

Installation of a Warehouse Management System in Tupperware Germany

Tupperware parties are all about direct selling, sharing household tips and, of course, a steady supply of those world-famous 'wonder bowls'. Efficient warehouse management is a vital part of this. Enter interBiz the eBusiness Applications Division of Computer Associates (CA) with Warehouse BOSS. The Warehouse BOSS warehouse management system has helped bring about a spectacular increase in productivity at Tupperware GmbH's central warehouse in Messel, in the German state of Hessen. The warehouse's throughput rate is now 25 percent higher than before the arrival of Warehouse BOSS. And despite Tupperware's highly specialised requirements, it was fairly easy to tailor CA's warehouse management system for a perfect fit.

Founded in the USA by chemist and inventor Earl S. Tupper, the Tupperware corporation first launched its revolutionary polyethylene 'wonder bowls' onto the market some fifty years ago. Today the company has a highly successful sales concept - and customer relations are at the heart of it. In Germany, the company has a distribution network of more than 60,000 consultants, managed by 170 independent local sales agents. Every week, forwarding agents pick up the orders from the central warehouse in Messel (on the outskirts of Frankfurt) and deliver them to the local agents, who in turn distribute the products to the consultants. This system of selling via home presentations works so well that, comparatively speaking, the German subsidiary's sales are keeping pace with those of the parent company in the USA. At an international level, the Tupperware Corporation recorded sales for 1999 of more than one billion US dollars.

The warehouse in Messel really has its work cut out, especially when the company uses promotional products to stimulate new interest in its target market. Tupperware GmbH's central warehouse in Messel has 14,000 square meters of storage space and houses 8000 different Tupperware articles. About a third of this floor space is taken up by row upon row of highbay racking, storing all manner of replacement components and Tupperware products in pallets. The other two thirds of this storage space houses the bulk storage area, where pallets can be stacked up to six metres high. A staff of about 35 employees fills and dispatches 20,000 orders a week. Fresh supplies are constantly rolling in from two production plants, one in Tours, France, and the other in Aalst, Belgium. All the production scheduling and ordering is done from Messel. Wanted: Customised Stock Management System, Jörg Seyffarth the logistic manager at the Tupperware Deutschland GmbH's head office in Frankfurt commented: "We want our local agents to have plenty of time for their consultants and spend as little time as possible dealing with logistics." He was explaining why, by the end of the 1990s, management was no longer satisfied with the 'labour-intensive' set-up of its warehousing operation. The stock management system then in use in Frankfurt fell short of providing efficient warehouse management. Like so many ERP systems, it was limited in scope to business functions; the rigorous and optimised planning and control of warehouse processes - such as grouping and ordering stock in storage

according to turnover frequency or product dimension - were simply not in the system's repertoire. Thus, before a proper warehouse management system was introduced, stocks were allocated fixed storage locations according to item number, and the work scheduling manager tended to go by his own experience in drawing up the stock-retrieval schedule. The stock pickers would then simply work their way through the list. Seyffarth explains: "This inflexible system of storage by item number lead to storage shuffling and turned many an order-picking exercise into a search party - especially where untrained seasonal workers were involved. Every so often mistakes would be made which sooner or later would lead to complaints."

Rule-based system and radio data transmission tip the scales

interBiz's Warehouse BOSS software was chosen above other systems to manage their warehouse. The deciding factor was the system's unrivalled functionality, i.e. it permits the formulation of rules specific to the particular organisation and layout of any company's warehousing operation, while at the same time allowing users total freedom and flexibility to modify these rules as necessary. Seyffarth in explaining the company's choice said: "With this system's capacity for flexible parameterisation we would be able to make online changes without tying up IT resources. The fact that the system supports radio data transmission and barcodes was also a factor in the decision, as was the its variable check digit function, which permits the logistics team to control and monitor the entire warehousing process. "Warehouse BOSS was the only software solution we knew of that featured completely random-generated check digits."

Formulating the rule set in practice required a fair amount of planning, but in retrospect it has more than paid off. Put simply, it is possible to define several thousand rules in the Warehouse BOSS system. Each set applies to a different product area and specifies a range of procedures for putting materials into stock and retrieving them. For example, whenever something needs to be put into stock, the system works sequentially through the rules and finds the optimal location in the warehouse for storing the goods in question. In addition, this part of the structure can be modified or suspended at any time and with a minimum of fuss.

At the warehouse in Messel there are now some 20 rule sets - incorporating some two dozen individual rules - and these are what keep warehouse operations running smoothly.

Complaints reduced to a minimum no training phase required

Once the system was running the pilot project in the replacement parts warehouse, the implementation team proceeded to phases two and three of the project, encompassing the printed materials storage area and the primary product storage area, with its stock of 8,000 product lines. And the results speak for themselves. Seyffarth explained: "We couldn't be happier - especially with the excellent partnership and teamwork shown by interBiz. The throughput rate in our Messel warehouse is now 25 percent higher than it was, and we've noticed a definite drop-off in the number of complaints. And thanks to the

new warehouse management system, Tupperware spends less time having to train its seasonal workers.

"The system is transparent and logical and can be easily mastered by the uninitiated and inexperienced. The Tupperware team is also very pleased to have met its objective of implementing the new system with a minimum amount of modifications to the software."

The new system's rule-based parameterisability, the selection criterion which at the outset of the project had weighed so heavily in favor of Warehouse BOSS, has well and truly delivered on its promise. Seyffarth now regards this feature as a success factor in the project. "A huge advantage of Warehouse BOSS is that you can define its rules to map practically anything. That makes the software supremely flexible!" he said. Thus, for example, a programmed rule ensures that fast-turnaround products are automatically moved to storage locations that enable greater cost-efficiency of access. And there's another rule that saves time by organizing order picking in a highly customised way. Say, for example, there is an order for 14 pallets of plastic lunchboxes. Instead of retrieving each of the 14 pallets individually from stock, the order picker simply uses a forklift to pick a 12-pallet block from the bulk storage area and then makes up the 14 with two pallets from the high-rack storage area. Ultimately this means less time spent replacing stock in the rack area.

Barcode-radio transmission combination makes online stock control transparent

The project team are currently preparing for paperless order-picking, the 'icing on the warehouse management cake'. Based on Warehouse BOSS Version 6.0, the Messel warehouse will soon have scanners that can transmit barcodes by radio to the system.

This barcode-radio transmission combination will make online stock control transparent, and will ensure that requests for orders of new stock will be triggered even earlier than at the current rate. The barcode scanner hardware has already been chosen, and, what's more, the implementation team already knows how warehouse staff will be able to log into the system without the need for entering complex number codes. Messel will use chips that carry staff data encrypted as barcodes.

Seyffarth explains: "It all means that our central warehouse is fully geared to cope with a changing market that is constantly demanding greater speed and higher customer service levels."

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