

SaaS ERP System With Oracle at Farwest Steel Corporation: A Case Study

PERSPECTIVE #MIVC52R
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IN THIS PERSPECTIVE

This case study comes from face-to-face interviews with IT managers of Farwest Steel Corporation, a midsize processor, fabricator, and distributor of carbon steel products based in Oregon, the United States.

The initial impetus for investing in a new ERP platform was merely a need to replace an aging self-developed bespoke solution running on a mainframe system that was past its prime. However, Farwest's management soon decided that a key to enabling their market strategy was a modern ERP architecture that could help them streamline their processes and respond faster to customer needs, thus providing high levels of service while containing process costs.

The company has developed a customized extension of Oracle e-Business Suite that allows for quoting and subsequent ordering highly specified and customized steel products. The main benefits of the system include improved order-to-delivery, inventory visibility, and cost tracking.

Manufacturing Insights wrote this report on behalf of the European Commission's Sectoral eBusiness Watch (SeBW). This initiative studies the impact of ICT and ebusiness on enterprises, industries, and the economy in general. It highlights barriers for a wider or faster uptake of ICT and identifies public policy challenges arising from these developments. In this way, the SeBW supports the work of the European Commission's Enterprise and Industry Directorate General in the field of ICT, along with the involvement of leading service and consultancy providers.

Background and Objectives

The Farwest Steel Corporation (<http://www.farweststeel.com>) is a midsize processor, fabricator, and distributor of carbon steel products, with around 750 employees. The company is headquartered in Eugene, Oregon, in the Pacific Northwest of the United States, and has major facilities in Medford and Portland (Oregon), Renton (Washington), and Boise (Idaho).

The company provides a full line of carbon steel products of various grades and sizes as well as reinforcement bars to construction and manufacturing companies, primarily located in the Western U.S. region.

Farwest focuses on its advanced steel processing capabilities, on the quality of its products, and on the value-added services it can provide to its customers. These include flame cutting, plasma cutting and punching, saw cutting, and shearing, as well as in-house steel fabrication facilities and steel distribution capabilities. Farwest competes with bulk steel suppliers worldwide, including those from low-cost regions such as China and Eastern Europe. The company seeks to maintain its market share by continuing to provide high levels of service and fend off the price cutting of low-cost competitors.

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eBusiness Activities

Identifying Key Challenges: Unique Requests and Valued-Added Services

Following the management decision to turn to ICT as a source of competitive advantage, Farwest started to develop its ebusiness strategy by identifying key business challenges. The company prioritized to find solutions for the attribute intensive nature of steel products that makes ordering from customers a real challenge. The various steel grades, dimensional options, and value-added services provided by the company create a multitude of different product variants that a customer can purchase. The ability to quickly satisfy unique product requests and to provide value-added services determine the company's differentiation from competitors and its profitability. Thus it was crucial for Farwest to capture customers' requirements accurately and then to execute the related production processes properly. Moreover, Farwest's key competitors were already using Web-based tools to make buying easier to their customers and Farwest had to keep up with such innovations.

Selection Criteria for the Solution: Steel Industry Experience and SaaS

Farwest evaluated a number of software options that included industry-specific applications as well as cross-industry applications from large ERP vendors. The company selected Oracle Corporation's E-Business Suite for the following main reasons:

- Oracle demonstrated specific experience in the steel industry and incorporated generally accepted industry practices in its E-Business Suite products.
- The availability of an open and extensible architecture based on Oracle's software-as-a-service (SaaS): SaaS means that, instead of running the application on a server located at Farwest's facilities, Oracle provides the hosting and associated management at a remote location. Farwest connects its facilities to Oracle through the Internet, based on an enterprise-specific standard network protocol called Multi-Protocol Label Switching (MPLS). This protocol is designed to manage critical ebusiness applications that run on remote servers and that need to be correctly prioritized with respect to other non-critical applications (e.g., email).

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Implementation Stages: Modernization and Extension

The company developed a long-term plan for implementing an ebusiness platform strategy that involved two major stages:

- A modernization stage with the objective to replace the old self-developed bespoke software and the outdated mainframe technology with an up-to-date system.
- An extension stage with the objective to obtain competitive advantage through providing higher levels of customer service and faster decision-making processes, enabled by improved collaboration capabilities with suppliers and customers.

In the autumn of 2005 the company started implementing the modernization stage with Oracle's E-Business Suite. The project included modules for finance, sales orders, procurement, and process manufacturing which integrated production management, cost accounting, and inventory control. At present, the first phase of the project has been completed and the system is running successfully.

The second stage for Farwest's ebusiness platform strategy, the extension stage, is currently ongoing and is aimed at the following:

- Implementing additional modules to support process execution, such as collaboration with suppliers, advanced warehouse management, deeper customer relationship management, and sales force tracking.

- Extending the company's business processes beyond its walls, by implementing collaborative processes with trading partners, directly connected to Farwest's ebusiness platform.
- Leveraging the capabilities of the new ebusiness solution, especially in terms of faster retrieval of up-to-date and consistent company data.

The second phase is expected to be completed by 2009, although incremental benefits will already be realized in the course of the implementation.

Implementation Approach: Seeking to Prevent Customized Extensions

At the outset, Farwest decided that it had to be open to changing its business processes as much as possible to match the industry best practices that Oracle delivered with its applications. By leaving customization to the minimum, Farwest could implement the system faster and avoid the expense of maintaining custom code, especially when future upgrades to the system were applied.

However, during the implementation phase a need to build a few customized extensions became clear. They were necessary to support especially order price quoting, as the standard order management functionality was not sufficient to accommodate the attribute intensive nature of steel products and the different units of measurement used. Farwest engaged the consulting firm Cognizant to support Oracle's E-Business Suite implementation and to develop the custom application. The company directly involved Oracle to support user training and software installation. From a technical perspective, the chosen customized extension was a Web-based application written in Java.

Impact

Benefits: Improved Order-to-Delivery, Inventory Visibility, and Cost Tracking

Although the impact of the new system has not yet been quantified, the company believes the system has considerably improved its performance. Among the many advantages, the company specifically mentioned:

- Improvements in order-to-delivery processes via a holistic view of technical and commercial data linked to customers' orders.
- More accurate inventory visibility that ensures a full synchronization of different functions and processes that require inventory management activities.
- Better tracking of costs, through the automatic identification of cost elements associated with any internal activity or purchase.

Some more specific benefits from the ERP system are explained in the following.

Reducing Inventory Levels and Optimizing Production Capacity Use

The operational processes — including customer order management, production management, shipping, and procurement — became more automated and consistent. The implemented packaged software provided an integrated approach to business processes and company data which was a big step away from the segmented and disconnected nature of the previous system. Today, with the implementation of the custom order management extension, the product variants ordered by the customers are clearly identified and associated to a unique serial order number, which enables full control over the order-to-delivery process. This is particularly important during the production phase as operators can easily check customer order data and verify the exact product variants to manufacture, such as the technological specifications of the casting. Thus, the firm now has a full overview of the customer order fulfillment status across the whole order-to-delivery process. Considering the great number of customer orders and product variants, this enabled Farwest to substantially reduce inventory levels while optimizing the utilization of its production capacities.

SaaS Benefits: Anytime Systems Availability and IT Service Outsourcing

The new solution's software-as-a-service architecture helped the company improve IT system support. The old mainframe system was only up 12 hours a day because operators were not available all day. The new system is available anytime via the hosted delivery model. Anytime systems availability better aligns with the company's operations, as it runs multiple shifts in the warehouses, and it accommodates the need to manage unforeseen and urgent customer requests out of normal working hours.

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Another big impact has been identified in the IT organization: with the SaaS architecture, the company has been able to shift part of the IT costs from fixed to variable. The activities connected to operating the datacenter — for example, IT infrastructure such as servers, data storage, networking — and database administration were moved from internal to external staff. Moreover, external experienced staff could help company employees optimize IT processes and improve the usage of IT tools to receive more timely information, better aligned with business needs.

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Quicker Access to Data and Consistent Data

Another important improvement was the provision of highly reliable and secure data that users can easily and quickly retrieve. With the old system, some company data existed only on paper or was stored on isolated software, such as personal Microsoft Excel sheets, not accessible by other users. Further information was stored in the bespoke system that lacked tools for fast and simple data retrieval. Therefore, the legacy system was heavily hampering the possibility of the company to take fast decisions. The implementation of the new packaged solution allowed for a significant reduction of "information islands," which were bound together by the new system.

Lessons Learned

Favor Internal Process Changes Over Customizing the Software

The most important lesson that can be learned from Farwest was to favor changing internal processes over customizing the software. With the previous bespoke system, Farwest had done the opposite — with negative consequences, mainly regarding overall implementation time, maintenance costs, and upgrade toughness. Farwest users and IT personnel felt that the upfront management decision to be disciplined about process change was central to their successful and timely implementation. Nonetheless, the gaps between existing processes and the software should be scrutinized and a high standard should be set for justifying a software change. There are many difficulties and risks a firm may encounter in customizing a system as complicated as one for ERP.

Considerable Change Management Requirements

A further lesson to be learned from Farwest is not to underestimate the change management involved in an IT system upgrade like the one undertaken. The company experienced an initial overall diffidence from many employees in launching the ebusiness strategy, mainly because they feared that the implementation of the new system would lead to massive organizational change. Moreover, acceptance of the implemented system was a challenge, in particular for the shopfloor employees. They had a lack of confidence in the system, in most cases due to their computer inexperience.

The company explained this by way of people's natural aversion to change. Therefore one of the major lessons learned is that change management should be an integral part of the ebusiness strategy encompassing every level of employees. Farwest solved this challenge by launching a series of training programs focused not simply on how to use the system, but on the advantages offered by the new system in day-to-day activities. In this way the company was able to improve employees' confidence in the system.

Importance of Software Rollout Preparation

Last but not least, company personnel stated that if they had to do it all over again they would have spent more time blueprinting business processes in preparation for the software solution rollout. In particular, the need to implement a partial customization of the software to get a more adequate order management solution was neither perceived nor planned initially, hence causing some implementation delays and extra project costs.

Therefore, company personnel felt the actual implementation would have gone faster and with fewer resources if they had done blueprinting more effectively.

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