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CASE STUDY: SUPPLY CHAIN INTEGRATION AT VPK PACKAGING GROUP, BELGIUM

This case study shows how VPK Packaging Group uses ICT and e-business to support its core business objective of developing and maintaining lasting business relations with its customers. To support this objective, the company lays emphasis on customer-sized solutions. The focus is on the implementation of the Forward Logistic Integration (FLI®) concept as an instrument to optimise the supply chain with benefits both for VPK and its customers. In the past, rush orders had caused major logistic problems; therefore, order placement and order management seriously needed improvements. The case study illustrates how these B2B processes are facilitated by a detailed and open exchange of information between trading partners.

Case study fact sheet

■ Full name of the company:	VPK Packaging Group Headquartered in Erembodegem (BEL), VPK Packaging Group has more than 20 factories and a dozen trading and service companies in Belgium, The Netherlands, France, Germany, Poland and the U.K.
■ Location (HQ / main branches):	
■ Sector (main business activity):	Paper and packaging
■ Year of foundation:	1935 (publicly held in 1999)
■ Number of employees:	about 2,600 in ten European countries (about 1,000 employees in Belgium)
■ Turnover in last financial year:	about 445 million euros (2005)
■ Primary customers:	Producers of fast moving consumer goods, mainly for the food industry, pharmaceuticals, healthcare products and cosmetics, agriculture industry
■ Most significant market area:	Benelux countries, North of France, UK
■ Focus of case study:	Supply chain management
■ Key words:	SCM, business process transparency, stock management, just-in-time delivery, VMI (Vendor Managed Inventories)

Background and objectives

VPK Packaging Group (VPK) is a rapidly growing, integrated industrial group, with a strong base in the West-European market and active in paper and recycled paper production, corrugated board, solid board packaging, tubes/cores and edge protectors.

VPK is listed on the Euronext Brussels Exchange, employs about 2,600 people over ten European countries and has mills and trade- and service companies in Belgium, the Netherlands, France, Germany, Poland and the U.K.

The company has four divisions: Paper, Packaging, Waste Paper and Trade and Services. The Paper Division produces paper for packaging based on waste paper. Three specialised paper machines make corrugated paper, liner paper, tubes and core paper. The Packaging Division produces corrugated board, solid board, tubes and cores. In the Waste Paper Division, the waste paper is recycled to make new paper. The Trade and Services division caters for specialist niches in the packaging market e.g. flowers, bulbs and standard boxes.

The customers of VPK Packaging Group are producers of fast moving consumer goods within the food industry, pharmaceuticals and cosmetics, and the agriculture industry.

Business goals and strategy

VPK Packaging Group aims at maintaining and even expanding its position as an important player in an increasingly competitive environment. To this end, the company is committed to exploit opportunities for further growth in its core business, by acquisitions as well as by expanding its market shares in Europe.

A few years ago, the company adjusted its strategy to encompass not only the production of packaging, but also a range of **value-added services** around those materials. VPK Packaging Group wanted to move from just providing commodity products to focusing more on the service they provide to customers. In addition to producing paper or corrugated board, this requires the ability to deliver products at the right moment, in the right amounts, based on the customer's needs. This holistic, service-oriented approach is known internally as the VPK Packaging Solutions concept®.

To support that strategy, VPK Packaging Group needed to cut costs while at the same time increasing speed and accuracy in its operations – a challenging task. The company as a whole had grown over the years through some 30 acquisitions, leaving it with a wide variety of software spread across its various units; this made it difficult to get an integrated view of the business. Moreover, supply chain processes in its paper division – which manufactures products for use in VPK's other divisions and for sale on the open market – were fragmented, driving up costs and delays. The use of ICT and e-business by VPK Packaging Group is therefore aimed to solve problems of fragmentation and to give customers a good service, while being fully embedded within the business strategy of VPK Packaging Group.

e-Business activities

The challenge: managing the move from a seller to a buyer market

VPK Packaging Group has always focused on meeting customer expectations. However, in the past decades, customer expectations as well as customers themselves have considerably changed. Customers now tend to be more marketing driven, with dynamically evolving requirements, which requires a higher service level (e.g. in terms of variety in products, just-in-time delivery, and smaller lots).

It was clear that customer-sized solutions would become an important leverage for VPK to stay competitive with other major players in the pulp and paper industry.

The evolution from seller-markets to buyer-markets, however, brought some challenges and had important implications for VPK Packaging Group. The company was confronted with the need for:

- a shorter lifecycle for its products
- a higher variability in demand
- shorter lead-times, as customers no longer accepted a wait for product deliveries.

At first, VPK reacted to this challenge by introducing many flexibility measures in its production process including blind stock buffering, resulting in huge holding costs, high administration costs and, more often than not, in investments in the wrong stock. Moreover, the high number of rush orders did not fade away. As a result, VPK Packaging performed poorly in the eyes of the customer.

The strategic response: Forward Logistic Integration

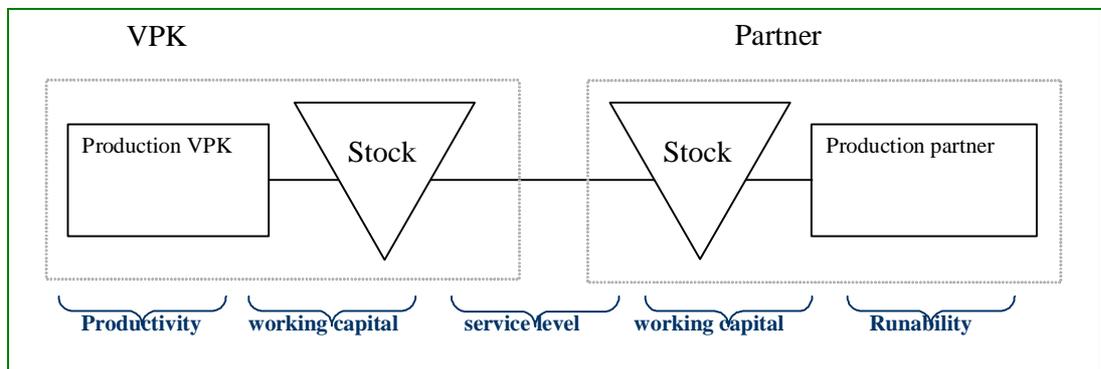
To overcome this crisis, VPK decided in 2000 to make a substantial investment in improving its supply chain management and to launch Forward Logistics Integration (FLI®) for this purpose.

Forward Logistic Integration is a trademarked service VPK is offering to its customers, whereby it is intended to attain a strategic collaboration with the customer by the exchange of information. The concept fits perfectly into the business strategy of VPK to move from a product-oriented to a customer-oriented approach. FLI® service includes the following aspects:

- detailed tracking of customer’s specific stock holdings (in-house and with the customer, better known as Vendor Managed Inventories)
- optimising customer’s orders
- order planning for the customer
- periodic analysis of stock needs evolution

By exchanging information with respect to the planning and stock level, VPK aims at optimising both their own supply chain and that of their customers (mostly B2B). In essence, FLI® creates a virtual organisation, characterized by openness on the supply chain from both sides (see Exhibit 1).

Exhibit 1: FLI® scheme



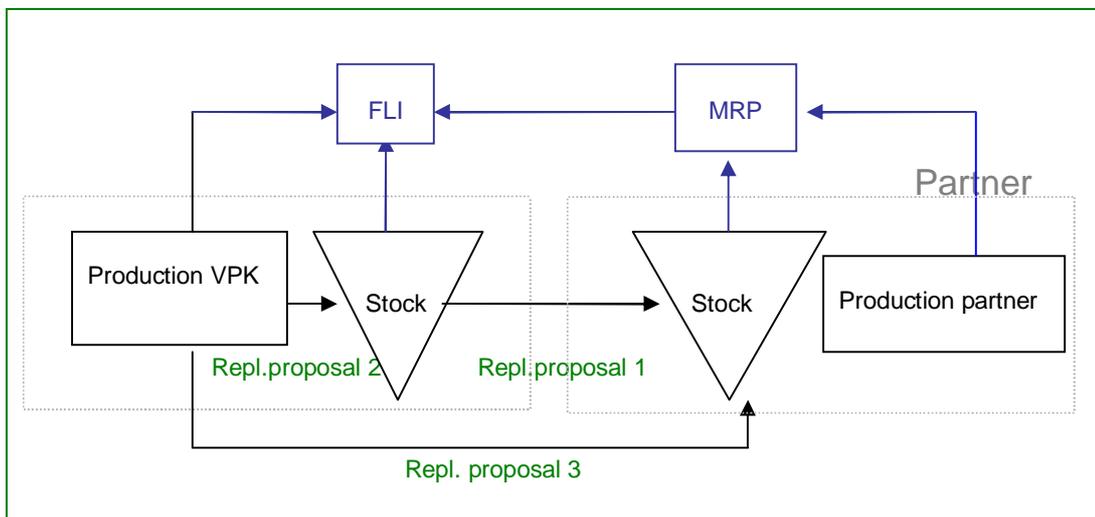
To make FLI® work, a trusted, open relationship between the company and its customers is needed whereby information can be shared in both directions. More concretely, VPK needs data on the customer's MRP (material requirement planning), covering previous

two weeks, a forecast of the coming 13 weeks and the amount of items in stock. In exchange, VPK promises to optimise the customer's stock and demand, while improving the delivery reliability.

MRPs, reflecting the customer's needs for the coming weeks with respect to all the products VPK is offering, are sent online to VPK Packaging on a daily basis. VPK then processes the incoming MRPs and thus constantly improves the match between orders, production and stock levels.

On the basis of this data exchange, the supply chain of VPK is appropriately activated. First, the company responds to the short term needs of customers with products available in stock (Replenishment Proposal 1). Second, to avoid shortages, the production division of VPK brings the stock back to its prior level (Replenishment Proposal 2). Finally, production takes care of the long term needs of VPK customers, based on forecasting.

Exhibit 1: Supply chain management based on FLI®



An important advantage of the FLI® concept is the agreement on common standards between the client and VPK Packaging Group. Both sides communicate in MRP files. From early 2007 onwards, the exchange of information between customer and VPK Packaging Group will take place via a portal website, where customers can log in and place their orders online.

The implementation process

The **preparation phase** took about a year (2000/01) and included planning and working on proposals for how the FLI concept should look and when it could be operational.

In 2001, a **pilot project** was set-up to test the FLI concept, involving the paper division of VPK Packaging and Campina, one the largest dairy companies in Europe and one of VPK's major customers. Periodic evaluations (every three months) were made to reveal possible weaknesses of the system and to suggest improvements.

The Campina pilot was successful. After a year, the number of rush orders had been reduced, while the level of accuracy with respect to production and deliveries had increased. Moreover, instead of placing separate orders for each of more than 100 different VPK products, Campina only had to send an updated version of its MRP to VPK Packaging. Stock administration on both sides became more simplified, especially for the customer. Apart from some communication problems at the beginning of the pilot project, no serious difficulties emerged during the implementation process. Both VPK Packaging

Group and Campina were very pleased with this new way of working and decided to continue the project.

After the successful start-off, VPK exported the FLI concept gradually to other divisions within VPK Packaging and the number of customers that became involved into the FLI® project grew. VPK adopted a step-by-step approach to this expansion instead of pursuing a “shock-and-awe” strategy.

Impact

VPK reports that the advantages which the FLI® concept was expected to offer have become a reality. The introduction of FLI® has achieved benefits for VPK Packaging Group in the areas of work organisation, production processes and business relationships with customers.

Benefits of FLI®

The Forward Logistic Integration concept creates a win-win situation for both parties. VPK highlights significant benefits the company has experienced, most importantly:

- Reduced need for working capital because of optimised order management and a decrease in stock value
- Lower operating costs from simplified administrative procedures
- Enhanced views of order history
- Fewer rush orders
- Increased visibility
- Increased delivery reliability
- Reduced stock shortages

Forward Logistic Integration has helped to reduce the complexity in planning production processes and linking them with the supply chain. Production divisions are now facing fewer rush orders. The number of stock shortages decreased, which means that delivery reliability increased. “*Stock rotation periods have gone **down from more than 8 weeks to 2-4 weeks**, since the need for storage capacity decreased. Holding costs have decreased and working capital requirements have dropped **more than 30%**”, says David Wellens, supply chain integrator at VPK Packaging Dendermonde.*

Although now maintaining less stock, the company has improved service levels. **Delivery reliability** (time and quantity) increased in some divisions **from 95% to 99.5%**, according to David Wellens. Thus, for VPK Packaging, FLI® has become a key variable in building long-lasting relationships with customers.

Furthermore, the described e-business activity of VPK **decreased administrative burdens by about 15%** and resulted in a more streamlined and responsive administration.

The overall cost for implementing FLI® is small relative to total company costs. In addition, VPK reports that their overall IT total cost of ownership (TCO) has decreased from more than 1% to less than 1% of revenue. This is believed to be very good in comparison with the TCO performance of other companies within the P&P industry.

Outlook

The case study of VPK Packaging Group illustrates the potential of ICT and e-business-solutions to improve supply chain management through a trusted, open exchange of data with customers via the internet.

However, the ICT landscape is changing continuously; this forces VPK Packaging Group to rethink again their actual way of working. In particular, the advantages which fully-fledged ERP systems offer to companies makes them think intensively about new ICT solutions. A pilot project concerning the implementation of an ERP system (with SAP software) is currently running within their paper division. If the pilot is positively evaluated, it is very likely that in 2007, together with the web-portal referenced earlier, all divisions within the company will be running on an ERP system.

References

Research for this case study was conducted by Steven Bulté, Ramboll-Management Brussels, on behalf of e-Business W@tch. Sources and references used:

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