DISKOVER In Action

Inside Story:

SIHL Group

A global and virtually united organization
New SCM system optimizes the global supply chain of the Sihl Group – despite different ERP systems

A global and virtually united organization

Global companies that didn’t grow organically but expanded through mergers and acquisitions don’t need to standardize their ERP systems in order to optimize the processes across their individual locations. Using a unified supply chain management (SCM) system based on advanced planning and scheduling (APS) tools across all locations will suffice completely. APS tools like DISKOVER, which the Sihl Group recently installed to optimize its global supply chain, allow the company to interact with the different ERP systems of the individual locations as if it was one single site.

The Sihl Group is an international leader in printable media for the growing worldwide digital printing market – from photographic paper to wallpaper, art print media, tickets, labels and packaging. Since Sihl is offering its customers a globally unique product portfolio and range of experience, it has quickly established itself as a single source provider. Customers and partners alike profit from the company’s technologically advanced products and innovative process improvement services to optimize value creation. Every day, over 450 employees are working hard at the main company locations in Berne (Switzerland), Düren (Germany) and Fiskeville (near Boston, USA) to achieve this goal. In 2018, Sihl had a turnover of 125 million Euro and shipped more than 65,000 deliveries to over 1,000 customers across the globe.

Challenge 1: Global stock transparency

One of Sihl’s organizational challenges is multi-level production at three different sites that use a variety of recipes with long bills of materials. Consequently, any demand for new finished goods triggers many purchasing and pre-production demands across all sites. Until recently, Sihl had not been able to organize their global production as if it was one company since the group had been created through acquisitions. Hence, every location had been operating largely independently, with relations between the different sites resembling those of customers/suppliers, meaning that, for the most part, they were handled by the ERP ordering system. As a result, stock transparency across the locations was rather limited.

Challenge 2: Globally visible shared supply chain

Of course, it was possible to aggregate different stocks using the individual ERP systems of each location. However, it was not possible to gain any transparency concerning the inventory of finished and semi-finished goods or chemical components, which would allow a central view of the global supply chain. Consequently, production of some items had been increased or decreased rather arbitrarily following gut instinct, since no transparent data on inventory levels or reliable demand forecasts were available. As this situation offered a lot of room for improvement, Sihl’s management
set itself the goal of creating more transparency concerning existing and future stocks across all locations.

**Primary demands of one site to automatically generate secondary demands in the next**

For example, it should be possible for the staff in Düren (Germany) to manage the restocking of the inventory in the USA – in line with predefined stock and service targets – as if it were the inventory in Germany. Today, Düren can react to demand fluctuations in the USA even before the sister company’s orders have arrived. The advantage is evident: the improved transparency and visibility enable the entire group to operate more efficiently. The next step was to consolidate the separate planning and scheduling methods of each individual location into one system. This is quite easily done, if the different locations use the same ERP system. But for the historic reason of having evolved through various acquisitions, every Sihl location used a different ERP system to plan its resources.

**Merging three ERP systems into one is extremely laborious and intricate**

While Düren in Germany uses SAP, the Swiss site in Berne operates on an MS Access based solution and Fiskeville in the USA works with a Sage 3 platform plus various modules of other origin. Hence, to unify the ERP systems, two of the three systems would have had to be given up and replaced. This would have triggered extremely laborious and intricate change management processes at the affected sites, compromising their efficiency for months and in some respects even for years. Therefore, the best and easiest solution was to implement an adaptive supply chain management system that interacts with all three ERP systems to unify the planning and scheduling methods. Other advantages of this solution are the economic benefit and a significant improvement of the data quality.

**Supply chain management software is the answer**

Today, Sihl uses an SCM system based on the APS tool DISKOVER SCO from SCT GmbH to consolidate and integrate planning. DISKOVER downloads the required data from all three ERP systems, computes planned demand based on the daily updated forecasts and uploads the results back into each ERP system. Within DISKOVER, the entire demand is now planned and scheduled globally. The system knows the individual supply relationships between the locations – down to the bill of materials (BOM). It can now optimize the global flow of goods within the entire Sihl Group, as all secondary requirements associated with the end product are generated automatically.
Consistent planning chain without breaks or gaps

To achieve this, the BOMs of the locations had to be connected logically. This was done during the introductory project stage, helmed by the supply chain experts of Abels & Kemmner. During one single material requirement planning (MRP) run DISKOVER performs every night, the requirements and demands of every location are determined. Thus, every location’s requirements automatically become secondary requirements in every other location involved in the production process. If there is insufficient stock, the MRP run generates planned orders for these requirements. In the next step, the location’s ERP system generates production orders from these planned requirements so as to replenish stocks to the required service level. This setup now ensures a consistent supply chain across the three locations as if they were one site. From a strictly technical point of view, DISKOVER could even be used to manage ordering, whereby only these data would be transmitted to the ERP system. Hence, either DISKOVER or ERP may be the leading system, depending on the requirements.

Artificial Intelligence – learning from the past for the future

From a strictly operative perspective, the ongoing integration of the US site entails manually integrating the sales forecasts, which are based on actual orders, framework contracts and the individual assessment of the prospective sales results. This way, the system gathers more and more data each month, ultimately creating a ‘big data’ base similar to a system with integrated artificial intelligence and enabling it to generate increasingly precise forecasts. After a few months, this procedure enabled automatically generated demand forecasts that did not require manual adjustment based on planners’ gut feelings. It also helped relieve the sales department from the burden of having to deliver sales forecasts as part of sales planning. Today, the SCM system forecasts production and purchase requirements completely automatically. Big demand fluctuations, due to changing customer relations – such as new listings or special promotions – are now easily integrated with the special demand planning features of the SCM system.

Complete transparency for crystal clear decisions

“Thanks to DISKOVER, we now have a global and virtually united organization. This has improved transparency enormously. We have much better control of our stock levels and can decrease or increase them according to demand. Monitoring the company’s current performance and defining goals has become a lot easier. Our stock targets, which are aligned with our delivery promises and KPIs, can now be planned precisely, realized in line with demand and monitored transparently,” explains Fabian Ossen, Supply Chain Manager at Sihl in Düren.
Demand-oriented classification of delivery groups

Another essential point during the introduction of DISKOVER was the implementation of rule sets for optimum planning and scheduling parameters – to improve capacity in production, and to increase efficiency and optimize framework contracts in purchasing. For this purpose, the goods were classified in ABC/XYZ groups, depending on their sales volume and order frequency, as well as grouped in delivery categories, depending on the speed of delivery since the order. The introduction of these delivery categories made it possible to define decoupling points for goods that Sihl doesn’t have to deliver immediately. This allows Sihl to stock more semi-finished goods instead of finished goods, decreasing the inventory’s value and freezing less capital.

Optimized net working capital

Besides more transparency, the implementation of the cross-plant SCM system helped to reduce inventory while maintaining the required service levels. More importantly so, as one of the aims also was to optimize the KPI ‘net working capital’. Sihl generates this indicator from the formula ‘inventory + receivables - liabilities’; if it is reduced, the scope for investments and earnings increases.

KPI dashboard on the horizon

In future, Sihl’s management will also have access to a web based dashboard, enabling them to display selected supply chain KPIs in highly aggregated form much quicker and with more detail than the ERP systems could ever provide. This add-on to the APS tool will enable users to specify their home screen by bookmarking the required KPIs as favorites. It will also contain an email push system, which will send periodic or ad-hoc alerts if defined values are exceeded or not reached. The net working capital will also be displayed in this add-on.

Extensive reporting tools

Another advantage of the APS tool is the extensive range of reporting tools it offers. For instance, the production manager regularly receives an automated report that indicates each machine’s order queue two weeks in advance. Thus, DISKOVER also provides production with vital information about machine utilization. The production planner can then easily schedule the shifts to fulfill the production target. This and many other reports can be generated flexibly with the APS tool. For example, procurement managers can regularly check and accept parameter settings in push mode to ensure that exceptions do not become standards. Or expensive minimum stock levels can be checked every few month. Using the highly customizable report dispatch triggers, it is even possible to automatically send backorders to the purchasing department. Once all this is configured, organizing shipments is straightforward, which makes the job a lot easier for all parties concerned.

Integrating the SCM tool is faster, better and more economic than consolidating the ERP systems

All in all, the implemented SCM tool DISKOVER SCO now fulfils many tasks that a globally operating company with complex supply relationships between its different sites would otherwise only be able to realize by consolidating its ERP systems. This step, however, and the laborious change management processes it requires, can now be omitted entirely. An advantage that provides
enormous leverage for the identification and realization of optimization potential for planning and scheduling – even for mergers and acquisitions, since a reduction of stock levels can quickly release enormous amounts of money.

Figure 5: DISKOVER SCO from SCT GmbH is used as an integration and consolidation platform for three different ERP systems, which optimizes the global flow of goods within the entire Sihl Group, since all secondary requirements associated with the end product are

Improved transparency creates more time for the essentials

The new cross-plant SCM system provides an actual connection between the locations. This enhances the transparency of current or prospective demands and stock levels for each member of the supply chain. All secondary requirements are automatically generated across all sites, which increases suppliers’ planning accuracy and saves a lot of time. It also leads to more precise forecasts than each site basing its planning solely on orders and external forecasts.

The silver bullet, also for planners of just-in-sequence production

Consequently, not only production and sales sites of one company, but also companies that work closely together as producers and suppliers, greatly profit from the ability to forecast and order requirements for their common supply chains. Ultimately, a virtual factory could be realized in which multiple companies work in union – a plan already pursued by many under the term ‘digitization’.

Orders are still issued – fully automated, if required

However, the SCM system does not replace the formal order issue, which is required for consistent documentation anyway. But depending on how the cooperation between ERP system and SCM system has been configured, it can be fully automated. The cooperation between SCM and ERP system must always run in sync and without redundancy.
Pay attention to distribution free methods

“A similarly high level of transparency would actually not be possible, even if each site used the same ERP system, since the planning depth of APS tools like DISKOVER is naturally higher thanks to more elaborate rule sets,” explains Armin Klüttgen, Senior Consultant at Abels & Kemmner. Furthermore, the APS tool DISKOVER applies distribution free methods for forecasting and safety stock calculation – a rare feature in most APS tools, but one that is urgently required since in most cases demand of goods is not normally distributed.

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