Abstract. Effective supply chain management drives an increase in shareholder value for supply chain intensive companies such as manufacturers, retailers, and distributors. This paper looks at how best to present the role a proficient supply chain plays in creating shareholder value to the Board of Directors and the CEO through the use of economic profit.

The Question. Why do most CEOs and Boards of supply chain intensive companies not fully understand the strategic role that supply chain plays in increasing shareholder value? The answer is that most top supply chain executives including myself have not properly framed the supply chain value proposition to them.

After years of justifying supply chain investments to various CEOs and Boards based on improving and sustaining product availability, driving inventory productivity, and driving transportation and warehousing cost productivity, I found linking supply chain performance to shareholder value creation still missing. Over time, economic profit strongly correlates to increasing shareholder value in public firms. A supply chain that delivers the highest availability at optimal investment drives an increase in economic profit. Therefore, an effectively managed supply chain produces an increase in shareholder value. I found the link.

The Role of Economic Profit. Economic profit (EP) is defined as the difference between the revenue received from the sale of an output and the opportunity cost of the inputs used. For a publicly traded firm, economic profit is the excess cash generated above the promised return by the company from its operations. The best surrogate for promised return is the weighted average cost of capital (WACC). The weighted average cost of capital is comprised of the weighting of the historical stock performance of the company plus the weighting of the average bond interest paid.

Economic profit can be calculated in a variety of ways. One way expresses EP as operating profit less a charge for the capital used. If we apply this to a capital reduction example typical of many supply chain improvement efforts, the results are as follows:

- Current Inventory Days: 55 days (6.5 turns per year)
- Inventory level: $1,068 million
- Investment per day of inventory held: $19.4 million
- Weighted Average Cost of Capital: 8%
- Cost per day of inventory: $1.55 million
Each day of reduction adds $1.55 million of EP to the company.

An even more holistic application of EP to supply chain uses return on invested capital (ROIC) defined as net profit margin multiplied by capital turnover. A well performing supply chain delivers the highest product availability at optimal inventory and transportation and warehousing investment. Assuming that a sale cannot be made if the product the customer desires is unavailable, then the supply chain must deliver an acceptable level of availability. The investment in transportation and warehousing drives operating profit margin which, when multiplied by the corporate tax rate, equals net profit margin. The investment in inventory drives net working capital efficiency which when combined with sales divided by fixed assets yields capital turnover. Both of these investments must be at an optimized level to achieve the desired product availability for the customer. When the ROIC is greater than the WACC for that company, positive EP is produced. For example, a supermarket will typically have a very low net profit margin and a very high capital turnover. Who wants to buy three month old milk? If the capital turnover is high enough, the resulting ROIC will be greater than the WACC and positive EP is produced.

**The Role of the CEO.** To achieve positive EP in supply chain intensive companies requires that the CEO understand the supply chain of the company systemically. A CEO who believes that simply maximizing sales and minimizing costs produces maximum shareholder return fails to understand the capital charge that must be overcome to create long-term shareholder value. The CEO who creates shareholder value understands that supply chain management is a complex, technology-driven discipline that reaches across functions, business processes, and corporate boundaries. This CEO understands that effective supply chain management is predicated on integration and systems thinking (Firm-wide Integration and Firm Performance, Chen, Mattioda, Daugherty).

In the *Harvard Business Review* article “Are You the Weakest Link in Your Company’s Supply Chain?” (Slone, Mentzer, Dittmann), my co-authors and I lay out seven critical supply chain engagement areas for the CEO.

*It is always about the people.*
Supply chain management is the discipline of coordinating multiple competencies across the enterprise. Supply chain management can't be competently managed by the uninitiated. Ensure senior supply chain executives have a background in SCM, through formal education, significant experience, or both. Extend this best-and-brightest principle down to entry-level hiring.

**Initiate benchmarking and select metrics.**
Conduct external best-practice benchmarking on key aspects of supply chain performance, such as product availability, inventory turns, and SKU system costs. Set goals for metrics based on benchmarking. Define metrics in ways that frame your supply chain’s performance from the customer’s view.
Eliminate Cross-Functional Crossed Wires
Making a supply chain work effectively is about making “all the value creating processes work together to provide the highest level of customer value” (Pagell, 2004, p.460). It is an optimization problem not a min/max problem.

Set incentives.
Establish rewards encouraging customers, suppliers and employees to support the overall supply chain goals.

Keep up with technology and trends.
Stay current with supply chain technology advances (such as software and devices supporting production planning, inventory management, and warehousing) and process tools (such as Six Sigma) applied to the entire supply chain. Understand how your firm is currently using technologies, and ask challenging questions before adopting new tools.

Factor supply chain management into business plans.
Make supply chain considerations core components of operations, sales and marketing planning, as well as contract negotiations with customers and partners. Watch for inconsistencies undermining your strategic aims.

Resist the tyranny of short-term thinking.
Discourage use of deep discounts at quarter's end to "make the numbers." Discounts train your supply chain partners to delay buying until the end of each quarter. That triggers low sales in the first two months of the next quarter, which prompts more discounts. The cost to you: overtime during heavy buying, wasted labor during slow months, and higher inventory costs before the next "surge."

REFERENCES

Journal references
