

Prof. Klaus Thaler, Supply Chain Management Expert: _____

"Thinking in Overall Processes Doesn't Stop at the Plant Gates"



Prof. Klaus Thaler

(11/19/2001) What do supply chain management (SCM) solutions offer? How do you implement SCM? Are there any new developments? Users typically ask these questions before they make a major investment in new systems and software. Professor Thaler, who is considered an expert in SCM, teaches logistics and business information systems at the University of Applied Sciences in Berlin. In this interview with sapinfo.net, Thaler provides valuable information on the goals and benefits of supply chain management, SCM software, and discusses his own seminars and his recent book.

■ What is supply chain management?

Thaler: SCM is a cross-enterprise approach to process optimization, and not simply the implementation of software, as many believe. Experience in many industries has shown that logistics chains, or supply chains, rather than individual enterprises, truly dominate the competitive field. They do so with intelligent collaboration and networking between systems, shared synergies during efficient handling of business processes, and by avoiding unnecessary, added efforts and costs.

But regarding an exact definition of the term "supply chain management," you'd have to say that SCM covers planning and control of the distribution and delivery chain. In this sense, SCM encompasses both customer and vendor networks. E-business can operate successfully only when supply chain management has been implemented. Studies have revealed definite weaknesses here: every seventh delivery to customers occurs late.

■ What operational benefits does SCM provide?

Thaler: If you look at most processes inside and outside an enterprise, you often see typical information pipelines - some with more system support than others. For example, sales programs create the numbers for material requirements. Additional MRP runs then convert the numbers into planning data, which is then combined with actual order data as a production order. The results of requirements determination are sent to vendors as short-term calls, which trigger more MRP runs at the vendor's site for the basic materials needed. You can easily see that this complicated, successive flow of information can lead to a bullwhip effect at many locations: the effects of seesawing, delays, and buffering produce unnecessary added effort, long throughput times, and high inventories. And, changes from one medium to another or completely insufficient requirements prognoses only intensify these effects.

Today's systems give us the technology to perform online transactions, such as posting orders or dealing with supply questions, in fractions of a second. Accordingly, companies want to create accessible, comprehensive, efficient, and flexible processes in their supply chains so that they can avoid production shortfalls or excessive inventory. Studies show that the primary benefits of SCM include greater transparency in the logistics chain, improved on-time delivery, reduced inventories, and shorter throughput and delivery times. However, it's rare that an SCM project can receive a ready-made solution on a silver platter. The project must first examine how to quantify and measure the overall benefits. The scientific analysis of pilot projects has produced two basic results. First, SCM offers a tremendous potential for saving, up to the level of double digits. Second, SCM can measurably limit the bullwhip effect and its accompanying added effort.

■ What must a company do to prepare for an SCM implementation?

Thaler: SCM demands an intensive, interdisciplinary, and cross-company project whose success primarily depends upon the mutual trust of the partners involved. The companies participating in the project must be flexible enough to create a situation from which they can all profit. A project also requires internal and cross-company optimization and collaboration, along with an analysis, design, and optimization of inter-related business processes. You must examine how easily the SCM software can be integrated into existing systems and look at how well you can adapt the company's business processes to the SCM solution. The difficulty lies in the details. I'm always suspicious of consultants who promise a quick solution in a short time.

■ What software does SCM involve?

Thaler: SCM works only when a supplemental infrastructure links the various systems in a company. To be more exact, SCM software is only as good as its integration into existing applications. Most companies that work with SCM have already invested in ERP or PPS software that covers many internal tasks, particularly those involving materials management. You often hear that SCM integration is not a problem, because data can be exchanged across companies easily with the help of Internet technologies. But that's not true: SCM architecture requires its own level of cross-company planning and control functions. Interfaces are needed to enable the SCM solution to access and provide data to material masters, order numbers, and BOMs. Given that the SCM data in a supply chain resides in several different basic systems, I cannot recommend strongly enough that potential users carefully examine the ability of a software package to be integrated with existing systems.

Regarding the functions of SCM software, users want to be able to execute and evaluate decisions in real time above all else. Imagine a case in which an SCM manager needs to fix a delivery date online. The task simultaneously triggers functions for availability and capacity checks across several levels of the supply chain. It's especially important that users can perform "what-if" scenarios and evaluate the effects of changes. Accordingly, new methods and algorithms for simultaneous planning and control of logistics chains occupy the preeminent place in research and development today - as seen in the collaboration between SAP and the academy and in our current project with SAP.

■ What kinds of companies work with SCM?

Thaler: Studies show that SCM pilot projects are being undertaken in all major industries - electrical, electronic, chemicals, pharmaceuticals, mechanical engineering, construction, and automotive. Even retail and service companies are implementing SCM solutions. Within these areas, you often hear the term efficient consumer response (ECR). We see that current SCM projects concentrate on special business processes. This includes common MRP planning of critical materials with vendors, distribution planning with customers, and the synchronization of production at several plants. Unlike a large, overall solution, this approach enables companies to gain implementation experience very quickly.

■ In your book on supply chain management, you describe how to implement an SCM solution and in what phases. How much time are we talking about here?

Thaler: Each project is different. SCM projects that involve the integration of sub-functions such as Web-based prognoses over three MRP levels can be implemented in a few weeks. More complex SCM projects, however, can take as long as two years. Experience shows that the importance of preparatory SCM activities, particularly the analysis of requirements and processes, must not be underestimated. In my book, I present a model of SCM project phases that has been developed from concrete, practical experience. It helps users determine which tasks to include in the project and the specific results to work toward.

■ What bearing does SCM have on employees and further training?

Thaler: Areas such as sales, production planning, procurement, production, and distribution occupy the center of SCM. SCM offers employees an opportunity to take

on more responsibility in regards to overall and more complex tasks and processes. But this also demands a first-class level of knowledge, a high level of motivation, and experience with the use of state-of-the-art tools and procedures. But company management also faces challenges. The creation of process-oriented structures is crucial to the success of SCM; the company must back away from thinking along departmental lines. Thinking in overall processes doesn't stop at plant ware gates.

■ **What direction can be expected in the development of SCM, and what are the most important challenges that companies face in the next few years?**

Thaler: The integration of SCM applications with legacy systems demands the development of a truly open architecture before all else. Internet technologies and the XML standard will certainly play an important role in determining the technical solution for the exchange of data between companies and for data integration in SCM. The SCM platforms will then take over the roles now ascribed to the basic systems of various manufacturers in comparing and synchronizing their data. But companies that need data from the various systems (such as CAD bills of material, ERP systems, CRM systems, and delivery tracking and tracing) must count on a tremendous level of effort in an SCM project. In terms of methodology, decentralized collaborative planning and scheduling scenarios will grow in importance. These scenarios enable employees to handle important requirements, planning, and control information independently of location and time, but still in a timely manner. A great deal of organizational considerations comes into play here. The question of who plans and controls in a supply chain does not always have an easy answer.

According to our current study, almost 40 per cent of German companies are currently investing in supply chain management solutions and SCM technologies. Less than 10 per cent have already implemented solutions. I therefore see the primary challenge as helping as many companies as possible benefit from SCM.

Additional Information:

Webcast of the SAP E-Business Summit SCM : February 13-15, 2001

▶ <http://www.sap.com/community/live/webcast/index.asp>