a comprehensive analysis of detailed operating data, along with many external factors, such as market forecasts or new channels of business.

The goal of supply chain network design is to restructure the network in order to find the right balance between costs (e.g., manufacturing, warehousing / distribution centers, transportation, inventory) and customer service. Given the size of the challenge, most companies have been undergoing network redesigns as one- time events undertaken every 3 to 4 years, often triggered when network costs rise too high or by a major event, such as a merger or change in supply chain strategy. But this common practice is changing.

Today's demands require evaluation on a regular basis, and some companies are redesigning networks every 6 months.

Even better, the leaders are designing networks that are adaptable to changing markets and buying factors on a continuous basis. They are also more resilient to supply chain risks and disruptions.

Supply chain network design can result in substantially improved networks that save millions in total supply chain cost-often anywhere from 5-15%. It also results in customer service benefits of improved order fill rates, reduced order cycle times, and better customer relationships. Any company that has not recently assessed its network design should make it a top priority goal.

Issues Resolved by Improved Supply Chain Network Design

- What are the best flows for new product introductions?
- How should inventory policies be adjusted during product lifecycles?
- What are the best transportation strategies to deal with fuel fluctuations?
- How should inventories be redeployed if fuel costs continue to rise?
- When do product postponement strategies make sense?
- How should fulfillment centers be planned and designed for e-commerce operations?

PRODUCT HANDLING EQUIPMENT

For the past several years, companies have held off on replacing or upgrading their material handling equipment. Some companies have also deferred maintenance to conserve capital. This has resulted in many systems that are no longer able to respond to changing requirements, or in systems that have reached – or are approaching – their end of life. Or, if no significant changes in DISTRIBUTE have occurred, the equipment and processes may have become inefficient or even unreliable.

Inevitably, these conditions will lead to numerous system upgrades in the near future. However, the approach to upgrading material handling systems will be different than in the past. System design will need to stress flexibility and modularity in order to rapidly respond to shifting business conditions and changing order profiles. The trend toward smaller, more frequent orders will continue, and material handling systems must be able to respond to this trend without major modifications.

Independent material handling integrators have improved their offerings, and companies will purchase complete systems through independent integrators, rather than equipment manufacturers.

The days of having an equipment manufacturer or distributor provide its house brand are largely in the past. Instead, an independent integrator can use best-of-breed equipment from a number of equipment manufacturers to provide the best overall solution at the lowest overall cost.

Since the cost of material handling equipment is a major investment for most companies, the Warehouse Control System (WCS) should deliver the expected results and be designed with flexibility and modularity in mind. The WCS provides the nerve system and should have the capability to adapt to an ever-changing environment, as well as ensures the right response to equipment failures and capacity limits.

As companies upgrade their material handling systems, a flexible and modular system that can be implemented quickly will help protect the investment and ensure that companies get the most out of their capital investments in the long run.

TECHNOLOGY

The world of supply chain technology continues to expand, and decisions about which technologies fit best are more challenging than ever. In fact, technology challenges present one of the greatest balancing acts between creating short- and long-term value.

Many organizations are running supply chain applications that have seen limited to no upgrades since they were installed circa 2002 to 2006. As time goes on, the cost to maintain the systems and risk of obsolesce grows.

Figure 3 shows standard technologies being utilized by most supply chains.

Figure 3. Standard Supply Chain Technology Platform

In addition to these standard technology platforms, today's expansion of sales channels to multichannels (e.g., retail, wholesale, B2B, B2C, online ordering, fulfillment) has underscored the absolute need for Distributed Order Management (DOM) software. The DOM helps distribute orders to the best stock location and fulfillment base. This new technology requirement is driving most all companies to a reassessment of their Information Technology (IT) platforms and road maps.

Software as a service-based (SaaS), as Platform as a Service (PaaS), as well as other Cloud-based systems, are catching on quickly. Demands for higher productivity create opportunities for SaaS and Cloud application technologies to drive the value creation framework.

SaaS- and/or Cloud-based applications present fewer barriers to deployment than traditional license-based software applications. The advantages of SaaS include little to no upfront investment, very limited in-house IT support to integrate or provide ongoing overhead related to application support-maintenance, and quick payback compared to traditional installed-licensed software models.

Technology executives and managers in supply chains must identify the appropriate short-term tactical strategies to meet immediate business needs and remain competitive in the market. At the same time, they must be prepared to adopt and embrace emerging technologies, such as SaaS deployment models before they become outmaneuvered by their competitors.

Supply Chain Value Creation Framework

For any company, understanding the framework for supply chain value creation is essential,

as is defining the characteristics of true end-to-end supply chains. The process-driven view of how to create value through profitable growth, margin improvement, and capital efficiency works with smart companies. Operational excellence is about much more than operating at lowest cost.

The key to unlocking the full potential of operational excellence is to design, plan, and execute supply chains that create long-term value in all three areas: profitable growth, margin improvement, and capital efficiency. And, then, measure performance on a balanced scorecard that shows financial and operating performance results. This leverages a company's supply chain for success and results in true and sustainable value creation.

Supply chains are the foundation and the building blocks used to put these principles to work, and the Return on Investment (ROI) from supply chain investments within companies outweighs any others in the quest to create long-term value.

How to Develop a "Value-Creation Machine"

Creating long-term value for your company is the right executive goal. Business leaders can learn from Jeff Bezos, CEO of Amazon, whose company is a true model for value creation. Below are four key concepts that make Amazon a value-creation machine:

1. Focus on long-term investments and innovations that bring real value.

2. Allow mistakes to be made, and learn from these mistakes.

3. Have the persistence to keep working.

4. Focus on the customer.

Example Categories of Value-Based Operational Initiatives for Capital Employment

There are numerous case examples reported in respected journals about how select corporations invested wisely in their operations to create value. There are also examples of corporations that either invested poorly, or in non-productive assets, in the wrong areas, at the wrong times, or just did not invest at all-and they suffered as a result. The ultimate suffering is Chapter 11 Bankruptcy; however, there are levels of non-performance that lead up to that drastic scenario involving share value reductions, margin evaporation, stagnation, and loss of market share to those competitors that acted wisely.

Below are five categories of investments that yield profitable growth when the initiatives are launched on time and targeted toward the right objectives.

Operations Reinvention

As markets change, consumers become smarter. Their choices increase, and many companies attempt to respond by trying to adapt old operations to the new normal. In some limited situations this may work adequately; however, the severity of the changes required, and the complexities involved, often render this adaptation ineffective.

Consequently, the COGS may overcome the market selling prices and operating losses begin to accrue.

Reinvention is needed when this situation is recognized (i.e., the market changes are too overwhelming to adapt old operations and practices). In the past, upon recognizing that change is coming, many executives have invested in new technologies to provide the fuel for change and the capability to deal with it. Most of these initiatives have failed to deliver the value promised. Information technologies, by themselves, do not yield sufficient changes in business processes, upgrades in talent, or corporate cultures.

The reinvention of operations by aligning people, processes, and technologies with new strategies can produce significant value. New supply chains can be designed, logistics networks can be redesigned, and the four flows of supply chains can all be reinvented to adapt to market changes or lead the industry in creating demand and fulfilling it.

New operating models are one example of reinvention. As corporations grow and expand, functional silos often develop that build separate capabilities and place internal barriers on cross- functional cooperation. The current development of omnichannel companies is a response to the goal of customer consistency. This means no matter which channel the customer chooses to “buy” from, the customer experience is uniform and satisfying. This goal is a challenge for all retailers and consumer products companies that sell to consumers.

Infrastructure Investments

Infrastructure includes facilities, equipment, communications networks, technologies, platforms, and related assets. Although often a popular choice for investing capital, this is

one of the most difficult challenges executive teams face. Corporations have infrastructures that were not planned to meet today's business needs, often because they were deferred or designed for yesterday's business requirements. Initiatives have been launched to make better use of facilities by making them more productive and delaying their impairment. The results of these initiatives (e.g., lean, best practices, process redesigns) have been moderate and depend on the "AS-IS" current state and performance. Only so much can be done if the infrastructure is wrongly designed, located in the wrong places, or is constrained by capacity.

The business truth is that determining the corporation's correct infrastructure needs to be ongoing, dynamic, and market-sensitive. Infrastructures almost always lag behind the various initiatives that depend on it, as well as market requirements that demand it. In most industries today, these all remain in a state of flux. Needs are changing at the same time that alternatives are available. All too often, this challenge creates "paralysis by analysis," and infrastructure investments are delayed even further.

In this operations and supply chains world, companies encounter this dilemma frequently. When a company decides to redesign its logistics network, for instance, does it drive that design on the basis of projections from yesterday's demands and supply, or does it recognize that the future will be very different? Does it redesign in functional silos, or does it address enterprise-wide opportunities with the evaluation of shared services?

To achieve better results when making capital investments in infrastructure, companies can review their requirements on a regular basis. They should do this in accordance with business architecture that is up to date with market realities and anticipated changes. At the same time, they can also evaluate alternative scenarios for their economic value, not because "it has worked in the past," "this is the way we have always done it," or even "we do not need investments." The smart employment of available capital into smart infrastructure initiatives can yield much more than high-performing assets. It can lead to overall value creation.

Demand-Driven Supply Chains

Sometimes a new strategy comes along, pioneered and made famous by a few companies, but it is not easily replicated elsewhere. Even if it makes common sense, is focused on customer satisfaction, and meets the tests of reasonableness, it may fall by its own inertia and lack of replicable practices and usable tools. Then, years later, it reemerges and becomes more than the "fad."

This is also true for demand-driven supply chains. When Dell introduced direct-to-customer order fulfillment in the early 1990s, its operations strategy was envied and other industries attempted to adapt it to their businesses. Yet it has taken some 20 years for many companies to convert their supply chains to true demand-driven operations. The processes, practices, tools, and cultural barriers have limited its widespread adoption by those mature companies that have more supply-driven supply chains-in other words, "build it and they will

come.”

Designing the right supply chains today requires more complexity than in the past. Multi-category, multi-market, multi- channel, and multi-echelons create unprecedented complexities. Yet, demand-driven supply chains are completely focused on the customer and their buying behaviors today. “Sell one, ship one, make one” can be the reality due to modern technologies, proven processes and practices, and trading partner cooperation and collaboration.

When supply chains are designed and converted to demand-driven, positive results can accrue. The top supply chains, as judged by Gartner, yield the highest revenue growth, most inventory turns, and greatest return on assets. Who can argue that these three targets are not direct contributors to value creation?

The value proposition presented below reflects many of the significant contributions of operational excellence to value creation, in addition to the three key goal measures above. Operating margins, revenue growth, and capital efficiency are each impacted substantially by operational excellence. And, demand-driven supply chains are proving their superior contributions to operational excellence.

Complete End-to-End Trading Partner Collaboration

An operations strategy related to demand-driven involves the true collaboration of end-to-end trading partners in a supply chain. End-to-end means the complete supply chain, from “supplier’s suppliers to customer’s customers.” An example is a raw material acquired in China, converted with others to a product, assembled into a finished good, sold to a distributor and/or retailer, then on to a final customer-with all the transport and handling in between. Some global supply chains involve a dozen legal entities and weeks of progression for a material to reach a consumer.

Certainly, the vast majority of trading partner collaborations are characterized as business-to- business (B2B). Until recent years, the collaboration of all these partner companies was limited, due to issues of trust, limited visibility and tools, and misunderstandings and misalignments. Basically, each company was unsure of its position in the value chain and its benefit if it collaborated.

Today, the best supply chains involve remarkable collaboration so that all parties have near

real- time visibility, cooperation if supply chain disruptions occur, and shared information. The value of this collaboration is contained in speed, lowest cost, quality of service, and quick response to problems. This new operations strategy is only just beginning, and the early adopters will clearly gain competitive advantages.

Product-Service Innovations

Innovations in business almost always translate into new products, brand extensions, packaging, and other product-based initiatives. In fact, the winners of innovation awards almost always are the producers of new products that consumers love. But, there are also innovations in services that should be recognized and are a source of value creation.

The explosion of online ordering, for example, shows us the value of fulfillment services. Same- day delivery service and single shipments to the consumer versus split ones are highly valued by some consumers. At the same time, perfect order has special value no matter what the product. And, product/service choices often outperform the same product without service.

These product/service innovations should be developed continuously by all companies that buy, make, move, or sell products, and on a regular basis. Leading companies are discovering that innovative services can produce competitive advantages. Amazon has innovated an industry with services. Distributors compete on services, as do service providers. Yet, few have innovated enough to make a significant difference.

The opportunities are there for invested capital to create, pilot test, and employ service innovations that will grow revenues. One concept is “value-exchange,” whereby two companies collaborate and execute a service that benefits both by exchanging value. This category is wide open for value-based payback if the right innovations are developed.

These five categories provide examples of creating value from invested capital, each of which is timely in today’s highly competitive industries and markets. Those corporations that have an “abundance of capital” available should be looking into these categories for the Return on Invested Capital (ROIC) that will make a solid difference in the company’s valuation.

The Value Proposition for Operations Excellence

Operations excellence creates true value for the corporation that invests capital into the right initiatives. This next section reviews the Value Framework as well as some line items that result from smart capital investments into operations excellence.

Figure 4 illustrates the overall Value Creation Framework. Note that operations initiatives in the far right column (customized for each company) yield results from three objectives-profitable growth, operating margins, and capital efficiency-which in turn create value. The absolute values of these depend on the company situation, yet they can be projected and

measured based on benchmarks and experience.

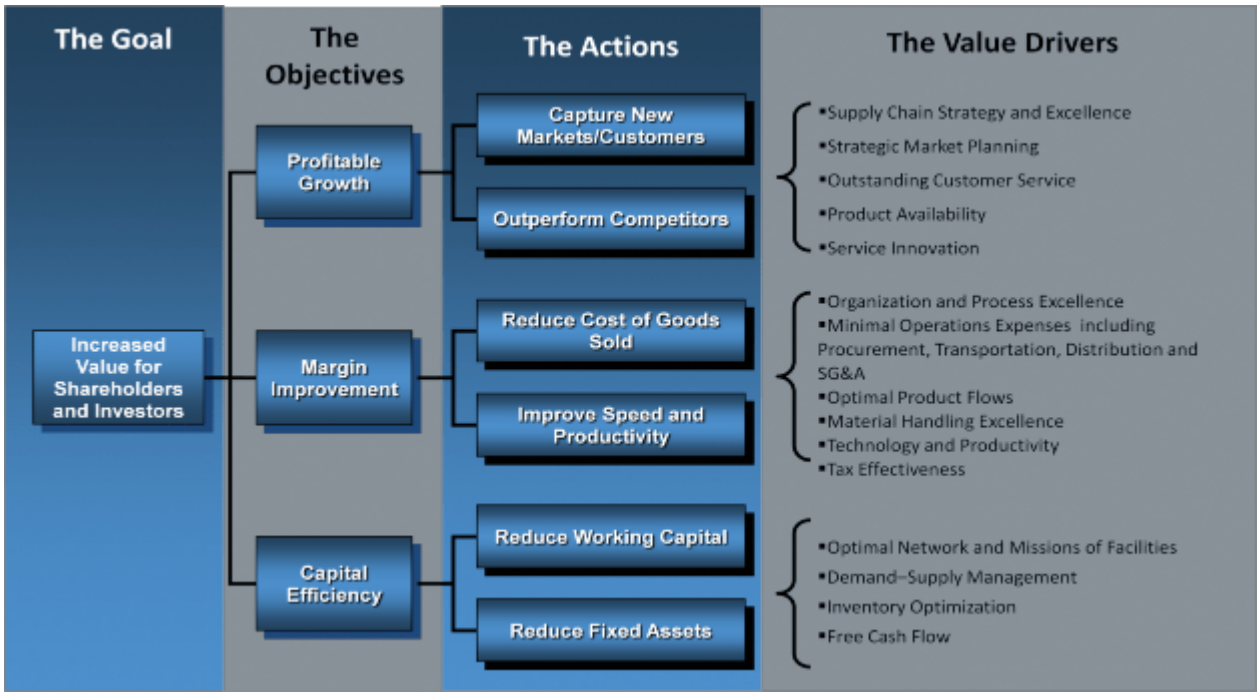


Figure 4. Value Creation Framework

In turn, Figure 5 illustrates selected value statements and proven results for a set of initiatives actually produced by a company. Note that each of these is an operations initiative that proved beneficial.

Metric	Current Value	Future Value (1Year)	Best Practices	Impact on Operating Cash Flow	Impact on EBITDA
Order cycle time	5.0 days	3.6 days	Implement DOM system and reduce waste in processing steps	.25%	.10%
Order fill rates	94.3%	98.0%	Voice picking accuracy leads to a new customer	.75%	.40%
Product availability	98.1%	99.5%	Demand-driven practices	1.0%	.60%
Perfect order rate	90.3%	95.0%	Picking accuracy and new QA system for order accuracy	.80%	.50%
Forecast accuracy	20.5%	15.0%	Demand-driven practices and tools	Negligible	Negligible
Cost of goods sold	$650M	$600M	Strategic sourcing initiative	1.50%	.95%

Metric	Current Value	Future Value (1Year)	Best practices	Impact on Operating Cash Flow	Impact on EBITDA
Lead times	17.4 days	15.4 days	Strategic sourcing initiative	.25%	.13%
Distribution costs	$58.5M	$49.0M	Voice picking system and VNA storage in DCs	.45%	.30%
Freight expense	$51.0M	$35.0M	Network redesign getting product closer to the customer	.75%	.45%
Inventory carrying cost	$61.6M	$50M	See inventory turns	See inventory turns	See inventory turns
Net operating working capital	$525M	$500M	Network redesign closed non- value adding facility	5.0%	3.0%
Inventory turns	6.1	9.0	Demand-driven practices and tools	35%	20%
Inventory days of supply	59.8 days	40.2 days	See inventory turns	See inventory turns	See inventory turns

Figure 5. Metrics for Creating Higher Value

Too many companies continue to weigh benefits against costs when deciding on an initiative. This method facilitates short-term thinking (i.e., that spending on projects should be decided by a cost-benefit ratio, based on the life of the project, and not the value of the investment). It is further exemplified in procuring the lowest purchase price of a product instead of the total cost of ownership. Or, reducing the cost to serve at the expense of customer satisfaction.

The ROIC for smart initiatives, and any that are designed carefully and implemented properly, will most likely exceed any company’s hurdle rate and cost of capital. Why then are so many companies investing and holding their available capital in financial instruments and not into their own operations?

Summary and Conclusion

Invested capital into operations excellence truly matters. Not only does it create near-term value, it positions the company for long-term and sustainable value. While nearly all supply chains today need to adopt speed as one of their primary contributions to economic value, the fact is that macroeconomic conditions do not change as fast as markets and customers. A capital investment strategy is far more powerful than downsizing and short-term cost reduction. Long-term value takes time to create, yet it has sustainable quality if executed effectively.

The Tompkins value proposition for payback on our expert services has been demonstrated time and time again. When Tompkins helps companies decide what initiatives are best to achieve goals for revenue growth, margin improvement, and/or capital efficiency, the companies operate better, compete better, and perform better. Tompkins also assists in their planning and implementation. The returns on investment are measured in financial, organizational, and 'learning' terms, which permit the company to repeat the benefits over time. In effect, Tompkins' services are monetized in benefits that accrue beyond the engagement period.

It is understood that there are multiple reasons for corporations to hold cash, among them market uncertainties, customer demand volatility, government regulation, tax changing potentials, and economic risks. But, as this paper justifies, smart investment in operational excellence positions companies to better deal with these factors, not lessening protection. The costs of inaction increase risks and lessen competitive advantage. Business strategies are enabled by operations strategies and operational capabilities. There really is no substitute strategy for investing capital wisely.

[1] "A World Awash in Money: Capital Trends Through 2010." Bain & Company. 2013. http://www.bain.com/Images/BAIN_REPORT_A_world_awash_in_money.pdf

[2]"Leveraging the Supply Chain for Increased Shareholder Value." Nov. 2010.

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About Tompkins International

Tompkins International transforms supply chains for profitable growth. For more than 35 years, Tompkins has evolved with the marketplace to become the leading provider of growth and business strategy, global supply chain services, distribution operations consulting, information technology implementation, material handling integration, and benchmarking and best practices. The company is known for innovative, practical solutions that improve supply chain performance and produce value- based results. Headquartered in Raleigh, NC, Tompkins has offices throughout North America and in Europe and Asia. Visit www.tompkinsinc.com.