



Continuous and Sustainable Improvement Through Supply Chain Performance Management

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In 2001, electronics manufacturing services (EMS) provider Flextronics International Ltd. was facing an exciting, but challenging environment. Fueled by the outsourcing trend of high tech original equipment manufacturers (OEMs) like HP, 3Com, and Nokia, Flextronics' annual revenues topped \$12bn after three years of annual growth in excess of 50%. However, orders across the EMS industry were slowing down and, at the same time, OEMs continued to press for significant reductions in manufacturing and direct materials costs. Unfortunately, Flextronics did not always source at the lowest available prices, despite having purchasing power that often exceeded their OEM customers. Flextronics's disparate information technology (IT) systems led to purchasing compliance problems that made it difficult to identify and correct sourcing problems with high prices, or take advantage of low prices available in the market. Why? All of the top EMS providers, including Flextronics, had predominately grown through the acquisition of their smaller peers and OEM facilities. Management priorities had traditionally been on shipping product and capturing market share, not on integrating processes and information systems across an extensive global network.

In order to drive – and keep – material costs down, Flextronics had to overcome three key purchasing compliance issues. First, local sites sometimes purchased parts at a PO (purchase order) price greater than the lowest contracted price. Historically, the ordering process gave local sites significant autonomy in terms of where to purchase. Even though global contracts were negotiated with suppliers, site buyers could still choose a different source. If the buyers did not catch the exception in time, they were not able to recover the price difference.

Second, local sites didn't always purchase from strategic vendors, making it harder to strengthen the relationship and/or obtain volume discounts. This could occur because site buyers might not be aware of a new contract, might have a strong relationship with a local supplier, or might need a fast turn-around-time to meet customer requirements. Third, the corporate procurement center could not rapidly identify and renegotiate global contracts if some suppliers quoted lower prices to local sites. Traditional manual and periodic reporting processes did not allow them to effectively aggregate spend and identify opportunities. The procurement managers at Flextronics knew that they needed a way of improving the performance of their contract negotiation and execution process. The open question was "How?"

The Pitfalls of Ineffective Supply Chain Performance Management

The situation faced by Flextronics is not uncommon. In fact, companies in many other industries are grappling with similar problems across their supply chains. The issues at stake are in all aspects of their supply chains – procurement, manufacturing, distribution, logistics, design, finance, and so on. Like the proverbial Dutch boy who saved Holland by plugging the hole in a dike, some managers may be tempted to fix supply chain problems by applying a simple, myopic solution. However, experienced managers know that supply chains seldom have a single hole to plug and that obvious fixes often have longer-term, unintended consequences (Table 1).

Example SC Problem	Myopic Fix	Potential Unintended Consequence
Late customer shipments	Preferentially expedite "critical" orders	Production disruptions and delays resulting in even more "critical" orders
High material costs	Source from low price suppliers	Increased scrap and return rates resulting in customer dissatisfaction and high costs
Poor incoming material quality	Hold additional buffer inventory for inbound materials	Higher storage, inspection, and obsolescence costs
Unmanageable SKU proliferation	Increase product commonality	Lower product distinctiveness and differentiation leading to lost market share

Table 1: Long-term, unintended consequences of myopic SC fixes

Leading companies adaptively manage their supply chain performance by focusing on two important dimensions. First, they holistically define the solution scope for resolving supply chain issues. They strive to avoid unintended consequences by approaching their supply chains as interactive systems, not as functional silos. Second, they have a proactive bias toward how issues are actually resolved. They continuously achieve sustainable improvements through a focus on preventing fires, not on fighting them. While this may

seem to be common sense, many organizations still fall prey to one of three common pitfalls in managing supply chain performance (Figure 1).

Solution scope for resolving issues	Holistic	<p style="text-align: center;">Zig Zag Organization</p> <p><u>Pitfall</u>: Focusing on the right things, but in a serial and unbalanced way. <u>Example</u>: Apparel-maker L.A. Gear tried a series of radical transitions, e.g. shifts from fashion to performance to children’s shoes. <u>Characteristics</u>: The entire organization marshals forces to the new goal <i>de jour</i>. Over time, customers, suppliers, and employees become confused about true value drivers.</p>	<p style="text-align: center;">Adaptive Organization</p> <p><u>Secret</u>: Ensuring continued focus on the right things through responsiveness and balance. <u>Example</u>: GE leads in a wide range of industries through innovation and continuous achievement. <u>Characteristics</u>: The entire organization is performance-driven. It sets goals, addresses root causes, and capitalizes on competitive opportunities.</p>
	Silo-based	<p style="text-align: center;">Factious Organization</p> <p><u>Pitfall</u>: Focusing on the parts and sub-optimizing the whole. <u>Example</u>: Zenith was unable to cohesively respond to challenge of lower-priced Japanese TVs. <u>Characteristics</u>: Uncoordinated tactical responses driven by conflicts with internal groups, suppliers, and customers. Managers seek to justify their actions and assign blame for consequences.</p>	<p style="text-align: center;">Steadfast Organization</p> <p><u>Pitfall</u>: Focusing on the right things until they become the wrong things. <u>Example</u>: DEC focused on minicomputers, not on the emerging markets for PCs or workstations. <u>Characteristics</u>: Perhaps heralded as industry leaders, these companies don’t easily adapt to change. Functional relationships are rigidly defined and organizations execute to static plans.</p>
		Reactive	Proactive
Bias toward action			

Figure 1: Common pitfalls of supply chain performance management

The first pitfall is focusing on the parts and sub-optimizing the whole. The “Factious” organization often displays uncoordinated tactical responses that are driven more by internal and external conflicts than by synergy and collaboration. Founded in 1915 as a radio manufacturer, Zenith led the market in color television sales from 1972 to 1978. Despite having market share advantages, low cost Japanese imports began to impact Zenith’s revenues. Zenith lobbied Congress and filed “dumping” suits against the Japanese. It also tried to move manufacturing operations to Mexico and Taiwan. Unfortunately, Zenith never recovered. To defend its lack of competitiveness, internal functions blamed each other and the company blamed competitors. Saddled with debt, Zenith filed for bankruptcy and was acquired by LG Electronics for its brand in 1995.

The second pitfall is focusing on the right things, but in a serial and unbalanced way. Although the strength of a “Zig Zag” organization is its ability to marshal company forces toward new goals, over time, customers, suppliers, and employees become confused about true value drivers. Growing rapidly from a single retail store in Los Angeles, L.A. Gear became the #3 branded athletic shoemaker in the US with a 1989 market capitalization of \$1

billion. Its fortunes changed over the next several years as management unsuccessfully tried a series of radical strategy shifts. Known primarily for women's fashion shoes, it ran into inventory problems when its newly introduced men's basketball sneakers and buckled leisure shoes didn't sell. Then its '80s style women's shoes became unfashionable and L.A. Gear further tarnished its brand by selling excess shoes through discount outlets. Its children's lighted shoes were a temporary fashion hit until government regulators discovered that they contained mercury switches. Through this series of supply chain and quality problems, hampered by a reactive and unfocused corporate culture, L.A. Gear filed for Chapter 11 in 1998.

Currently, Kmart finds itself in a similar situation. During the '80s and early '90s, Kmart diversified by acquiring stakes in specialty retailers such as OfficeMax and Borders bookstores, only to subsequently divest in the '90s and invest heavily in its supply chain. Unfortunately, its uncoordinated IT efforts left its supply chain unprepared for the price war it launched against Wal-Mart.

The third pitfall is focusing on the right things until they become the wrong things. The "Steadfast" organization does not easily adapt to change because functional relationships are rigidly defined and organizations execute according to static plans. In *The Innovator's Dilemma*, Clayton Christensen states:

Precisely because [the firms that failed to stay atop their industries] listened to their customers, invested aggressively in new technologies that would provide their customers more and better products of the sort they wanted, and because they carefully studied market trends and systematically allocated investment capital to innovations that promised the best returns, they lost their positions of leadership.¹

Digital Equipment Corporation (DEC) spent billions vertically integrating to expand its line of VAX computer systems. Heralded by press and analysts, DEC's sales doubled and earnings nearly quadrupled between 1984 and 1988. However, UNIX and the growing importance of open system PCs caught DEC off guard. Layoffs and plant closings were not enough to stem losses. Compaq finally acquired DEC, mostly for its high-end Alpha microprocessor.

As discussed above, the secret to the adaptive organization is ensuring continued focus on the right things through responsiveness and balance. General Electric (GE) unifies its wide range of businesses – including aircraft engines, lighting, turbines, medical imaging equipment, plastics, financial services, and television broadcasting – through a culture of entrepreneurship and achievement. In his book *Jack*,² Welch states "My objective was to put a small-company spirit in a big-company body, to build an organization out of an old-line industrial company that would be more high-spirited, more adaptable, and more agile than companies that are one-fiftieth our size." Later in the book he says: "Business success is less a function of grandiose predictions than it is a result of being able to respond rapidly to real

¹ C. Christensen, *The Innovator's Dilemma: When New Technologies Cause Great Firms to Fail*, Harvard Business School Press, Boston, 1997.

² J. Welch, *Jack: Straight from the Gut*, Warner Business Books, New York, 2001.

changes as they occur. That's why strategy has to be dynamic and anticipatory." By focusing on customer success, using Six Sigma as an integrating philosophy, and identifying and applying the best ideas regardless of source, GE's market capitalization increased more than 20-fold from \$18 billion to \$400 billion during Welch's two decades as CEO.

Traditional Approaches to Supply Chain Performance Monitoring

The evolution of supply chain technologies over the last 20 years has been driven by the need to fulfill critical business imperatives. The difficult-to-support legacy systems of the past have largely been replaced by commercially available, packaged software applications.

The first business imperative was to improve transaction processing and data storage. By installing transactional applications, enterprises were also able to rapidly reduce data redundancy and errors. For example, product and quantity data from orders could be captured and reconciled with inventory status and customer billing information. The next imperative was to formalize and streamline operational processes such as procurement, shop floor control, warehouse management, and logistics. This was done through supply chain execution software, such as the warehouse management systems that could be used by distribution centers to pick, pack, and ship orders. Then, planning applications were implemented to optimize the throughput of products based on expected demand as well as material and capacity constraints. Manufacturing plants around the world were better able to schedule production and therefore maximize asset utilization and minimize overall lead times.

Recently, the business imperative has been to prevent unexpected problems and exploit competitive opportunities by monitoring performance and taking appropriate actions. Before the advent of supply chain performance management applications, enterprises were forced to custom-develop software and cope with cumbersome manual processes in tracking and monitoring supply chain performance.³

³ Some execution systems have begun to include supply chain event management (SCEM) in their offerings. Not to be confused with supply chain performance management, SCEM generates alerts based on transactional events that deviate from predetermined targets, such as the late delivery of a particular shipment. SCEM offers value by alerting users to supply chain problems. It helps management treat the symptoms, but may not go far enough to identify and address the root causes of supply chain problems. Lacking the context of operational performance and the evaluation of systemic problems/opportunities, SCEM often overwhelms managers with a flurry of transaction-level details. As will be discussed below, SCPM helps companies detect, diagnose, and resolve performance exceptions *before* they become expensive problems. SCPM helps organizations proactively capitalize on opportunities so they can drive continuous and sustainable improvement.

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The two traditional approaches to monitoring performance had been metrics projects and balanced scorecards. In metrics projects, functional organizations and workgroups established and tracked metrics that were considered most relevant for measuring performance. Unfortunately, there were a number of limitations with metrics projects:

- By focusing on functional metrics, they ended up driving locally optimized “silo” behavior at the expense of the overall company.
- It was time consuming to compile and analyze information, so visibility often came too late to make a difference. In addition, they only provided information on limited history, not insight into the future.
- Metric tracking was manual, so numbers were often calculated incorrectly or inconsistently over time.
- Many times, workers didn’t know what to do with the data. It wasn’t always clear what constituted poor performance, when to act, or how to act. Or else, people were so distracted and confused by the measuring process itself that they didn’t act because of “analysis paralysis.”
- Although selected metrics were called key performance indicators (KPIs), there was no feedback or validation to ensure that organizations were actually measuring the most relevant business drivers.
- Experienced managers learned how to “game” or “tinker with” the metrics to make themselves look good.

One grocery store chain uncovered particularly innovative “metrics tinkering” related to distribution center (DC) to supermarket fill rates. The grocery chain had multiple DCs, all serving their respective supermarkets. The DCs were measured on fill rates, defined as the fraction of the orders placed by the supermarkets onto the DC, which were filled by the DC on the same day. To boost the fill rate metric, one particular DC would monitor the supply conditions of its products. When potential shortages were forthcoming, it would advise the supermarkets of such potential shortage problems, and request that the supermarkets not order those items until later. This way, the fill rate metric always looked impressive, since few orders were unfulfilled. This approach distorted the actual performance, but it did have some merits. The supermarkets, being advised of the supply conditions, could of course react to it by re-organizing their shelf space, and avoid the administrative costs of ordering something that was out of stock at the DC. But at the same time, the visibility of the true supply performance and stock availability at the DC were lost.

In an attempt to overcome some of these limitations, many companies have initiated balanced scorecard projects. Based on the methodology of Robert Kaplan and David Norton,⁴ these organizations created a balanced set of metrics representing financials, customers, internal

⁴ R. Kaplan and D. Norton, *The Balanced Scorecard*, Harvard Business School Press, Boston, 1996.

business processes and innovation. The goal was to enable better decision-making by providing managers with a broader perspective of both tangible and intangible assets. Although conceptually compelling, most balanced scorecards were implemented as static management “dashboards,” unable to drive action or performance improvement.⁵

- Because these dashboards are usually driven out of finance organizations, they are typically highly weighted by financial information. Much of the important non-financial data and qualitative information is not captured or synthesized.⁶
- Information is often manually aggregated from operational data sources and is prone to errors and significant delays.
- Infrequent sourcing of information allows people to play tricks operationally to improve the numbers. Who hasn't heard of the manager who shipped orders early or incomplete to reduce inventory levels?
- Where there is data integration, it is often “hard-wired” and difficult to modify over time as strategies and objectives change. Static systems – which encourage the improvement of specific metrics, not necessarily overall business performance – become self-perpetuating because those managers successful under the old systems do not want to introduce new ones.
- Executive-level systems are often disconnected from tactics and operations. Because the metrics are high level and presented without regard to their implicit interdependencies, managers are uncertain what action to take to improve overall performance.
- Dashboards do not track decisions and their effectiveness over time so it is difficult for organizations to improve by learning from experience. Moreover, there is no mechanism to embed business rules to help improve the decision-making and problem resolution process itself.
- There is little or no support for collaborative processes across organizations, up and down the chain of command. Because performance exceptions are infrequent by definition, they require human collaboration for intuitive problem solving and multi-party trade-offs.

⁵ For a discussion of the problems with typical measurements systems, see M. Hammer, *The Agenda*, Chapter 6: Measure Like You Mean It, Crown Business, New York, 2001.

⁶ More recently, however, the once distinct financial and operational views of organizational performance have become complementary perspectives. Indeed, SCPM embraces both as part of a broad performance management strategy. For example, operational performance must be translated into financial terms to evaluate the cost and profitability impacts of supply chain alternatives. Similarly, financial performance must be linked to the underlying supply chain processes to identify problem areas and understand root causes.

The Supply Chain Performance Management Cycle

There are some common foundations for Supply Chain Performance Management (SCPM) that could avoid the pitfalls of traditional approaches. Indeed, it is important to recognize that supply chain performance is not just a measurement process. Cross-functional, balanced metrics are necessary, but not sufficient. Instead, SCPM is a cycle consisting of identifying the problems, understanding the root causes, responding to problems with corrective actions, and continuously validating the data, processes, and actions that are at stake. Figure 2 shows such a cycle.

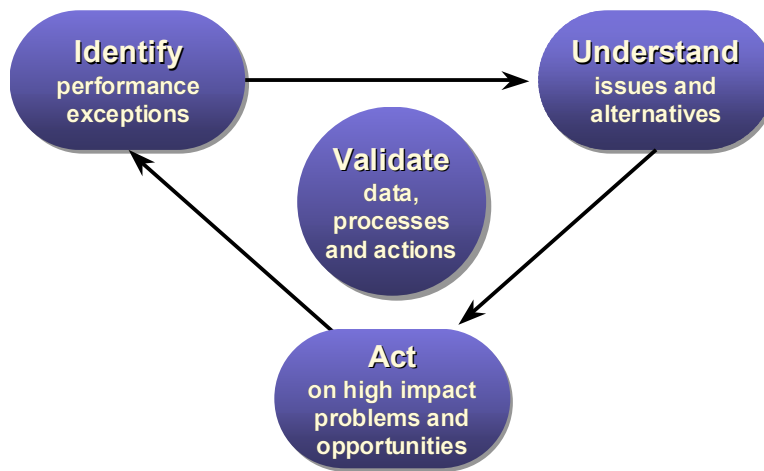


Figure 2: The Supply Chain Performance Management Cycle

The SCPM Cycle mimics the quality improvement cycle championed by gurus like Deming and Juran in the '70s and Six Sigma movement of the '90s. The cycle starts with having a system or process in place that identifies exceptional performance (both bad *and* good). The ability to define metrics, KPIs, and exception conditions, as well as to update such definitions when the environment changes, is a desirable feature of any SCPM system. Once exceptions have been identified, users need to understand the potential root causes, the alternative courses of actions available, and the impacts of such alternative actions. This should enable prompt reaction to the performance exceptions with corrective actions. But once responses have been defined, it is only through flawless and timely execution of such responses that companies achieve performance improvement. These responses should then be documented, and the system updated with data and information regarding both the occurrence and resolution of the performance exceptions. The responsive actions could, in some cases, result in new definitions of exceptions, business rules, and business processes. Hence, a continuous process of validation and updating is needed in the cycle.

In statistical process control, the most challenging task is often the identification of root causes to out-of-control conditions. In SCPM, this is also the case. When exceptions have been identified, management needs to be able to identify what constitutes the root causes of these exceptions. Just as in the case of a medical doctor, diagnosis is critical, and once the

correct diagnosis is made, then the treatment of prescriptive actions can be straightforward. The SCPM system should also have support in place for this understanding and diagnosis task. This would allow management to rapidly retrieve relevant data, aggregate or disaggregate data accordingly, and dissect data by geography or history.

Additionally, communication with the appropriate personnel within as well as outside of the organizations at stake is critical. Information is no longer concentrated for analysis and decision-making by “experts,” but is disseminated to appropriate people across the organization so they can understand issues, evaluate alternatives, and take appropriate action. Successful supply chain performance management also requires education of the people on the needs and approaches of performance management, the creation of a collaborative environment, and the assignment of accountability to the appropriate people.

A Tale of Two Companies: Flextronics and DaimlerChrysler

Let’s see how two leading companies derived significant benefits from their use of performance management approaches that went beyond the traditional methods. Their successes confirm the power and importance of SCPM as a cornerstone concept and practice within supply chain management.

How Flextronics used SCPM to Improve Purchasing Compliance

Using the SCPM approach described in the previous section, Flextronics was able to identify PO exceptions, understand root causes and potential alternatives, and take action to change suppliers, recover excess costs, and leverage negotiation power. The approach involves the implementation of a web-based software system to facilitate the SCPM cycle. Flextronics saved several million dollars within 8 months of going “live,” ultimately generating a significant return on investment in the first year. The supply chain performance management cycle enabled Flextronics to achieve these results.

To identify performance exceptions, the Flextronics system continuously compares contract terms and approved vendor lists with PO information. If vendors are not strategic and/or order prices are above contracted prices, the system alerts buyers. On the other hand, if the PO prices are below contracted prices, the system alerts commodity managers to possible savings opportunities. The email notification to any of the approximately 300 users contains a summary of the exception as well as web links to detailed performance information organized in context.

The Flextronics managers then use the system to understand issues and alternatives. They evaluate the exception conditions and decide whether to renegotiate prices, consider alternative sources, or justify the non-conformance based on business need (e.g. necessary to fulfill a customer order on time). Similarly, the procurement managers analyze the market conditions and aggregated spending and then prioritize savings opportunities by commodity and vendor.

Next, users act on high impact problems and opportunities. Buyers modify POs or request refunds. Procurement managers approve appropriate non-conforming orders as well as re-negotiate contracts.

Before and during the SCPM cycle, Flextronics validates data, processes, and actions. While implementing their performance system, Flextronics established metrics and thresholds and also ensured data quality and timeliness. During day-to-day use, they validated the results of actions, drove accountability, and accelerated the overall exception resolution cycle. Using their performance management system, Flextronics has been able to capitalize on opportunities for savings and competitive advantage.

How DaimlerChrysler's Mopar Parts Group Improved Supply Chain Velocity

DaimlerChrysler's Mopar Parts Group is a \$4bn US-based OEM automotive parts and accessories distribution organization for servicing dealerships in the US and Canada. Mopar has an extremely complex supply chain, with 3,000 suppliers, 30 distribution centers, and 225,000 dealer order lines per day from 4,400 North American dealers. However, demand for aftermarket parts and accessories is extremely difficult to forecast because it is not driven directly by production, but instead by such unpredictable factors such as weather, vehicle locations, vehicle wear and tear, and consumer responses to dealer promotions. Consumers are not willing to wait for replacement parts, so dealerships turn to alternative sources of parts to avoid customer dissatisfaction and loss of market share. To keep dealers from using non-OEM parts, automotive companies typically incur high fulfillment costs due to order management, inventory rebalancing, expediting and supplier premium charges. Given these conditions, the Mopar Parts Group faced a quandary. How could it improve demand forecasting minimize inventory for part groups while at the same time ensure customers weren't left waiting for replacement parts at a dealer? DaimlerChrysler recognized that their future competitive advantage was dependent on their ability to identify, understand, and take action to resolve and prevent expensive service supply chain problems.

Mopar's SCPM system identifies performance exceptions by monitoring demand forecast, inventory and supplier performance metrics relative to predefined objectives. It then notifies appropriate users with prioritized exception information. For example, planning and forecast managers can see how they are doing daily in terms of forecasted demand versus actual shipments to dealers or "facing fill" (percentage of dealer orders that are completely filled at the nearest parts distribution centers). Performance exceptions may warn that higher than expected dealer shipments could impact facing fill or that lower than expected dealer shipments could result in excess inventory.

Users then use the system to explore issues and alternatives individually or collaboratively. Potential root causes include unseasonable weather (either better or worse), competitive promotions, and inaccurate assumptions in forecast models (e.g. demographic or economic).

After understanding issues and alternatives, users can take action to resolve issues or prevent unnecessary costs from expediting, backordering, and excess inventory. The Mopar Group

saves millions of dollars every year by reducing safety stock and canceling unneeded “past due” shipments not yet received from suppliers. Over time Mopar users improve processes, modify forecast and planning parameters, and validate results.

In the first year alone, DaimlerChrysler shrunk their decision cycle time from months to days, reduced excess transportation costs, increased their fill rate by 1 percentage point, and reduced inventories by \$15 million. Mopar is currently using SCPM to support its “Fixed First Visit” initiative, with the goal of having all necessary parts available at the dealer’s repair shop when the customer first comes in. Expected benefits include further increasing customer service and loyalty, while decreasing overall inventory costs across the DaimlerChrysler service supply chain.

What it Takes to Manage Supply Chain Performance

There are three critical aspects to achieving continuous, sustainable supply chain improvements. The first is to foster a performance-driven organization. Like GE, Flextronics, and DaimlerChrysler, these adaptive organizations have created and promoted a culture that resolves supply chain issues holistically and proactively.

The second and third critical aspects to supporting SCPM are a rapid, sustainable implementation of a robust, scalable system. Of course it goes without saying that unless an organization is performance-driven and has the goal of becoming “adaptive,” technology investments alone will provide only minimal benefits. However as Flextronics, DaimlerChrysler, and others have shown, the proper implementation and use of technologies will help performance-driven organizations deliver real, measurable value that builds and sustains their competitive advantage.

A rapid, sustainable implementation is important for two reasons. First, it allows an organization to target improvement areas and deliver quick results. There are numerous horror stories of companies who attempted to achieve radical change through massive, multi-year projects. All too often, these companies did not achieve the benefits they wanted because the project’s complexity stalled progress or the competitive environment made the original project’s original assumptions irrelevant. By executing on a powerful, focused business case, successful companies often achieve early benefits that pay for the entire investment. In fact, within 10 days after going live with its first implementation, Mopar identified several million dollars in avoidable on-order inventory. In the words of the materials manager: “I consider this a great success.”

Second, a rapid, sustainable implementation allows an organization to evolve from early successes. As the initial pilots and implementations are rolled out across the enterprise and with trading partners, companies institutionalize the ability to evolve and adapt to changing conditions. They are then able to maximize global returns from the supply chain performance management solution. For example, Flextronics has used early wins to fund subsequent projects and has since expanded the scope of its performance management system.

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A robust and scalable performance management system is the platform for improvement. It must be exception-based and allow users to prevent problems, resolve issues, capture knowledge, and sustain improvements. The system must be able to handle an increasing number of users and amounts of information (due to expanded products, members of the supply chain, geography, and time). While it must be personalized and easy to use, it must also ensure high levels of security and privacy. Table 2 shows how SCPM can enable improvements in the performance of people, processes, and systems.

Performance Improvement Area	Typical Problem	How SCPM Helps
People	Lack of communication, collaboration, and accountability slows down decision cycles	<ul style="list-style-type: none"> • Proactive, secure, and personalized notification of exceptions • Information in context • Collaborative decision-making and resolution of issues
Processes	Misaligned business processes conflict with corporate objectives	<ul style="list-style-type: none"> • Establishment, validation, and modification of business rules and thresholds across the organization • Alignment and management of cross-enterprise processes • Decision and knowledge capture
Systems	Critical information is locked in disparate systems	<ul style="list-style-type: none"> • Timely and normalized data from relevant enterprise systems • Aggregated, synchronized, and correlated data and trends • Flexible disaggregation of data for quick diagnosis

Table 2: How SCPM enables continuous, sustainable performance improvements

To Build or To Buy – That is the Question

As the need for supply chain performance management has become clearer over the last several years, companies have found that they have an increasing number of options to choose from. No longer forced to take on the effort and risk of building and maintaining custom applications, they can select pre-built SCPM applications and configure them to meet their needs. By specifying requirements based on the fundamentals of SCPM, leading high technology, retail, and automotive companies have achieved 1-year returns of more than 10:1 through packaged software. However, for those companies considering internally-built systems, Mopar’s experience may be relevant.

Mopar recognized that it needed a performance management system to identify problem areas opportunities in their service parts supply chain. In 1998, Mopar initiated a project to extract data from operational systems using traditional data warehouse tools. After 18

months, a prototype system was created. Unfortunately, the system was not user-friendly and too complex to allow the monitoring of performance on a timely basis.

In 2000, Mopar and SeeCommerce jointly evaluated the financial and operational benefits of implementing a supply chain performance management system. The proposed solution showed significant promise, so Mopar conducted an internal benchmarking to evaluate what it would take to develop a similar solution in-house. They realized that their IT (Information Technology) group would take 9 to 18 months to develop a system that, even then, would not have been based on the latest Web-based technologies. The SeeCommerce project at Mopar started in April 2000, was implemented in 56 days, and achieved its targeted return within 12 weeks of going “live.”

From Supply Chain Performance Management to Enterprise Management

As discussed above, SCPM is being used today by leading organizations to manage the performance of their internal supply chains as well as that of their external supply chains, i.e. supply network. Beyond the supply chain, the potential value is significant when the approach is applied to other functional areas of an enterprise, such as product development, product life cycle management, financial management, after-service support, sales and marketing, customer-relationship management, and even strategic planning.

In a way, this evolution of SCPM to Enterprise Management parallels a similar evolution of the quality movement. Deming was the first one who championed the need and importance of quality control, but he recognized that the same approach to zealously improve quality was applicable to management in general. He captured his thoughts in his famous 14 Points of Management.⁷ While Motorola created the well-known Six Sigma quality improvement program (which enabled it to win the prestigious Malcolm Baldrige National Quality Award), it was GE that adopted this approach as a general principle of the company's management philosophy.⁸ Like Six Sigma, SCPM uses a disciplined, iterative methodology to improve both customer satisfaction and financial health. Similarly, the SCPM cycle is not just for the supply chain, but for all aspects of the enterprise as well as the extended supply chain. Ultimately, by managing the performance of myriad processes across enterprise boundaries, companies will have achieved the vision of Enterprise Performance Management (EPM).⁹

⁷ W.E. Deming, *Out of the Crisis*, SPC Press, 1982.

⁸ G. Eckes, *The Six Sigma Revolution*, John Wiley & Sons, 2001.

⁹ Bob Parker, “EPM: From Concept to Implementation,” AMR Research's Spring Executive Conference: *Creating the Real-Time Enterprise*, May 29-31, 2002.

Act Now – You Can’t Afford to Wait

In a business environment that requires more responsiveness and focus on the bottom line, supply chain performance management is vital to competitive advantage and sustainable business improvement. SCPM enables companies to identify performance exceptions, understand issues and alternatives, act on high impact problems and opportunities, and continuously validate actions relative to objectives and results. By adopting such systems, companies have increased responsiveness and customer service, reduced inventory and procurement costs, and improved the utilization of production and distribution assets. The benefits are compelling and the path to success has been validated. The time to act on supply chain performance management is now.

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