



WHITE PAPER

The Value Impact of Service Optimization

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The Value Impact of Service Optimization

A study of 30 best-practice companies found the average value of service optimization to be \$50 million over five years. A closer evaluation of five companies in aviation, high tech, telecom and automotive puts this value at \$100 million over two to three years.

With a return on investment in less than six months, the value of service optimization is clear and compelling.

Introduction

The ability to retain customers and earn repeat business is greatly affected by the level of service provided after the initial delivery of a product. This is true for both high tech original equipment manufacturers (OEMs) who support products they sell, and for non-OEM companies such as airlines, telecommunications providers and utilities with asset-intensive operations that support their service business. Companies are now taking a closer look at how they manage service functions – including installation, MR&O (maintenance, repair & overhaul), returns, refurbishment, parts cannibalization, and reverse logistics. Service optimization is emerging as a new source of opportunity to increase profits and provide significant value to both customers and shareholders. In this paper we discuss the key areas of impact and the level of benefit that can be achieved.

Why service optimization?

Supply chain management for the *manufacturing* operation has improved greatly over the last decade through widespread process reengineering and the deployment of enterprise resource planning (ERP) and advanced planning systems (APS) software. Many OEMs have

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successfully transformed their supply chain processes, from material planning through production scheduling to order fulfillment.

Today supply chain management for the *service* operation is being recognized as a significant opportunity for companies to reduce costs, improve asset utilization, and differentiate themselves through superior customer service after the sale.

Efficient service delivery yields:

- higher gross margins
- improved customer retention, at a cost four to six times less than acquiring new customers
- recurring, empirical service revenues that add to the market capitalization of companies that recognize revenue from service

For OEMs, the profit opportunities in the service operation are significant. For example, margins on sales of computer hardware are typically 2% to 4%, while margins on the service of that same equipment can be 40% to 140%. In some vertical markets, the profit from service over the life cycle of a product can exceed the profit from product sales (*figure 1*). This is particularly true in industries where products have longer life cycles and recurring service cycles.

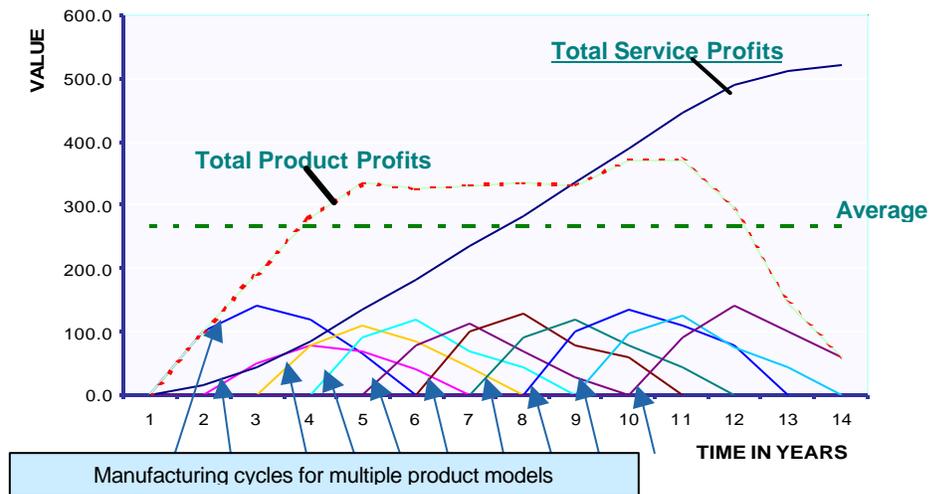


Figure 1 – profits in service vs. manufacturing – in some industries, durable equipment can generate more profit from service over its life cycle than from the original equipment sale.

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Non-OEMs such as airlines, telecommunications providers and utilities realize profits entirely from the sales of their services. Therefore the efficient delivery of service is the source of profitability and a requirement for doing business in increasingly competitive environments.

Why now?

If there is such dramatic value to be obtained from optimizing the service supply chain, why is this only now gaining mind share among corporate management?

For one thing, the new e-economy has brought the expectation of differentiated service as its hallmark. With ubiquitous web-enabled data sharing and new efficiencies in transportation and logistics, business customers have come to expect a high level of service and extremely rapid response. Two-hour and four-hour service contracts are now common, with financial penalties to the company providing the service if it does not live up to the commitments of its service contract.

At the same time, several industry-specific trends have brought the service enterprise to the forefront of the organization.

In high technology industries, service is becoming the prime differentiator. For example, laptop computers from different vendors predominantly use the same modules and components and have very similar processor capabilities. Companies like Dell have created competitive advantage out of their manufacturing efficiencies. Now they are doing the same with service efficiencies as they move into the commercial enterprise space with high-end servers.¹

In aviation, the aging of airline fleets and a growing demand for travel have increased the carriers' need for service parts at the right place, at the right time, to keep the aircraft moving on schedule. The cost of an AOG (aircraft on the ground) is estimated at \$25,000 per hour and has a direct impact on multiple operational schedules (pilot and crew, baggage handlers, etc.) and a clear impact on customer satisfaction and retention.

In telecommunications and utilities, deregulation has brought increased competition and a customer demand for faster response and higher level of service. The telecom industry is challenged by high capital spending, low profitability and sector consolidation. *Business Week* estimates that telecom capital spending will reach \$200 billion in 2001

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while growth is flat, and return on assets is falling in parallel with profitability.² These companies must plan and execute with extreme precision if they are going to thrive.

The importance of service parts planning garners greatest recognition in those industries where 1) the cost of the equipment and the service parts are high, 2) the complexity of planning is high, and 3) the cost of a part failure or outage is high.

Areas of Impact

To companies in the above vertical markets, service is a very important part of their business. Inventory is most likely the second largest item in the balance sheet, and service inventory is a substantial portion of that item. Yet today the service inventory is typically managed by home-grown legacy systems or manual processes. Replacing these processes with software solutions designed for service supply chain management is necessary to optimize the level of service and reduce service costs.

Ensuring that service parts are available when and where they are needed is a key component in the level-of-service equation. It also has a direct financial impact on the company's profit and loss statement and balance sheet.

Xelus has worked with more than 30 best-practice companies in the above vertical markets to quantify the impact that service supply chain management has on each company's financials. We focused primarily on the quantifiable impact of optimizing inventory planning, sourcing and deployment. Areas of impact include inventory carrying costs, sourcing and acquisition costs, obsolescence and scrap costs, productivity, level of service and revenue.

◆ *Inventory carrying costs*

Inventory carrying costs include the cost of money at 7% to 10% per year, material handling costs, occupancy charges, clerical costs and taxes. Carrying costs are typically about 25% of the cost of inventory. Implementing service supply chain management solutions can result in a 10% to 50% reduction in service inventory levels. Therefore, a company carrying \$200 million in service inventory can reduce its carrying costs by \$5 million to \$25 million per year. These savings show up directly on the company's profit and loss statement, and create working capital that a company can put to other uses.

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◆ *Sourcing and acquisition costs*

There are a number of ways that service supply chain management reduces sourcing and acquisition costs for service inventory. First, an accurate forecast of the inventory that will be needed allows a company to negotiate pricing for realistic quantities and delivery schedules. It dramatically reduces the need for emergency requisitions and the premium price paid on these rush orders. Second, a good service inventory planning system will allow the planner or purchasing agent to consider less expensive alternatives to buying new parts. These include repaired or remanufactured parts, substitution of an older or newer equivalent part (supercession), and cannibalization of obsolete systems. The cost of a repaired part is typically 35% that of a new one. One company in the study increased their use of repairable parts by 15%.

The e-commerce component of service supply chain management provides additional opportunities to reduce acquisition costs. In service, a number of Xelus best-practice clients have established private trading networks that link their own geographically diverse business units and a small set of trusted vendors. These companies realize significant savings by rebalancing service inventory among their own business units prior to sourcing from outside vendors. Additional savings are achieved through increased efficiencies of the web-based RFQ and procurement process. Sending RFQs over the internet to specific qualified vendors, receiving bids within hours, and applying automated business rules and logic to award bids – again within hours – can typically save a company 10% of its sourcing costs per year.

◆ *Obsolescence and scrap costs*

Accurate planning of service inventory ensures that the right amount of inventory is ordered and that it is deployed at the right levels in the distribution network. This allows field technicians and repair depots to meet their level of service requirements without stocking excess inventory that may become obsolete before it is used. The ability to rebalance inventory within a company, as described above, also contributes to reduced obsolescence costs. The e-commerce component comes into play here as well. Companies can often sell obsolete or excess inventory through their private exchange, improving recovery through brokering and commanding a much higher price than the few cents on the dollar they obtain by selling the excess by the pound as scrap.

◆ *Productivity improvements*

Service optimization has a direct benefit on productivity in several areas. First, planner productivity is dramatically improved. Service planners often fill the role of planner, buyer

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and expediter for thousands of different parts. By improving their ability to forecast and plan inventory, these people are able to proactively plan higher numbers of parts and spend less time reacting to emergencies. Second, the e-commerce capability greatly streamlines the purchasing function and allows the buyer to more quickly evaluate a larger number of bids. Finally, field service technician productivity is improved by having the right inventory where it is needed. Service supply chain management solutions allow companies to reduce backorders and broken service calls by more than 50%.

◆ Level of service

The companies in the study were able to reduce inventory levels 10% to 50%, while at the same time maintaining or improving their level of service (figure 2). Factors in the improved service levels include fewer broken service calls as described earlier, and improved fill rates at all levels including field sites and repair depots.

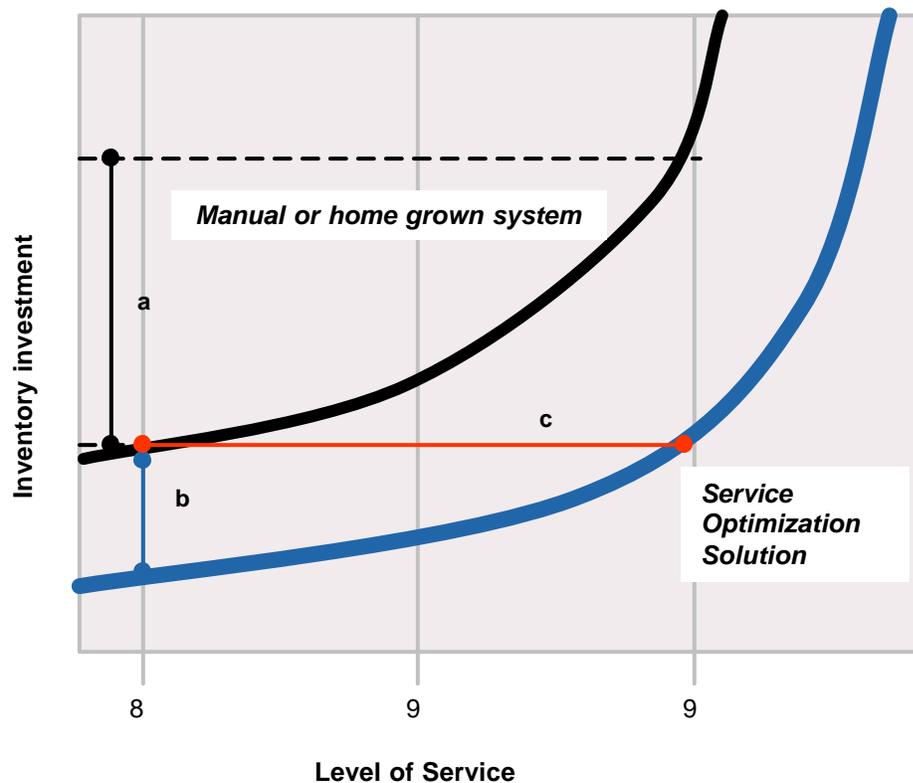


Figure 2 – inventory investment vs. level of service. Using manual or home-grown inventory management systems, increasing the level of service typically requires a substantial increase in inventory investment (a). Adopting a service optimization solution allows companies to reduce inventory investment while maintaining level of service (b) or to increase service levels with little or no increase in inventory cost (c)

◆ **Revenue**

Many of the OEM companies studied were able to recognize direct revenue benefit from their service optimization implementation, by increasing their ability to deliver (and charge higher prices for) more premium level of service contracts. Those companies claim 2% to 5% increase in revenue directly related to service. In addition, a successful first-time service call encounter often enables a field technician to sell additional supplies or accessories. All companies recognized the less quantifiable benefit of improved customer satisfaction and retention.

Conclusion

Of the 30 companies studied, the average value of service optimization is estimated at about \$50 million (net present value) over five years. A closer evaluation of five leading companies in aviation, high tech, telecom and automotive puts this figure at closer to \$100 million in actual value over two to three years. With return on investment typically achieved in less than six months, the value of implementing a service supply chain solution is clear and compelling.

There are alternatives to service supply chain solutions. Most ERP and the SCM vendors have recognized this market opportunity and have adapted their solutions to target parts of it. For companies where the service parts planning problem is much less critical than the manufacturing supply chain problem, these solutions may be sufficient. However, to achieve the full value potential of the service supply chain requires a solution that is uniquely designed for service. ERP and SCM solutions do not adequately address the unique aspects of service including reverse logistics, random failures, probabilistic bills of material and other service-specific elements.³

Adopting a service optimization solution presents a tremendous opportunity to reduce costs, improve asset utilization, and provide superior customer service. In choosing a solution, it is important to remember that planning inventory for service is different from planning inventory for manufacturing. Planning and execution processes in service are evolving even more rapidly than those in the finished goods environment, having started later on the path to sophistication. To meet today's customer demands, service organizations must align themselves with solutions providers that have deep domain knowledge and best-practice experience in service supply chain applications and processes.

About Xelus

Xelus, Inc. (formerly LPA) is the leading provider of service supply chain management solutions for Global 1000 organizations. Xelus has unmatched domain expertise in service supply chain optimization, combined with best-practice knowledge of service operations in its targeted vertical markets (aviation, telecommunications, high-tech, surface transportation, energy and DoD). Xelus application software and services enable inventory planning and forecasting, online sourcing and procurement, and business process optimization. Xelus clients achieve new levels of service efficiency, improve asset utilization, reduce costs, and increase service levels – thereby increasing customer loyalty, revenue and ROI. Xelus clients include 3Com, Ameritech, Applied Materials, Aviall, BellSouth, BG&E, British Airways, Cisco, Compaq, Dell, Ericsson, Fujitsu, Hewlett Packard, Honeywell, IBM, Isuzu, Kodak, NCR, ICL (Logicom), Nissan, Samsung, Storage Technologies, Subaru, Sun, Tektronix, Unisys, Volvo and Xerox. Xelus is a privately held company headquartered in Rochester, NY, with offices throughout the United States and Europe.

For further information

¹ Dell case study at www.xelus.com

² "Telecom's Wake-Up Call," *Business Week*, September 25, 2000, page 148.
http://www.businessweek.com/2000/00_39/b3700132.htm

³ Contact Xelus for more information on the unique aspects of the service supply chain.