

Creating Value Through Technology Solutions

BTRC

Business Technology Research Center

www.btrconline.com

**How the Web Can
Change Your Business**

White Paper

October, 2002

D. Sommer

Solutions Center of Excellence

Table of Contents

Table of Contents	2
Overview	3
Supply Chain Optimization.....	4
Real Time Decision Making	5

Overview

It is now somewhat a cliché to say that “the Web changes everything.” But this claim is particularly true when it comes to building systems that supply information to business users for corporate decision making. The Web is truly a valuable source of business information. Information stored on Web servers on the public Internet are a potential data source for a data warehouse, or at least can be accessed from an Information Portal.

Furthermore, as corporations begin using Internet commerce sites as sales and marketing channels, the associated business-to-consumer e-commerce systems become an additional source of information for business intelligence processing. The source data here may be stored in conventional database and file systems, but may also come from Web server logs or even the Web clickstream as users interact with e-commerce applications. Thus, business intelligence systems not only need to be able to extract new types of data, but also handle the potentially huge data volumes involved.

Using the Internet as a sales channel offers significant benefits; for example, products can be brought to market much faster and at a much lower cost. Selling through the Internet, however, is very competitive, and your organization must be able to react rapidly to consumer requirements and changing marketplace conditions. Three key success factors are involved:

1. You must optimize your product supply chain to match consumer demand
2. Your business users have to make business decisions more rapidly, possibly in real time
3. Service and support are key differentiators and because of the high rate of technology change, your Strategic Framework must have an open, scalable infrastructure.

Supply Chain Optimization

The challenge in any consumer environment is to satisfy customer demand without incurring the costs of oversupply (excess inventory). If your organization is typical, it has been using business intelligence systems and their associated data warehouses for years to analyze sales data and optimize product supply and inventory. You can apply these techniques equally well when selling products through Internet commerce servers. One obvious advantage of the Internet is that it consists of a single virtual storefront, which is easier to manage and supply than multiple physical stores.

The low entry cost of employing the Internet as a sales and marketing channel, however, is creating a more competitive environment and forcing retail prices down. This price pressure in turn forces companies to fine tune their profit margins and product supply chains. One way to rapidly and efficiently do so is to let your business users and external trading partners tap the internal closed loop information supply chain described here. With this approach, your company can share business information and work cooperatively to reduce costs and optimize profit margins.

The simplest approach to supplying business information to trading partner end users is via an Information Portal. With an Information Portal, you can customize, personalize, and control the information flowing among trading organizations across corporate extranets, or even the Internet. An Information Portal is also useful for controlling information flow between customers in non-retail situations. An insurance company could, for example, let key clients view and analyze claims history information via an Information Portal, and then, if appropriate, use the Information Portal to switch from the business intelligence environment to the e-commerce environment to modify insurance coverage.

Real Time Decision Making

As discussed earlier, closing the loop between business intelligence and operational systems has traditionally been done manually using collaborative processing documents. However, in the e-commerce environment, a manual approach to decision making can be inadequate, in which case a more dynamic and automated process is required. One example here is that you may want to dynamically control the Web pages displayed to potential e-commerce customers. The decisions in this situation could be based on parameters such as the buying power of each customer and the types of products in which they may be interested. Another example is where the customer expects an immediate decision when using the e-commerce application. This situation could occur, for example, when a customer applies for a new credit card or requests a credit upgrade. The competitive nature of the Internet requires companies to react immediately to such requests or risk losing the customer to a competitor.

This need to make rapid decisions leads to the notion that our business intelligence systems must operate in real time. This real time requirement, however, has several “flavors.” Returning to the credit card example, let’s assume that a customer requests an upgrade to a platinum credit card, he or she has been with the financial institution for one year, and that the decision to upgrade the customer is based on a three-year return on investment (ROI). To make this decision, the e-commerce application will need to determine the existing one-year ROI of the customer, and predict, based on the customer’s profile, the likely remaining two-year ROI. To do so, the e-commerce layer will need to do two things:

- Access data warehouse summarized data in real time to retrieve the one-year ROI for the customer, calculate in real time the one-year ROI from detailed warehouse data, or extract in real time the required data from operational systems
- Profile the customer and run a business model that predicts a two-year ROI in real time for a customer with that profile. In some cases, the business model itself and its associated business rules may have to be built or modified in real time.

This example may be extreme, but it demonstrates several aspects of real time processing, including the need to make decisions, access and analyze data warehouse information, extract data from operational and e-commerce systems, and build business models and rules in real time. Real time processing can also involve getting data from external systems, to obtain marketing or customer data from an external information provider, for example. Additional requirements for a business intelligence layer is to support real time decision making in e-commerce operations, including support for dynamic business models and rules and demand driven data acquisition and analysis.

To summarize, the manual approach to corporate decision making involves business users employing the business intelligence layer to manually analyze business information, and then manually feeding business decisions back to the operational and e-commerce environments using a collaborative processing system or Information Portal. The real time approach to corporate decision making involves an event driven e-commerce or analytic application that analyzes business information and makes automated business decisions in real time. There are, however, other options between these two extremes. A possible middle-of-the road approach could be supported by an analytic application that detects a certain business event (a sudden change in stock values, for example) and then employs a business model and associated business rules to automatically analyze business information, and alert and make recommendations to business users about potential business actions.

