Case Study: ERP system in Danish shoe retailing / Shoe-D-Vision, Denmark

Abstract

Shoe-D-Vision is a cooperative of Skoringen, Feet Me and Din Grønne Skobutik shoe retailers in Denmark and Norway. It is owned by its 3 member groups and provides IT, marketing and logistic services to more than 320 member boutiques. In 1993 Shoe-D-Vision (at that time named Skoringen) implemented its own ERP (enterprise resource planning) system, subsequently enhanced with a stock management and ordering tool called SHOEit. This back-office retail system is installed at main group offices and manages the shoe inventory of the shops. In 2004 a ShoeWeb application was added to ease the process of ordering and invoicing, as well as to provide shops with real-time stock inquiry and 24 hours / 7 days a week online access to the ERP system The use of these e-business tools has helped Shoe-D-Vision to save on both coordination costs and time, as well as to improve service to its member boutiques.

Case study fact sheet

Full name of the company:	*Shoe-D-Vision*
Location (HQ / main branches):	*Arhus, Denmark*
Sector (main business activity):	*Shoe retailing and distribution*
Year of foundation:	*1992 (re-named separate legal entity in 2002)*
Number of employees:	*1,500*
Turnover in last financial year:	*200 million euros*
Primary customers:	*Local shoe stores*
Most significant market area:	*Scandinavian shoe retailers*
Focus of the case study:	*Enhanced ERP system*
Key words:	*ERP, web-based system*

Background and objectives

Shoe-D-Vision headquarters are located in Århus, Denmark. The organization is a cooperative of the Skoringen (193 boutiques), Feet Me[1] (91 boutiques) and Din Grønne Skobutik (16 boutiques) shoe retailers in Denmark and Norway. The main aim of the

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[1] Feet Me is a daughter company of Skoringen.

central company is to promote, market, consult and provide logistic and IT solutions to its member boutiques. The Shoe-D-Vision is an association currently employing 1.500 people (including the stores) and is fully owned and financed by its member boutiques.

The Shoe-D-Vision has continued activities already initiated by Skoringen in 1992 when the first ERP system was implemented. It became a separate legal entity functioning as a services and cost center for its three members in 2002.

The creation of a formal trademark "Shoe-D-Vision" in 2002 was a response to the worsening of the Danish shoe market conditions especially for smaller retailers like Skoringen, Feet Me and Din Grønne. All three stores experienced a drop in turnover as a direct impact of new competition from department stores, clothes and sports shops all starting to sell more shoes and acquiring a larger share of the market. In 2002 the total market share of these competitors amounted to 600m euros compared to 200m euros for Shoe-D-Vision stores. The consolidation of the boutiques helped to create the largest shoe retailer in Denmark and the second largest (after ECCO) in Scandinavia.

As a result of consolidation and association activities the negative market trends were reversed already in 2003 with the number of Shoe-D-Vision boutiques and turnover growing steadily. In 2006 there were 335 boutiques belonging to the cooperative.

The turnover on the shoe market in Denmark in 2005 was 850 million euros (~6 billion DKK), which corresponds to approximately 26 million pair of shoes sold. Shoe-D-Vision had a market share of ~25% with a turnover of 200 million euros. In general terms, the Danish shoe market is divided 50-50,i.e. specialised shoe shops stand for 50% of the turnover and department stores and clothes & sports shops stand for the other 50% of the turnover.

Most of the current activities of Shoe-D-Vision are aimed at becoming a leader in Scandinavian shoe retailing market and increasing its turnover by 134m euros (1bn DK crowns) by 2010.

To retain the leader position in Denmark and to try to become first in the Scandinavian shoe retail market, Shoe-D-Vision had to amend its logistics and coordination strategy to start saving costs and improve the efficiency of its business model. There are over 300 stores involved in sales and deliveries have to be made quite frequently. Therefore, Shoe-D-Vision adopted e-business solutions to streamline in particular their logistics processes. The new e-business applications were especially designed to ease the processes of ordering, making stock inquiries and transfers, issuing invoices between retailers and central headquarters, reporting, collection of statistics and other information sharing.

The internal Shoe-D-Vision IT department was in charge of developing the necessary applications for the shoe boutiques using specialized programming environment (LANSA) and specific hardware. Currently there are 2 people (May 2006) employed for this function. There is also a subcontractor hired to help the department with the financial tasks involved in ERP. In addition, 3 other employees provide support for the stores including installation, training and maintenance. The company felt that in-house solution was the best approach to developing a set of applied applications for its network of shoe-retailing stores. In 2004 there were proposals to change systems to ready-made software packages. However, due to already implemented systems and experience, the company kept to its in-house approach.

Initially Shoe-D-Vision (at that time still under the name of Skoringen) used IBM S/36 computers for their e-business activities. In 1992 the company switched to AS/400 hardware using American based LANSA development software, marketed by the USA software developer LANSA (www.lansa.com). LANSA development software is a development environment for generating applications on multiple computer platforms. LANSA specializes in application development, e-business solutions, technology integration and data access tasks. Each of these modules is supported by pre-designed software tools (like Visual Lansa, Lansa for iSeries, IMAS web and others) that can be further developed by local programmers to suit their specific business needs. The main feature of the LANSA environment is the RDML (Rapid Development and Maintenance Language). Currently it is classified as a 4 GL (4th generation computing language) running on many platforms including MS Windows, Unix, and Linux. Shoe-D-Vision used the team of its own developers (2 people) to develop three LANSA-based tools to run on Windows 2000 for its own e-business activities. These applications were SHOEerp, SHOEit and SHOEweb.

SHOEerp

The internal IT department of Shoe-D-Vision was in charge of the ERP system development. The system was built during one year in 1992 with the help of LANSA for iSeries application. At the time LANSA was the one of the few developers that could provide Shoe-D-Vision programmers with required capabilities and the main reason for choosing it was "*productivity and cross platform capabilities*", (according to Asger Simonsen, IT manager of Shoe-D-Vision). The SHOEerp system was necessary for Shoe-D-Vision because of the business nature of shoe retailers it brought together. Shoe-D-Vision uses its buying power to purchase shoes from manufacturers in Italy, Portugal, Taiwan and Hong Kong. Typically, the company places two very large seasonal orders per year with these manufacturers and smaller orders in-between seasons. The stores can also buy their own shoes, so while 70 percent of a shop's inventory is identical to other shops in the chain, they create their own style and image with the remaining 30 percent. To improve logistics and coordination of this business model there was a need to create a system where the boutiques could easily order, retrieve invoices, inspect the inventory and ensure delivery of their stocks in the shortest possible time. With the implementation of SHOEerp:

- The stores could now order their stocks 24/7 as opposed to the old method of calling-in, faxing or e-mailing the central service centre during the opening hours.

- The invoices were also no longer sent by post. In 2004 the vendors were given the online access to ERP system vie SHOEweb where scanned invoices were stored and readily available.

- EPR also performed automated ordering of shoes for promotions.

SHOEit

To complement the SHOerp, SHOEit was developed and rolled out to shops in 1993. It is a PC-based retail back-office system built using LANSA PC/X[2] for OS/2[3] tools. The application accounts for the entire inventory available at Shoe-D-Vision storage and all the other stores belonging to the association. As each shop-owner may own a number of shops, SHOEit is installed at more than 80 main group offices and manages the inventory for up to 17 shops in each group (total 90% stores of Shoe-D-Vision, with the aim of reaching 100% by 2010). The group's main office can create stock transfers between shops and set up rules for automated stock transfer within the group. The SHOEerp system tracks total group inventory, but takes orders from and delivers to the individual shops.

When each shop closes its POS (points of sales) system, it sends sales, order and stock movement information back to SHOEit, which updates group inventory and generates orders for the group. SHOEit sends files back to each shop overnight and the local POS databases are updated with order confirmations, delivery notes, product updates, including new item numbers, pictures and prices, plus client and other information. All communication between the shops is done by email over a permanent broadband Internet connection with strict security procedures including file encryption and IP address authentication. Each night SHOEit also sends summarized sales information into the SHOEerp.

For shoes that are part of next season's promotion, Shoe-D-Vision automatically creates an order to be confirmed in SHOEit. SHOEerp sends electronic delivery notes for confirmed orders and the shop indicates any deviations in their SHOEit system. As a result the shopkeepers do not have to re-enter any information. In addition the SHOEit provides POS, stock management and sales statistics information.
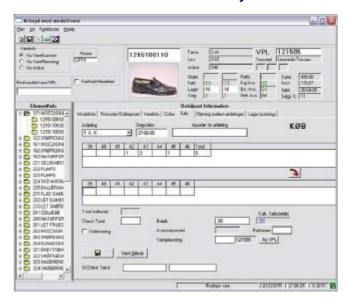
Most SHOEit sites run on Windows 2000, and connect with two or three individual shoe shop POS systems. Shoe-D-Vision uses an IBM iSeries 270 for operations, Web serving and development.

To be included in the ERP system the boutiques are asked to pay a one-off license fee (3,300 euro) for the software and hardware and a monthly fee (45 euro) guaranteeing user support in case of problems with the system. There is an additional 130 euros monthly fee for using SHOEit which includes regular updates and free support.

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[2]   LANSA PC/X is a development environment for PC

[3]   OS/2 is an operating system, the name stands for "Operating System/2"

A screen shot of SHOEit system

SHOEweb

In 2004 Shoe-D-Vision offered Web access to its members to do real-time inquiry and allow ordering of stocks. The Web system, called SHOEweb, was developed with the help of Futura Data, a LANSA Business Partner in Denmark. Currently, the shops that belong to Shoe-D-Vision and have the SHOEit installed can see which shoes and what sizes are in stock and place orders directly in ERP system at any time. SHOEweb also provides other relevant information such as graphic displays of shoes, prices, other points of sales, estimated delivery times, promotion stocks and other. In addition the retailers can retrieve the invoices of Shoe-D-Vision directly for the previously ordered shoes.

Shoe-D-Vision shop keepers do not have to re-enter any information as the SHOEit retail back-office and SHOEweb online ordering systems both integrate with the central ERP system.

Impact

The ERP and WEB e-business solutions had a significant impact on Shoe-D-Vision's business, especially on its work organisation, business relationships with its customers (boutiques) and in the areas of inventory management and logistics.

First of all, the SHOEerp system enabled the company to substitute the paper-based mailing of 270,000 invoices per year. Thus, investment payed off in just 4 months, due to savings on the costs of stamps and of 1½ full time staff in labour. The cycle of invoicing and payments also became faster, especially in Norway, where mail used to take three or more days to arrive. Now, the delivery of e-invoices to the shops only takes seconds after they have been generated in Shoe-D-Vision EPR system.

With SHOEweb, it is easy to survey interest in volume-based vendor offers. Shops make conditional orders that are not processed until the Shoe-D-Vision headquarters place their central order with the vendor. With the paper-based system, central office had to wait for a week or more to collect responses and then key them in manually. Now, decisions on special vendor offers can be made within a day. In addition, shops can instantly see the status of these offers and submit their responses.

Before SHOEweb was implemented, the purchase department had to produce descriptions of new shoes and then wait for a week or more before all shops responded by phone, fax or mail. Currently, this process is done through SHOE web and saves Shoe-D-Vision more than 15 hours per week. In addition, the shops put their orders in at a time that suits them best, not only during opening hours as before. This improves efficiency. In 2004, an average of 200 orders per week were placed via the Web. Furthermore, the new "pipeline" function (enabling boutiques to pre-order for next season) has generated 1200 orders from its launch in December 2004 until end of March 2006.

Employees at Shoe-D-Vision headquarters also have browser access to the ERP system, but at a different level (i.e. with higher authorization levels). The easy-to-use interface of the application, and its inbuilt function to provide concise statistics and reports, have reduced the amount of voluminous ERP reports that need to be printed.

Overall, the described e-business solutions have helped Shoe-D-Vision to save costs, streamline their logistics and improve communication with member boutiques. Many shoe retailers also express their satisfaction and support for the implemented e-business systems. Store owners quote "saved time" and "convenience" as the most important advantages of the e-applications.

As a result of the successful integration of the above e-business applications in their core business, Shoe-D-Vision is implementing another module in the ERP system. The association has introduced SAS® Financial Management Solutions in their financial management operations. This application has allowed Shoe-D-Vision to outsource the financial responsibility from their headquarters' financial department directly to the individual shops, where the financial decisions are being made. SAS Windows data warehouse software is used to analyze summarized information extracted from the ERP and from the financial system (the latter runs on the IBM/AS400 iSeries and uses Interform[4]) to convert spool[5] files to PDF. According to IT manager Asger Simonsen, this is a very important change but Shoe-D-Vision has not yet seen the full impact of this activity.

Lessons learned

The LANSA-based e-business solutions have become a part of everyday business activity of Shoe-D-Vision shoe-retailers. The strategy to adopt these solutions in the early 1990s has proved to be a great success for the company which strives to become a market leader in the local retail market. Skoringen, now Shoe-D-Vision, was a pioneer in Scandinavia adopting e-business solutions in shoe retailing. There were no other firms conducting similar ERP developments in the early 1990s as opposed to present when ERP systems have become quite common for group retail stores. Shoe-D-Vision, though, understands that there are further developments and adoptions required for their ERP systems in response to changing market conditions. These changes are necessary to help associations further reduce costs and improve their competitiveness in a highly consolidated Scandinavian shoe retail market.

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[4] InterForm is a Danish designed software program for iSeries (IBM AS/400).

[5] A spool file is a temporary disk file used by an application to store data; generally used to save memory.

References

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

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