



White Paper

Product Life-Cycle Costing

*How organizations can use
product life-cycle cost
management to drive target
cost sourcing*

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About i2

What makes i2 **the** supply chain company? We focus all of our efforts on delivering solutions and services that bring bottom-line benefits to our customers. We're passionate about leading the charge and setting the standards—for the new generation of supply chain management technology. We understand that it's only through our customers' successes that we can become truly successful as a company.

What's the new measure of success for companies in the modern business landscape? Their ability to respond to continuous change with innovation, intelligence, and agility.

The new generation of supply chain management solutions from i2 enables companies to do just that, with reduced risks and costs. By leveraging the i2 Agile Business Process Platform, companies experience a lower total cost of ownership. Workflow changes can be easily made for new process requirements, reducing the cost of customization. Because i2 predefines the majority of every solution through a workflow library, solutions can be implemented more quickly. And less integration work greatly shortens time to results.

Learn more at www.i2.com.

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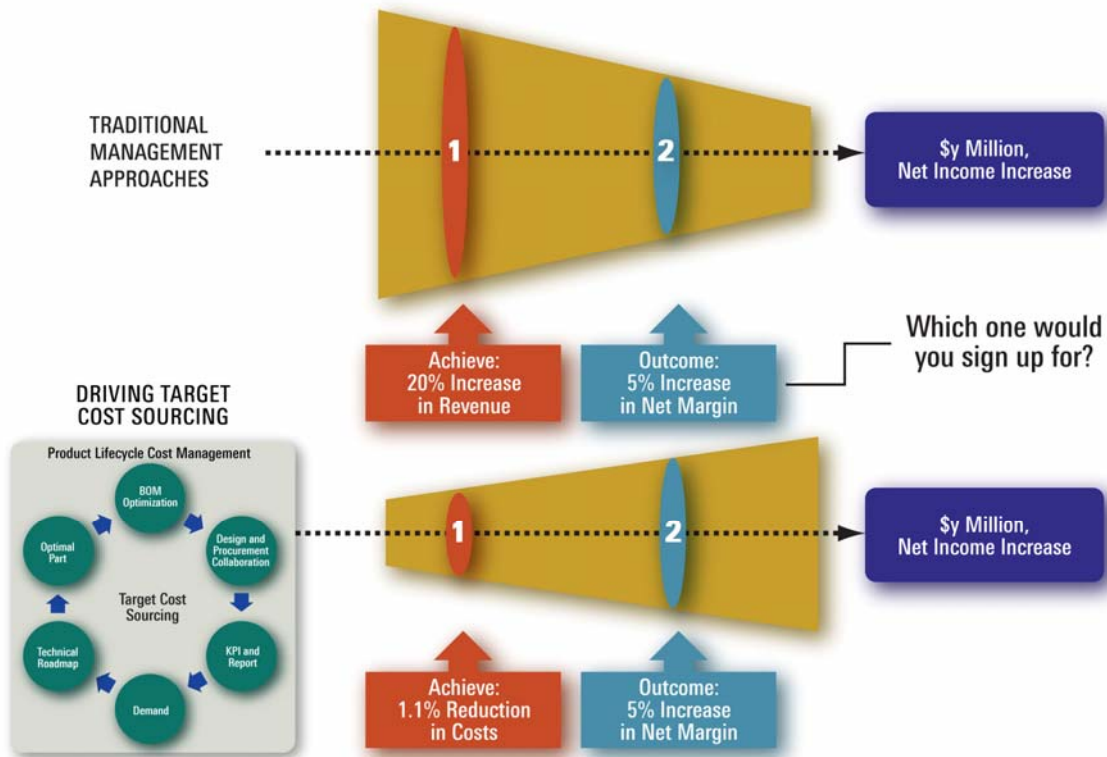
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A Real Business Need

Managing and controlling the cost of goods sold (COGS) remains a key challenge for most manufacturers.

Target cost sourcing is a paradigm that many companies are trying to achieve and have found many challenges in enabling the process. The white paper is an attempt to share our experiences with customers, describing some of the challenges and how the customers have overcome the challenges.

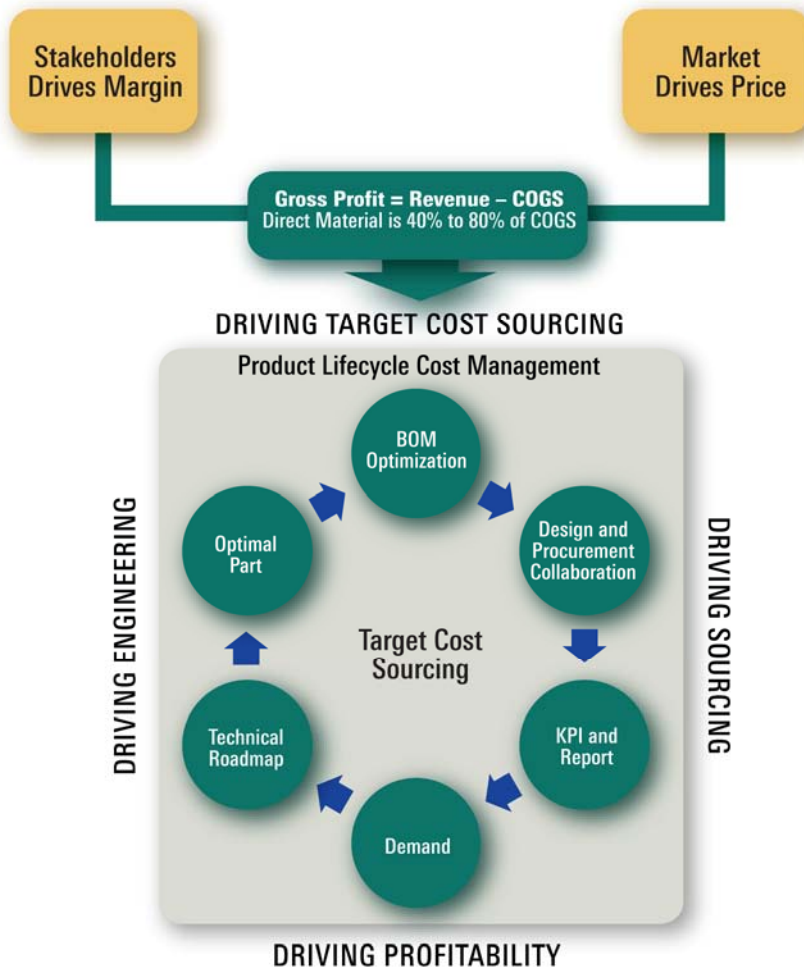


Product differentiation is decreasing, as global players are able to bring similar products at lower prices to market. Organizations have less control over pricing, which is increasingly driven by market forces. Make vs. Buy decisions are tending toward buy/source for many products, sub-assemblies, and components. Cost pressures are driving sourcing to the Asia-Pacific region, Europe, and other locations.

Due to the increased use of outsourcing, direct material supply costs now typically constitute from 40% to 80% of total COGS. To manage COGS and to keep margins intact, companies must define target costs, drive sourcing and suppliers to meet those targets, then track actual costs against targets across the entire product life cycle.

To achieve target costs, companies should seek alternate sources, new regional or geographic sources, or functionally equivalent but lower-cost materials. These strategies can lower costs, while still meeting time-to-market, quality, and customer satisfaction requirements. Companies have traditionally sought lower-cost sources, of course, but many organizations can better align to those goals by focusing on target cost sourcing.

Target cost sourcing does present its own unique set of challenges, including product and supply chain issues, supplier management, internal change management, and inadequate IT systems. By investing in process evaluation and design, training, change management, and updated IT capabilities, companies can meet those challenges and gain the benefits of target cost sourcing. Those benefits include cost savings, accelerated return on investment, and improved profitability.



The Benefits of Target Cost Sourcing

- **Target Cost Management**—Organizations can improve profitability by defining margin-based target costs at the product, sub-assembly, and component levels, and by tracking target versus actual costs throughout the product life cycle.
- **Product Profitability**—Companies can improve performance by identifying and driving sales of more profitable products.
- **Product Launch Profitability**—Companies should analyze the long-term profitability of new product launches by evaluating demand forecasts and expected supplier pricing.
- **Market Share Retention**—By managing input costs, and thus pricing, companies can minimize the loss of market share to lower-priced competitors.
- **Time-to-Market**—By understanding life-cycle costs, companies can streamline designs, sourcing, manufacturing, and supplier collaboration to shorten time-to-market performance.
- **Management and Reduction of COGS**—COGS constitutes up to 70% of the financial statements of many organizations. By tracking, managing, and reducing product-level costs, companies can measurably increase profitability.

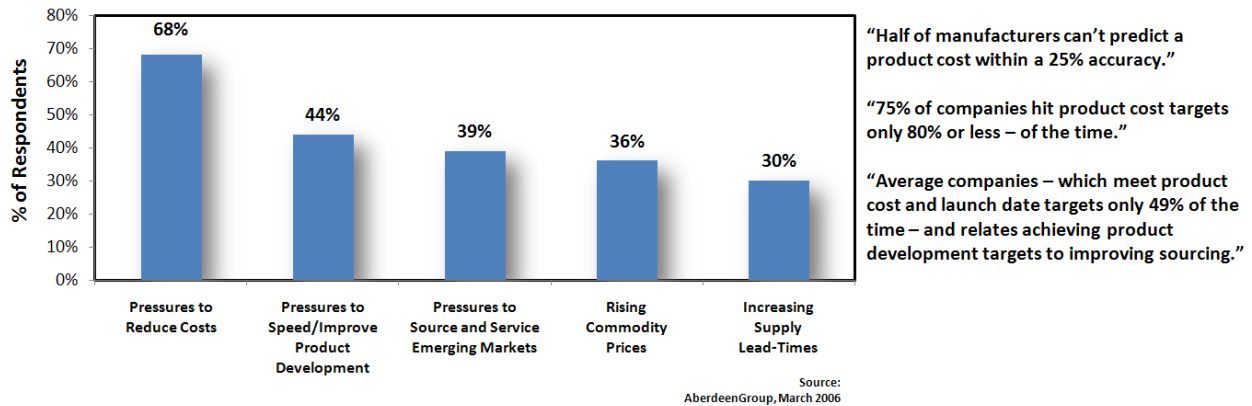
Business Challenges

Organizations typically face several key challenges when they seek to evaluate, manage, and achieve target costs. Based on our experience across a number of industry segments, we see companies striving to address the following cost-related issues.

Challenge 1—Understanding product costs

“If you don’t know what it costs, you don’t know what price to sell it at.” Many organizations struggle to identify the true cost of a product, given the changing cost of components and sub-assemblies, labor, supply chain services, technology, and other factors.

Some organizations seek better ways to compute the true cost of products, while others lose market share to competitors who better manage product costing and price. To maintain market share and profit margins, organizations must identify true cost and optimum pricing levels.



Identifying true costs can be difficult, particularly in companies that manage numerous product lines and configurations, diverse suppliers, and multiple lines of business. Often, a single component may be purchased by more than one product group within a company, and those buys may happen at the component level across multiple product lines, purchase orders, rebate programs, contracts, and suppliers.

In those cases, procurement often uses an aggregated purchase order approach, which can further complicate the job of applying specific costs to a particular product.

Challenge 2—Defining life-cycle target costs

To meet ROI, growth, revenue and margin expectations, organizations must address cost and pricing across the entire life cycle of a given product. Pricing is dependent on costs, competitive factors, and the customer’s willingness and ability to pay. Pricing may also vary during the life of a product, with suppliers often enjoying better pricing in the early stages of a product life cycle, and offering discounts or rebates as a product ages and matures. As those pricing attributes change, organizations must adjust their target cost. As product life cycles accelerate and shorten, organizations must make faster and more responsive changes in their target costs.

While sales, distribution, and other overhead expenses do impact net income, we know that COGS is the major cost component for most organizations.

Direct material costs vary based on volume, market price, supply availability, exchange rates, and other factors. Given these factors, sourcing and procurement divisions are under constant pressure to keep prices under control.

Challenge 3—Driving target cost sourcing

“75% of companies hit product target costs 80% of the time—or less.”

By setting target cost benchmarks, organizations can set expectations for sourcing professionals. By tracking product costs at the component and sub-assembly level, companies can improve visibility and more effectively align procurement to product cost and pricing goals. Given the complexities of this task, few organizations currently have the processes needed for this level of target cost sourcing.

Organizations can use a range of strategies to control costs, including detailed supplier price tracking, cost-based negotiations, identifying alternative suppliers or equivalent components. Despite those efforts, most organizations struggle to maintain a target cost focus across their sourcing activities.

Challenge 4—Launch-related challenges

“Companies meet product cost and launch-date objectives just 49% of the time.”

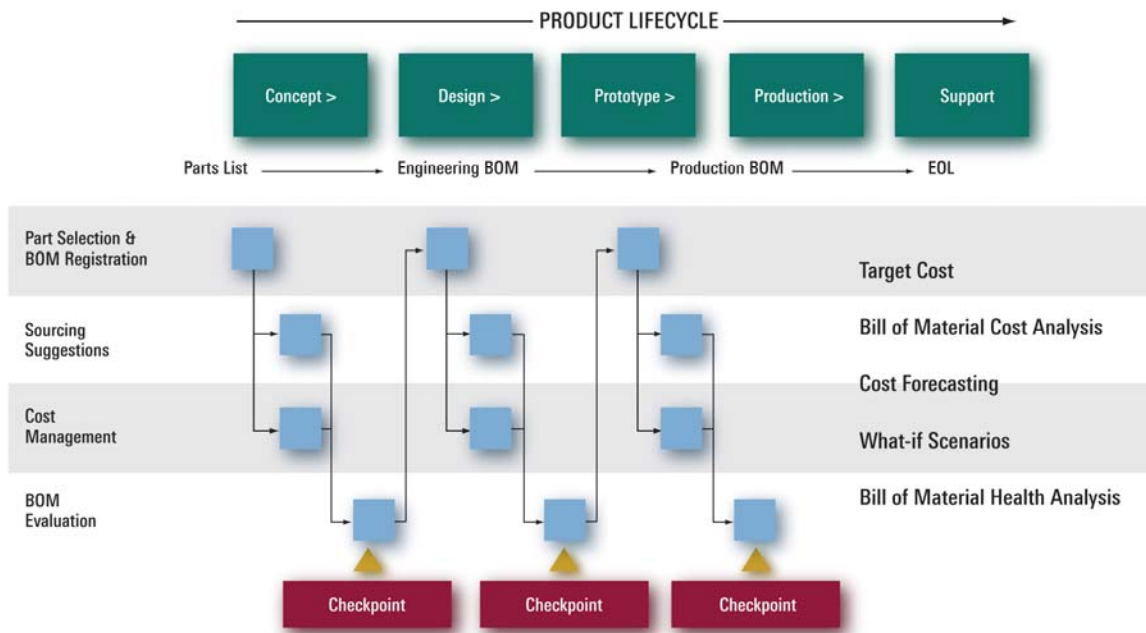
The success of new product launches depend on a number of variables, including innovation and product quality, market expectations, consumer need, competitive offers, sales and marketing, pricing, and costs. By focusing on and meeting rational target costs, companies can maximize the potential of a new product launch, while ensuring optimum sales and margin performance.

Meeting the Challenge

Successful companies now employ a number of strategies to meet cost targets during a product's life cycle. Those strategies include:

- **Target Cost-Oriented Sourcing**—Cost-oriented sourcing helps organizations meet the requirements of product quality, delivery schedules, cost, and risk.
- **Sourcing Optimized Design**—By collaborating with sourcing at the design and prototype stages, companies can minimize risk while better managing input costs, supply availability, and quality.
- **Program Management**—By driving target cost expectations across product and divisional lines, good program management can help meet cost, margin, and sales performance goals.
- **Sales**—By controlling costs, organizations can offer more attractive pricing, and can thus drive sales, capture market share, and gain long-term profitability.
- **Finance**—Companies that track and manage source costs can ensure higher margins, better understand product performance, and meet enterprise-level financial goals.
- **Information Systems**—To do these things, organizations must have IT systems capable of measuring, analyzing, and managing an aggressive target cost program.

Focus on Target Cost-Driven Sourcing Through the Product Life-Cycle



A Target Cost Solution

The i2 solution supports a comprehensive approach to product target, cost-driven sourcing. The system can import bills of material (BOM) from product life-cycle management or other design management systems, and can enable design optimization for sourcing. Various organizations can collaborate on the BOM to provide:

- Projected cost and cost forecasts
- Suggestions on the part changes to better meet the supply goals
- Manufacturing and other costs
- Other design improvement suggestions
- Target costs

Cost data can also be brought in from various systems that maintain the cost-related information, including contracts, order management, and enterprise resource planning (ERP) systems. Component-level product costs can be rolled up to the sub-assembly and eventually to the product level.

After a product launch, this approach can provide the actual cost tracking needed to define the sales price and to analyze and adjust pricing as conditions change. These collaborative activities can take place throughout the product life cycle, providing an end-to-end target cost sourcing solution:

- Target Cost Sourcing
 - Defining target costs at product, sub-assembly, and component levels
 - Comparing of target cost at all levels
 - Performance reports
- BOM Management
 - Redlining
 - Projecting environment for role definitions and access management of internal (design, sourcing, finance) and partners (suppliers, design partners)
 - Collaboration and approval process
 - Finding alternate parts
 - Searching
 - Design import and part matching as part of import

- BOM Cost Analysis
 - Getting BOM and items-related information from PLM, master data management, component and supplier management systems, or other BOM and item masters
 - Getting costs from other systems such as contracts, order management, ERP, negotiating tools, sourcing, and legacy systems
 - Computing cost based on weights, applying purchase volumes from supplier
 - Applying rebates
 - Roll-up of costs of components and sub-assemblies to product level
 - Comparing prices from multiple suppliers and even ODMs (original design manufacturers) if required
 - Conducting what-if analysis scenarios
- Demand-Driven Cost Forecasting and Projections
 - Getting forecasted volumes from demand management systems
 - Projecting costs based on contracts. Most contracts have tiered pricing, applying the demand to contracts
 - Projecting contact price based on allocation management supplier splits
- Best-Cost Finder
 - Finding the lowest-cost suppliers from contracts, order management, sourcing, ERP, and legacy systems.
 - Finding best costs at the component and sub-assembly levels
 - Applying rules to fit specific business needs
 - Applying rebates and supplier splits to find the lowest-cost options
- Component and Supplier Management
 - Parts and supplier master
 - Part cross-referencing (internal, manufacturer, and supplier parts)
 - Approved parts and supplier management, approval workflows
 - Extensive search capability: keyword, parametric, and category searches
 - Alternate parts management
 - Duplicate part and supplier analysis
- Contract Management and Rebate Management
 - Creating and managing supplier contracts with comprehensive price modeling options
 - Defining rebates
 - Time-based
 - Volume-based
 - Tracking rebates based on the actual transactions data from order management, ERP, or other legacy systems
 - Creating RFQs for contract re-negotiation
 - Approval and collaboration for contract creation and management

- Supplier Management
 - Supplier performance
 - Flexible and comprehensive metrics
 - Survey or transaction-data-based score computation
 - Weightage factors and normalization of scores
 - Roll-up of scores by commodities, supplier groups, time periods, etc.
 - Supplier allocation management
 - Allocating suppliers for components, commodities, and sub assemblies
 - Supplier allocation optimization-based cost, performance, and any non-cost factors. Uses i2 optimization tool, a proven solution for modeling and optimizing many supply chain and sourcing constraints
 - Approving suppliers for parts, commodities, sub-assemblies. Different levels of approval status—preferred, approved, undergoing evaluation, etc.
 - Providing visibility into spend by suppliers at the part or sub-assembly and assembly levels

A Real-World Example

An electronics manufacturing giant was facing constant market pressure to continuously decrease prices to retain market share. The OEM manufactures predominately in Asia, leveraging a complex Asia-centric supply chain to support its global sales presence. This OEM struggled to identify actual build cost, due to the dynamics of its manufacturing environment, its mix of direct and ODM suppliers, and the complex nature of its quoting, procurement, and contract activities.

The i2 Product Life-Cycle Cost Management solution put this OEM in control of target cost sourcing. i2 enabled this manufacturer to determine the build cost, to compare prices across ODM and OEM suppliers, and to get prices from the different systems. The OEM can now also apply supplier volume weighted splits, forecast cost—and do all of this continuously over the product life cycle with higher confidence.

This OEM can now make smarter and faster produce launch decisions, while driving sourcing and suppliers to meet target cost. The manufacturer leverages these tools to maintain market share, enhance produce quality, and improve overall profitability.

Why i2?

i2 has worked with hundreds of companies to build successful supply chains. Our solutions can be used to manage sourcing, procurement, product life-cycle health, supplier negotiations, contract management, demand and cost forecasting, supply distribution networks, transportation and logistics.

With the goal to improve profitability and maintain product margins, we have helped organizations through our process consulting, design, and solutions achieve target cost-driven sourcing for product life-cycle cost management. i2 offers:

- A deep understanding of supply chain and supplier relationship management
- Proven experience in bridging design and sourcing perspectives
- Extensive OEM deployment experience
- Workflows that apply advanced sourcing to globally outsourced manufacturing

No other ERP, PLM, sourcing, or SRM vendor has the solutions or the vision in this space to match i2 capabilities.