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CASE STUDY: THE ADOPTION OF ICT AND E-BUSINESS ALONG THE VALUE CHAIN OF SKI BOOTS PRODUCTION AT ATOMIC, AUSTRIA

Abstract

This case study describes the application of an SAP-based e-business solution at the footwear division of Atomic, one of the world's leading manufacturers of winter sports equipment. Atomic is based in Altenmarkt, in the Austrian state of Salzburg, and is part of the Amer Sports group. Since the late 1990s Atomic has been using a single SAP system to manage its internal management procedures, including supply-chain management and most of its distribution processes. The adoption of this solution and related management changes proved to be successful, as it contributed to increasing the efficiency of the company's overall management and production processes.

Case study fact sheet

■ Full name of the company:	Atomic Austria GmbH
■ Location (HQ / main branches):	Altenmarkt, Austria
■ Sector (main business activity):	Winter sports products – Nordic, Alpine and Snowboarding (skis, boots, helmets, bindings, poles and accessories)
■ Year of foundation:	1955
■ Turnover in last financial year:	214 million euros (net sales)
■ Employees	833 (end of 2005)
■ Primary customers:	Winter sports retailers
■ Most significant market area:	Europe (62%), North America (25%), Japan (11%), others (2%)
■ Focus of the case study:	e-business management system (electronic supply chain management and enterprise resource planning)
■ Key words:	SAP, e-sales, collaborative development, procurement, production, inventory

Background and objectives

Atomic and its parent company Amer Sports Corporation

Atomic Austria GmbH (henceforth Atomic) is one of the world's leading winter sports equipment manufacturers. This case study focuses on ICT and e-business activities related to Atomic's production and distribution of sports footwear.

Atomic is part of the *Amer Sports Corporation*, which is one of the world's leading sports equipment companies. In 2005, *Amer Sports* had 6,667 employees and its overall net sales were nearly 1.4 billion euros. The net sales of *Atomic* in 2005 stood at 214 million euros. *Atomic*'s most important markets are Europe (62%), North America (25%) and Japan (11%); the rest of the world constitutes 2% of its market share.

The origins of *Atomic*'s footwear division and the introduction of an e-business solution

The origins of *Atomic*'s footwear division date back to 1989 when *Atomic* – under its founder and former owner Alois Rohrmoser – acquired the Austrian company *Koflach*, a producer of alpine boots located in the Austrian state of Styria. In the period of 1993-1994, *Atomic* decided to completely restructure its boot production: while the parent company *Atomic* kept the brand of *Koflach* for the production of mountaineering boots (by giving licences to third parties), the production of ski boots was henceforth continued under the brand name *Atomic*. In the mid-1990s, *Atomic* experienced major financial difficulties, which culminated in 1994 with a file for bankruptcy. In the same year it was acquired by *Amer Sports* which, in order to improve the economic efficiency of *Atomic*, began restructuring of the production and business processes of *Atomic*, including the introduction of a SCM and an ERP. Along with improved tracking of all products along the production process, the introduction of such solutions resulted in a complete overhaul of an outdated management system that was only partly automated with limited functionality.

e-Business activities

e-Business solutions at *Atomic*

Since the late 1990s *Atomic* has been using a single SAP system to manage its internal management processes. This includes all steps from supply chain management to most of its distribution processes; only the development process and central inventory management in Altenmarkt are not managed by this system (for technical and financial reasons). The footwear section of *Atomic* is also integrated into this system.

Planning and implementation of the system

After *Atomic* had to file for bankruptcy in 1994 and *Amer Sports* had acquired the company an intensive evaluation process was initiated in order to revitalise the company and optimise its business processes. One outcome of the evaluation was that an SAP system would be beneficial for *Atomic* to a) optimise production processes, and b) improve the co-ordination between *Atomic* and its country offices. The planning and preparatory phases took one year; another six months were necessary to implement the whole system. The implementation included the migration and adaptation of data from the former *Koflach* IT system - which *Atomic* had decided not to continue - into the new system.

The new system was introduced in parallel with the take-over and the re-structuring of *Atomic* by *Amer Sports*. Therefore, a specific team was assigned to oversee all operations at *Atomic* during the restructuring process and the integration into *the Amer Sports* group, including planning and implementation of the new system, as well as the relevant training of *Atomic*'s staff.

After an initial successful pilot period of 2-3 years, *Amer Sports* decided to gradually adopt the system for managing the distribution of the other brands of the *Amer Sports* group, specifically *Suunto* and *Wilson*.

From the beginning, the new system has been centrally maintained by the IT department of *Amer Sports* which is located in Munich. *Atomic* itself has only a small IT department which is responsible for day-to-day management and maintenance of the system for the distribution of *Atomic* products - but not for procurement and production processes. These activities, along with the overall administration for *Atomic* and the other *Amer Sports* subsidiaries, are carried out centrally in Munich.

e-Business on the new system

The system at *Atomic* covers the following processes:

- a) Electronic transaction of orders from retailers via sales representatives
- b) Development of new product lines (MS Excel based, collaborative with suppliers)
- c) Procurement and third party (suppliers) management
- d) Inventory management (using a specific inventory management system)
- e) Delivery of finished products to retailers

a) Electronic sales

For sales and distribution of products *Atomic* has a network of sales representatives in most European states that take orders from their retailers, either electronically on laptops, or on a paper based ordering file system. All orders are then entered into the systems at the country offices, which are linked, to *Atomic's* central system. The result is a constantly updated central database of all orders, which allows *Atomic* to plan and co-ordinate the production, and later the distribution of products. In addition, sales representatives are able to track which products are in stock or follow the production and distribution status of their specific orders.

b) Collaborative development of new product lines

Based on these orders, the internal development team in Altenmarkt produces a bill of materials of the various products (i.e. lists of all parts of each footwear product). This is done on Excel basis. When the bills of materials are completed, the suppliers receive the technical specifications from *Atomic*. The actual development of the products, including prototyping, is done by the suppliers – but in close collaboration with *Atomic's* team of developers, from the very beginning the suppliers are integrated into the development process. The whole development and prototyping process is performed manually on MS Excel basis. Only when the development process is completed and serial production starts, the management and co-ordination process is moved to the SAP system.

The main reason for taking this approach was to save time as *Atomic's* development team is very small - there are only seven developers. Furthermore, the intense direct collaboration with suppliers allows the overlapping of development and production processes (the suppliers can begin production with certain components while the development process of other components continues). This helps to reduce the development time from between 24 and 36 months (in comparable companies) to only about 21 months per product at *Atomic*. This process also helps to reduce production costs: suppliers – which are required to reduce costs of components by 3% each year - can bring in their ideas of which materials could be used to achieve the required technical and quality criteria while at the same time keep the production costs as low as possible.

c) Procurement, production and third party management

From this point on, the planning and management processes are conducted via the SAP system. The next steps are e-procurement and the management of the production process: Based on the number of orders gained from sales representatives, the necessary materials for each product are ordered from the specific suppliers. The suppliers have to confirm the receipt of the order and they have to state when the relevant parts will be delivered.

Footwear suppliers are not connected directly to the system: from their perspective procurement is still paper based. However, the orders confirmed by suppliers are fed into the central system. And from here on, all orders are constantly managed and tracked. This situation is different at the ski production of *Atomic*: Here suppliers are indeed connected directly via internet with the *Atomic* system. This specific situation goes back to a past initiative where all suppliers were required to keep a steady inventory of components at the central depot of *Atomic* at all times (even if there were no orders). Although this system was later cancelled because suppliers did not support it, the direct internet connection between suppliers and *Atomic* was kept. In its footwear sector, *Atomic* decided not to use this system because, unlike in ski production where there are only a few suppliers, in the footwear production there are a variety of small suppliers, which would make such a direct connection difficult to establish and maintain.

When the production of the different boot components is completed, the suppliers have to send these directly to Bulgaria for assembling. For this reason the Bulgarian partner is also connected to *Atomic*'s system. After assembling, the final products are registered, then the products are transported to *Atomic*'s central repository in Altenmarkt from where they are distributed to retailers all over the world.

d) Inventory management in the central repository

For the administration of the central repository, a separate electronic inventory system is used. Although the system is independent from the overall system, all transactions that have been made in one system are automatically updated on the other. As a result, both systems are constantly synchronised.

The reason why *Atomic* decided not to use the main system for its central inventory management was mainly because *Atomic* deliberately chose to acquire a relatively non-customised SAP system. For central stock-keeping, however, a customised solution was needed: *Atomic*'s main SAP system, for instance, would track how many items were in the central repository – but could not identify where exactly within the repository a specific item was located. Another issue was that, due to technical and security reasons, the use of a complex semi-automatic inventory system with a high level of manual interaction was required instead of a fully automatic system. Finally, high costs associated with adopting SAP in stock-keeping were another disincentive.

However, although *Atomic* uses two different systems, the interoperation between them is smooth and without major problems to date.

e) Delivery of the final products

Based on the initial order for products, the finished boots are then distributed to retailers. Distribution of products is documented via the SAP system: products leaving the repository in Altenmarkt have to be registered, while retailers have to confirm the receipt of products, which is again registered in the central system.

Future changes resulting from the acquisition of *Salomon* by *Amer Sports*

In 2005, the *Amer Sports* group acquired *Salomon*, a leading producer of mainly outdoor sports products – including footwear - from Adidas AG. As the assembling of boots for Alpine skiing from *Atomic* and *Salomon* will be merged, *Atomic* will have to move its boot assembling processes from Bulgaria to Romania (where *Salomon* is currently assembling its products) in the coming years. The other major change is that in the future *Atomic* and *Salomon* will jointly choose suppliers, which will streamline parallel processes and strengthen the bargaining position of both companies against potential suppliers.

The supply chain management process of *Atomic*, however, will not be changed. On the contrary, *Amer Sports* is considering adopting the supply chain management system of *Atomic*. However, *Salomon* is reluctant to do so because it maintains a much larger development team which conducts the entire development process (including the development of prototypes) in-house using simulation techniques, without direct collaboration with its suppliers.

Impact

The adoption of the SAP system and its related management changes mainly contributed to increasing the efficiency of the company's overall management and production processes which, in effect, helped to improve the economic performance of *Atomic* - from very little or no profit before the electronic system was introduced, to current annual profit margins between 10% and 20%. The footwear division in particular enjoyed considerable growth rates which can partly be explained by more effective management processes (as was shown above, the footwear division is one of the fastest growing sectors of *Atomic*).

However, the excellent economic performance of *Atomic* can also be explained by the high level of productivity of *Atomic*'s workforce as well as the introduction of flexible working hours in 1998 (from 32 to 48 hours per week), which was necessary because of the seasonality of this industry sector (in summer, production is peaking, while in winter production is much lower). This has allowed the company to reduce costs for overtime work while at the same time to react more flexible to peak demand before the beginning of the next winter season.

Lessons learned

When the new system was introduced most of the *Atomic* staff members who had to work with it complained because it seemed too complex and adding unnecessary administrative overhead. "Why do we need this?" people often asked. In fact, convincing its staff that the system was necessary proved to be more difficult for the company than was initially assumed. In retrospect, there should have been a stronger effort to make the personnel aware of the benefits of the system when it was initially introduced.

But overall, the introduction of the new system proved to be very successful. Nevertheless, there is still need for further improvements, especially as some operations are very complex and time-intensive. For example, if a new bill of materials is created that is very similar to an older, already existing one, with only one component different, it is not possible to use a simple copy-and-paste command to add the new element to the existing bill of materials; instead, a complicated operation has to be made to create a completely new bill of materials. However, this and similar other smaller problems are being constantly worked on and functionalities are being improved by the central IT department in Munich.

The heavy workload of this department is mainly due to the current integration of various subsidiaries of the *Amer Sports* group into the new system: in recent years, for example, *Atomic* USA and Switzerland were integrated, as were *Suunto* and *Wilson*. This situation, however, should improve in the future once the integration process is completed

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