Value Cycle Management:

A "Non-Linear" Approach to Supply Chain Management

Executive Overview

Value Cycle Management (VCM) is the optimization of supply chain functions across all levels of suppliers, partners and customers through the integration, collaboration and synchronization of technology, data and people-centric processes.

Over the past several years, companies everywhere have attempted to realize greater efficiency and improved quality by integrating business processes across the extended enterprise. Many began looking to combine technology, data and resources in a manner that would yield increased profits, better customer retention, and enhanced productivity. In theory, a closed-loop approach such as this would deliver unprecedented visibility into end-to-end supply chain processes and lead to better, more informed business decisions.

In practice, however, this sort of process optimization was not so easy to achieve. While its benefits appealed greatly to nearly every mid-to large-sized organization, particularly those in high-growth, competitive markets, time would show that the ability to execute this vision would be challenged by a single prevailing thought: that production follows a linear path in the form of a "supply chain." The supply chain, a staple of every capitalist economy, holds that the manufacturer of goods and services is part of a linear process—a chain with a beginning and an end.

Arising from efforts to integrate technology and synchronize processes across the entire supply chain, companies are increasingly migrating away from the notion of a linear supply chain. Instead, they are beginning to adopt a more dynamic, non-linear approach, embracing the idea of a value "cycle." This approach to creating effective, closed-loop business processes is known as Value Cycle Management.

Value Cycle Management (VCM) is the optimization of supply chain functions across all levels of suppliers, partners and customers through the integration, collaboration and synchronization of technology, data and people-centric processes. By creating multiple touch points across the supply chain, companies can employ VCM to make business processes smoother, more productive and more profitable.

This paper discusses the evolution, growth and importance of the supply chain as well as Exact Software's answer to Supply Chain Management.

The Evolution of Supply Chain Management

As early as the 1700's, economist Adam Smith foretold the modern supply chain with the idea that demand for products and services could be best met by dividing up the labors required to produce them. According to this theory, different participants in the process would specialize in certain aspects of manufacturing, delivering their particular "value" to the production process. The result would be more quality products created in less time than it would take a solitary craftsman.

However, it wasn't until over a century later during the Industrial Age that Smith's theory would become a cornerstone of supply-chain production. Henry Ford was one of the first industrialists to embrace this revolutionary thinking in the production of automobiles. In addition to incorporating parts provided by third-party specialty suppliers, such as manufacturers of steel and rubber, Ford took production to new levels introducing the assembly line to ensure faster turn-around and higher volume. Ford's approach became the standard for the manufacture of goods worldwide, encompassing the practice of a linear supply—or value—chain.

Typical Supply Chain

| Raw Materials | Manufacturer | Packaging/Distribution | Sales/Marketing | Customers |
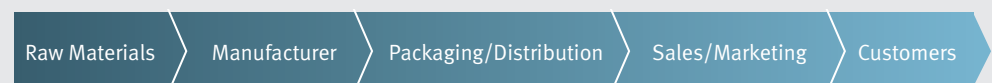
The Traditional Value or Supply Chain is a linear process that begins with a manufacturer taking raw materials and facilitating the process of delivering a finished product to a customer, at which point there is no continued contact with the customer.

With the dawn of the computer age more than 50 years later, business and manufacturing took yet another giant leap forward. Computers enabled data in or within business processes to be captured and analyzed like never before. As data collection became more automated, the presence of a functional supply chain gave birth to wholly new manufacturing methods, such as Just In Time (JIT) manufacturing and Enterprise Resource Planning (ERP).

While supply chain management systems, like ERP, help ensure that businesses get the goods they need when they need to manufacture a particular product, automation of supply chain data enables companies to build and manage large supplier networks specific to their own business requirements. Moreover, these supply chains are linked together in an even larger network of supply chains that allow for a high level of specialization, collaboration, and production that neither Adam Smith nor Henry Ford could have envisioned.

The process of supply chain management spawned similar revolutions in customer relationship management (CRM), partner relationship management (PRM), marketing and sales automation, and human resources programs. All of these technologies were based on the common idea that automated data could enhance business processes. Yet, much of the data was being captured, stored and analyzed on stand-alone technology platforms. Critical integration of these disparate "data islands" and business processes was simply not happening. Until now.

In the wake of yet another major paradigm shift in manufacturing, visionary companies seek to integrate valuable data marooned on supply chain management, ERP, CRM, and PRM systems. These efforts aim to combine the best of all these solutions through technology that provides visibility to all participants and allows them to collaborate and synchronize their output in ways never before thought possible. Likewise, the business model for managing external resources has changed to accommodate this integrated, 360-degree business view. As such, what was once viewed as a linear value "chain," can now be recognized as a value "cycle."

The primary goal of the value cycle is to create strong, unique and continuously improved customer experiences by delivering quality products or services by the most efficient means possible. We see this today with the continuing evolution of the Web as a customer-facing means of conducting business. Companies that extend online services and supply chain functions throughout the supply chain, including not only the customer but also partners, suppliers, vendors, distributors and employees, gain the most from their online presence. Truly collaborative, supply chain-focused portals are highly personalized and provide a broad yet dynamic view of the supply chain.

The same is true for companies with an enterprise-wide portal for their employees. By providing their employees with a comprehensive view of the supply chain from within an organization—from accounting to sales to customer service—enterprises are gaining a savvy, smart employee group that responds to change and the need to change quickly. The enterprise that is both a participant of the supply chain as well as value-chain centric in its internal approach has a unique competitive edge.
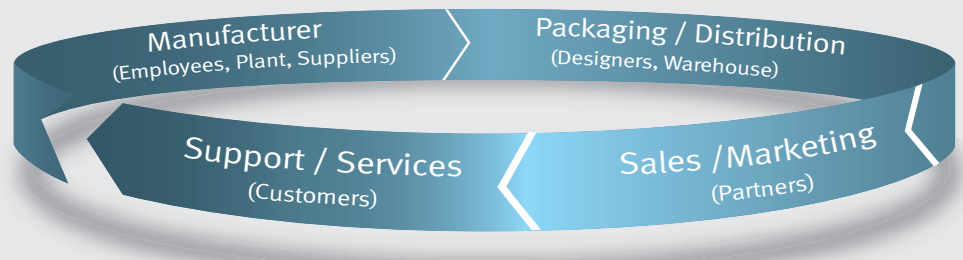
A Closer Look at Value Cycle Management (VCM)

Supply chain management is about optimizing the flow of product, at each step, down to the customer to obtain the lowest cost and use of resources. JIT/ERP further improves supply chain by making it predictive and plannable, for optimal use of response time.

Unlike a linear supply chain, participants in a value "cycle" can constantly address, readdress and re-examine data and business processes as a method for improving them. In fact, users of VCM can regularly fine-tune the system to achieve new efficiencies, whether in terms of data usage, process consolidation or cost savings. Inherent in the value cycle is the concept that participants are involved in the cycle on an ongoing basis, engaging and re-engaging with other participants to eke out the most value from the entire system.

Exact Software's Value Management Cycle

The Value Cycle Model offers continued customer contact after the point of sale. It also allows manufacturers to include customer feedback in the development of new products, as the cycle is continuous, and revolves around the customer.

Manufacturer
(Employees, Plant, Suppliers)

Packaging / Distribution
(Designers, Warehouse)

Support / Services
(Customers)

Sales /Marketing
(Partners)

At the heart of this supply chain lie three basis concepts: integration, collaboration, and synchronization. Ironically, it is these very concepts that are often the most difficult for companies wanting to move to VCM to embrace. Remember, before the advent of VCM, much information was isolated, stored in disparate systems or untapped. Companies must first undertake integration of their technology, processes and data in order to fully appreciate the benefits of the value cycle. Externally, companies must adopt a global, collaborative perspective and be willing to share their value as well as accept the value that can come from partners, vendors, distributors and customers.

Key features of a comprehensive VCM strategy must include:

1. The customer (and his input & buyer reactions) can be integrated back into the value cycle at all points, for constant improvement and product tuning.

1. A holistic view of an entire business process that goes into the production of a good or service;

2. Greater and faster recognition of the issues facing all participants in the supply chain;

3. Integration across an entire organization, as well as exposing that integration to the rest of the participants in the supply chain;

4. Accepting that the evolution of integration, collaboration and synchronization is driven in large part by technology that allows these things to occur; and

5. Understanding that in order for the supply chain to work, the walls that at one time served to protect data and processes must be surmounted so that there is an open and global exchange of all relevant information among all supply chain players.

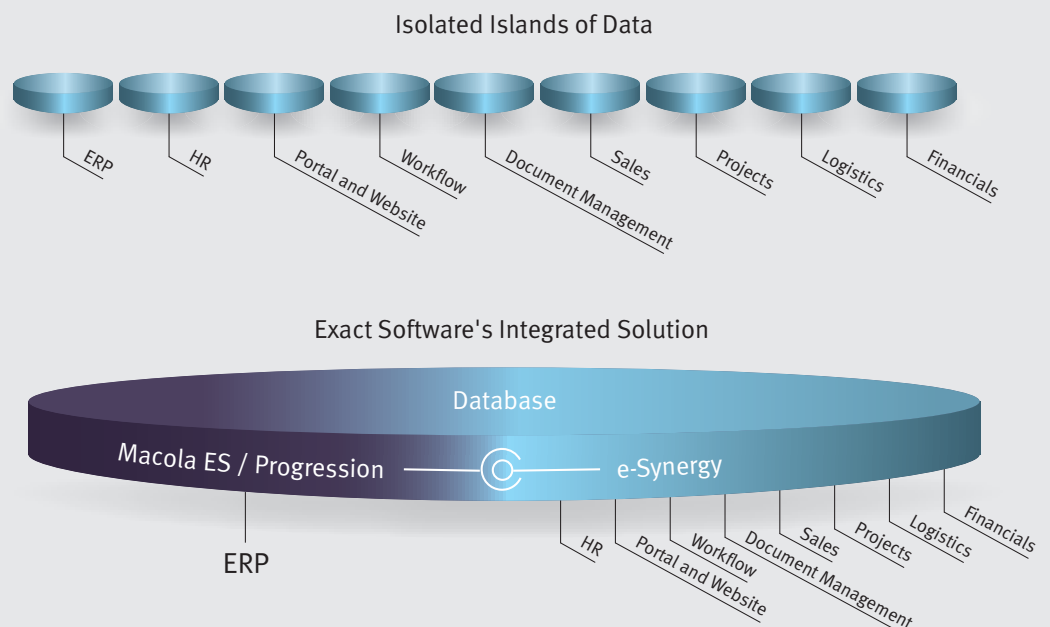## Comprehensive Approach to Value Cycle Management

Exact Software™ understands that VCM cannot achieve its full potential until both vendors and their suppliers begin to look at their businesses from a different perspective and redirect the belief that business processes—and technology platforms—exist in a vacuum. To obtain full value from every aspect of their supply chain, businesses need to utilize an integrated approach that extends seamlessly across the enterprise. It is this philosophy of unification which will drive the success of VCM.

In response, Exact Software offers companies the level of integration and collaboration they need to manage a comprehensive VCM strategy today. Exact Software's integrated solution set, consisting of the Exact e-Synergy® Web-based business process solution and the Exact Macola ES® ERP solution, offers companies the technology foundation from which to implement a truly effective closed-loop process.

This unique combination provides companies with the means to connect the people, processes and knowledge that matter most to a business. The result is the creation of an accurate, up-to-the-moment view of the extended enterprise, designed to enhance decision-making, analysis, scenario planning, and ongoing management of the value cycle. This approach also provides companies with the unique ability to see where processes intersect, how they impact each other, and the workflow that drives them, to produce a clear picture of the business—leading to major cost savings and operational efficiencies.

Advantages of Exact Software's Single Database Approach

Information within an organization is typically isolated within software packages that are utilized to perform specific functions (ERP, CRM, Knowledge Management, etc...). There is usually no easy solution to allow such platforms to share information without complicated integration issues arising. Implementing a suite of solutions that an entire organization can operate from (off of one database) ensures that all information is accessible to anyone who needs to access it, and can allow a business to realize a higher level of efficiency across the organization.

Isolated Islands of Data

ERP   HR   Portal and Website   Workflow   Document Management   Sales   Projects   Logistics   Financials

Exact Software's Integrated Solution

Database

Macola ES / Progression — e-Synergy

ERP

HR   Portal and Website   Workflow   Document Management   Sales   Projects   Logistics   Financials

With e-Synergy, organizations are able to exchange information with the ERP solution as well as tie in additional functionality, such as giving members of the supply chain easy access to information, critical to their job function or role in the value cycle, through a Web-based interface. This allows members of the cycle to participate in workflow, projects, or in the exchange of knowledge and information regarding initiatives. The result: a substantive competitive advantage.

Exact also creates an environment in which companies can not only model, but effectively streamline workflow and automate manual business processes into a secure centralized environment. Since access to information and documents within Exact Software's online environment are based on roles and a rules-based schema, business managers can control access to data on a need-to-know and need-to-access basis. This roles and rules-based approach automates workflow, provides secure control, and eliminates the "data islands" outcome inherent in most, if not all, ERP deployments.

But most importantly, true VCM embraces a powerful workflow that provides each member of the supply chain, based on their roles and responsibilities, with a process-centric view of the business. Workflow that does not depend upon a crude "send-only" model like email, but on a "closed loop", business-rules system which automates the flow of communications and tasks. Workflow that can ensure that assigned tasks are completed, or elevated if need be, and can be used in conjunction with advanced alert management technology to make certain that potential problems in the production chain do not become crises.

As the following examples will demonstrate, replacing the traditional business process paradigm with one that offers a high level of integration, monitoring and workflow provides an ideal environment for improved productivity and increased profits.

Case Studies: Value Cycle Management in Action

A growing number of organizations are already reaping the benefits of VCM across a wide variety of industries and geographies. Some of these include Davis Controls, Phantom Screens, and the Professional Association of Diving Instructors (PADI), to name just a few.

Founded in 1933, Davis Controls is a well-known supplier to international manufacturers of instrumentation and control products. Their products are sold across North America through an extensive network of local distributors. Since deploying Exact Macola in 1996, there has been a dramatic impact on organizational efficiency company wide, enabling Davis to increase revenues by more than 50 percent. The company achieved this by employing a comprehensive VCM strategy that allowed them to obtain a more holistic view of their customer account management cycle. Using Exact's rich set of native business process tools, Davis Controls mapped their sales cycle to a practical and efficient workflow, ensuring that each opportunity is continually maximized.

By integrating its membership database with Macola ES ERP through e-Synergy from Exact Software, PADI has enabled its employees worldwide to share up-to-date customer information.

British Columbia-based Phantom Screens achieved similar results with their VCM strategy. As a leading manufacturer of screens for doors and windows, Phantom products are distributed through a network of independent dealers across North America and around the world. Because Phantom Screen's business model weighs on the success of their dealer channel, the company recognized early the need to better support their partners with an updated IT system that would give them access and visibility into all phases of the manufacturing process.

Prior to the implementation of Exact e-Synergy, Phantom sales staff would speak with distributors, note their order specifications, send the order to the manufacturing team, and fax back verification of the order to the distributor. "When we sent order confirmations and delivery dates to the distributors, we didn't immediately have confirmation," said Frank Ezinga, Phantom Screen's senior IT manager. "The sales staff would always question, did the fax go through? And then would spend time confirming that the distributor received the order confirmation."

Employing a comprehensive VCM strategy based on e-Synergy, Phantom's relevant customer, supplier, and financial data is now managed centrally online, providing better support for the company's just-in-time manufacturing model. Phantom's distributors are able to take control of the process through Web-based portal access, and can immediately check on inventory availability or place an order from any location.

In yet another example, we see how VCM can aid the business processes of a large, non-manufacturing organization such as PADI Americas. Unlike Davis and Phantom, PADI does not produce a product or have a dealer network, but instead supports over 100,000 professional members operating in 175 countries and territories. Based in Rancho Santa, California, PADI Americas is part of PADI Worldwide, which aims to develop programs that encourage public interest in recreational scuba and snorkel diving through seven global service offices.

In early 2002, PADI Americas began looking for a way to tie all the departments of the company together. "Our dive center, sales department, and training and education group all talk with our customers," said Sharon Dill, director of information technology for PADI. "As a result, we might have three conversations going on in isolation. We didn't have a way to keep track of those conversations."

After considering stand-alone customer relationship management (CRM) solutions to address their business needs, the IT team chose another path: VCM. By integrating its membership database with Macola ES ERP through e-Synergy from Exact Software, PADI has enabled its employees worldwide to share up-to-date customer information. In the future, PADI Americas hopes to extend access to this information to its worldwide membership over the Web, allowing them to access frequently asked questions and other information, check their own order information, and, eventually, place orders that will be tracked in Macola ES.

Summary

Technology has made great strides in offering businesses improved efficiency. The emergence of ERP, CRM and other similar solutions has enabled companies to store and access business data in various ways. However, to truly achieve the kind of increased profits, customer retention and productivity that businesses seek to achieve from technology, they must think differently. They must not only adopt a commitment to integrating technology, data and resources, but couple this with the recognition that true productivity and profits comes from rethinking the supply chain—as a linear "food chain" of sorts—into a non-linear value "cycle" that embraces the critical intersections between members of the supply chain, including employees, partners, suppliers and customers.

Arising from this perspective is the notion of Supply Chain Management, which seeks to capitalize on these intersections through effective, real-time access to information, closed-loop workflows and collaboration. As we've noted, the majority of supply chain solutions available today do not go far enough toward facilitating the fact that business processes are intrinsically linked. Unlike VCM solutions, these solutions largely play on the level of data access and storage, leaving critical business information isolated on disparate "data islands."

Exact Software believes that through connecting these individual plains on which supply chain operations are based, yet another level of efficiency can be reached. In essence, technology can be combined to create a solution which an entire supply chain can utilize and operate off of. Such a solution can also extend beyond the organization to involve anyone who may be associated with the company's unique value cycle.

Exact Software, through its family of products and ability to integrate with other industry leading back-end solutions, provides the means to implement a Supply Chain Management System from which to most effectively and efficiently manage the demanding requirements of the production cycle. More importantly, Exact Software offers unprecedented levels of centralization, communication and collaboration between individuals, departments, locations, vendors, partners and customers.

Through greater centralization of critical supply chain information, companies put themselves in a better position to boost profitability and reduce operational costs, increasing accuracy and timeliness. Immediate real-time decision making enables maximized financial decisions that ultimately help shape the future of the company.

For more information about how Exact Software can have a positive impact on your business operations, please visit www.exactamerica.com or call 1.800.468.0834.

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