Technical White Paper

Introducing E-Business Intelligence™

▸ *Increased Competitive Advantage Through the Combination of E-Business and Business Intelligence Tools*

BUSINESS OBJECTS®

Contents

Introduction

This white paper examines the consequences and opportunities that arise from the convergence of two major technologies:

- Business intelligence tools – technology that allows decision makers in an organization to access, analyze, and share corporate information.
- E-business applications – using the internet as the basis for interacting with customers, suppliers, and other business partners.

These two technologies combine to form "e-business intelligence" applications, that let the customers, suppliers, and partners of an organization access and analyze information stored in its corporate databases.

E-business intelligence applications leverage existing information assets in new ways, enabling organizations to turn their data warehouses into profit centers by simultaneously increasing customer satisfaction, cutting support costs, and providing more competitive differentiation.

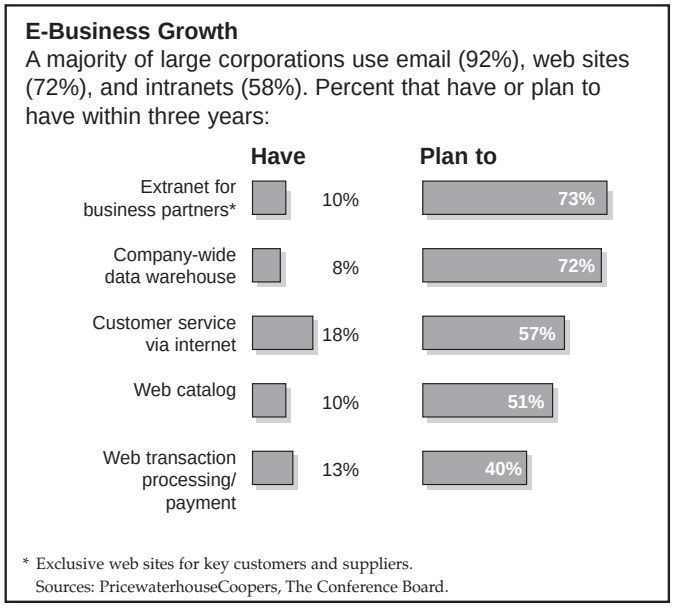
This paper describes some practical, real-life examples of e-business intelligence applications and their role in the overall e-business plans of the organization.

E-Business Applications

E-business has been experiencing explosive growth. Forrester Research has estimated that $17 billion of transactions were conducted over the internet in 1998. This figure is expected to grow to $1.3 trillion by 2003 – equivalent to 9% of all US business trade and more than gross domestic product of either the United Kingdom or Italy.

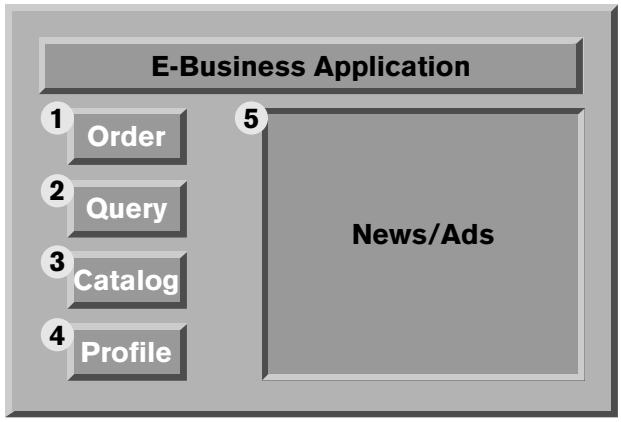
In June 1998, PricewaterhouseCoopers, in collaboration with the Conference Board, conducted a survey on e-business practices. The goal of this survey was to examine the attitudes and plans of leading corporations using e-business as an avenue to commercial success. This survey predicts that within the next three years the major growth areas are extranets for business partners, company-wide data warehouses, customer service via the internet, web catalogs, and web-based transactions.

■ *Figure 1 Organizations plan rapid growth in e-business intelligence applications.*



The survey raises an important and interesting point – that while web-based transactions account for most of the media attention in e-business, this area is only fifth in terms of organizations' future plans. Greater growth is expected in the first four areas, all of which can be described as e-business intelligence applications, since they involve the supply of information to internal and external customers over the web.

To illustrate this point, let's consider a "generic" e-business application of a fictitious company called "eFashion," a retail clothing manufacturer.



■ *Figure 2*
A generic e-business application, showing the features of an e-business intelligence application.

Let's take a look at how these features might be used:

1 Order
- The "order" button on the e-business application lets eFashion customers place orders via the internet.

2 Query
- Once customers have carried out a series of purchases, the "query" button allows them to examine their transaction history and purchasing patterns.

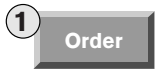
3 Catalog
- The "catalog" button lets customers specify product features or attributes as search criteria for the products they wish to order.

4 Profile
- The "profile" button allows eFashion customers to set their online preferences. This information is used in conjunction with transaction and site navigation information for marketing and targeting purposes.

5 News/Ads
- This area serves up information and banner ads to customers based on their profiles.

Now that we've considered a basic example, let's look at each of the different features of this theoretical e-business application separately, using real-life examples. Note that these different areas do not necessarily have to be implemented in a single application – they can be implemented in stages, or as stand-alone applications in their own right.

► Transactions Over the Web



The "order" button enables customers to place a sales order over the internet. These transactions populate an operational database, which is then typically summarized and rolled up to a data warehouse on a daily or weekly basis. Historically, the contents of the data warehouse and transaction system have been available only for internal reporting purposes, and used primarily by sales analysts, financial controllers, and marketing staff.

In our simple eFashion example, there would be a limited number of such transactions for any individual customer. With business-to-business commerce in the real world, however, the number of individual transactions may be large, with a complex set of different items being ordered.

► Inquiring Online About Transaction History

Once customers have a history of transactions, they typically want to be able to list and analyze these transactions. Today, this information is usually provided in the form of paper reports delivered through the mail – for example, the credit card report you receive each month. There are considerable cost and efficiency savings associated with replacing these paper reports with online access to the information – and this remains true even if the original transactions themselves were not carried out over the internet. Indeed, for companies looking to expand their e-business presence and provide better customer service, this area can be easier to implement and give a greater immediate return on investment than converting existing systems to allow the purchases themselves over the web.

Companies that deploy these types of e-business applications for their customers often drive down their support costs since it is no longer necessary to maintain a large customer service organization to respond to customer information requests. Every time a customer can get support through the web, the cost is tiny compared to a voice response unit or a member of the support staff. According to a recent study carried out by IBM, the cost of a typical customer service transaction is $5 for a live call agent, $0.50 for a voice response unit, and a few cents on the web.

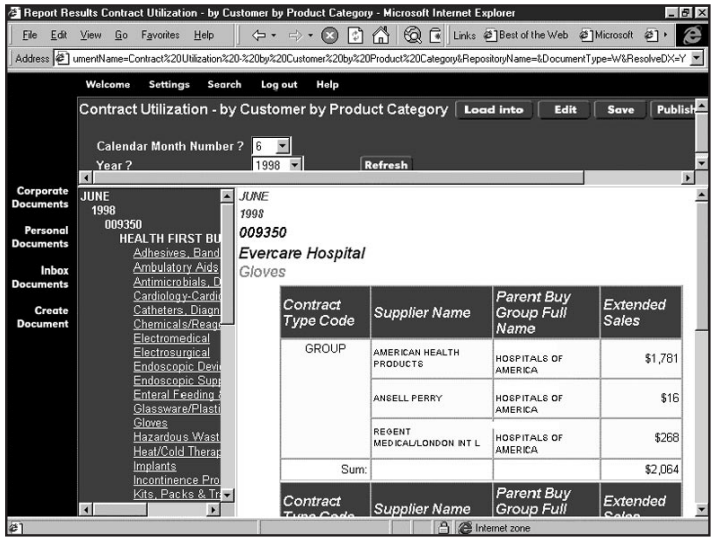
Customers often prefer the autonomy and flexibility of building their own reports to suit their own needs, rather than submitting standard requests to customer service representatives that may require days or weeks for a response. And by the time the report is made available, it may be in a form that is either not useable, was not exactly as expected, or is no longer relevant since the decision it was intended to support has passed.

Query based e-business applications have self-service benefits for both organizations and their customers. Let's take a look at some real-life examples.

The Health Care Industry: Owens & Minor

Owens & Minor is a $3.1 billion distributor of medical supplies. The company distributes over 130,000 different products from 1,400 suppliers – everything from band-aids to needles and syringes to medical gowns – to over 4,000 hospitals and clinics. They have implemented an application called WISDOM, based on the WEBINTELLIGENCE™ product from Business Objects, that gives hospitals online access to the Owens & Minor data warehouse via the web.

For the first time, hospital customers have a global view of their purchases. This helps Owens & Minor standardize on fewer products and consolidate the number of suppliers – which in turn leads to larger discounts, directly improving their bottom line. The application has been so successful that one hospital recently cited it as the primary reason for giving Owens & Minor an additional $44 million worth of business.



■ *Figure 3*
Owens & Minor's WISDOM application gives hospitals a global view of their medical equipment purchases and has generated over $120 million of new business for the company.

Seeing such positive customer reaction has encouraged Owens & Minor to aggressively promote the application to new customers, generating a total of around $120 million of new business this year. In addition, having fewer suppliers and products has allowed them to streamline their business, reducing product, inventory, and distribution costs.

The medical suppliers that have been retained have also benefited, since the increased discounts have more than been made up for by the increased volumes of sales.

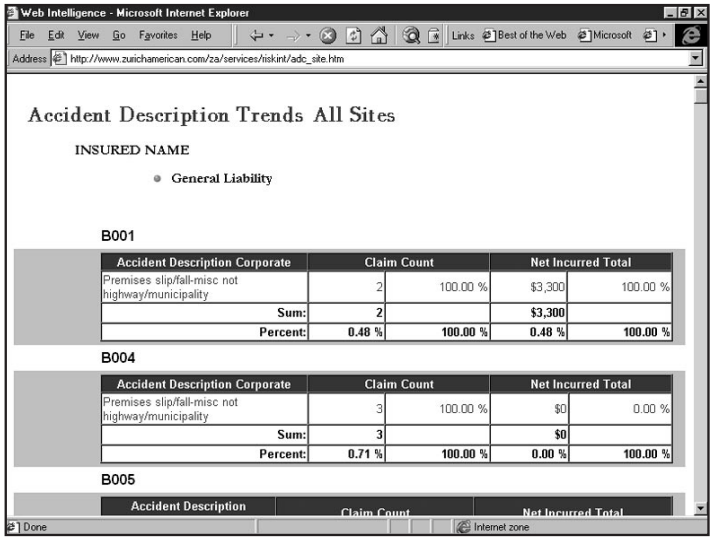
There are also plans to make the application directly self-financing. Owens & Minor is investigating the possibility of becoming an InfoVAR (information value-added reseller) i.e., an organization that collects information, adds value to this information through aggregation or transformation, and resells it to others. Owens & Minor plans to sell some of the data warehouse information about hospital purchases to medical suppliers, who typically do not have access to this information, so that suppliers can better target and segment their markets.

So overall, through the more efficient use of information, the application has been a win for all of the players involved – for Owens & Minor, its customers, and its suppliers – and may even become a profit center in the future.

The WISDOM web site is at www.owens-minor.com. Click on "OM Online" for a virtual tour of the WISDOM application.

The Insurance Industry: Zurich-American Insurance

Zurich-American Insurance is a $2.6 billion provider of insurance based in Chicago, Illinois. They provide property and casualty insurance for large, Fortune 500 customers, often with multi-million dollar insurance premiums.



■ *Figure 4 Zurich-American Insurance's RiskIntelligence application enables its customers to analyze accident trends and change business practices in order to reduce claims and lower insurance premiums.*

In order to keep tight control over these substantial premiums, Zurich-American's customers employ "risk managers" that look after all aspects of insurance coverage, from ensuring that claims get processed through to controlling the overall risk exposure of the company.

Zurich-American uses financial incentives to persuade customers to reduce the number of accidents and insurance claims they make. At the end of each period, if a customer has made fewer claims than predicted by the Zurich actuaries (statisticians responsible for determining fair premiums), they are refunded two-thirds of the difference, usually a sum of several millions of dollars.

Zurich-American customers are thus very keen to have as much information about claims as possible, in order to analyze any accident trends and change business practices in order to eliminate these trends.

Up until recently, Zurich-American provided this information in the form of paper-based reports, but these reports would typically arrive several months after the accidents occurred, allowing accident trends to continue unchecked long after the data was initially available.

In response to customer demand, Zurich-American has implemented an application called "RiskIntelligence," based on WEBINTELLIGENCE. RiskIntelligence replaces the existing paper-based reporting system and gives Zurich-American customers instant, live access to claims data over the web. This has resulted in direct benefits for both Zurich-American and its customers.

Customers benefit from better analysis of accident trends, and hence better premiums, while Zurich-American has achieved cost savings of between $500 thousand and $1 million through the elimination of paper-based reports, as well as increased customer satisfaction. In addition, the RiskIntelligence application has been a major factor in signing up new customers, and this has contributed directly to top-line revenue.

By providing information online over the web, the RiskIntelligence application has meant more efficient use of claims information, lower premiums for customers, and higher profits for Zurich-American Insurance.

The RiskIntelligence web site is at www.zurichamerican.com. Click on "customer services" and then on "RiskIntelligence" to see the web-enabled claims information tool and template reports.

Information Sales: Care Management Systems

In the case of InfoVARS, the "query" button of the e-business application becomes the transaction itself. Let's take a look at a concrete example of this. In the healthcare industry, information is an important tool in the fight to continued care improvements while at the same time lowering costs. Care Management Sciences (CMS) is a healthcare information systems vendor that provides software systems and educational services to healthcare professionals and physicians to analyze and identify ways to improve clinical outcome and care process. Executives, managers, and healthcare professionals can use CMS applications to obtain a better understanding of their costs and identify areas where they could improve care. These professionals can then make recommendations to physicians for changing clinical treatments, and to administrators for budget planning.

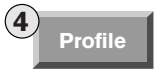
Historically, CMS had supported several hundred physicians across several healthcare practices. As patients reported illnesses, the physicians prescribed treatments and the patient's progress was tracked – generating huge volumes of clinical outcome data. CMS decided to make the most of this opportunity and began to compile the information with a view to aggregating the information and selling it to HMOs and other healthcare providers. CMS developed CADUCIS Manager, a WEBINTELLIGENCE-powered application that allows healthcare professionals to directly access and drill down on this information via the internet. For example, using CADUCIS Manager Query, a physician treating a patient with congestive heart failure can identify situations where inappropriate fluid treatments actually worsen the patient's condition rather than improve it. The physician can then alter their fluid treatment care and improve the health of their patient.

► Searching for the Right Product

To aid customers in their choice of product purchase, some type of catalog utility is an important part of the e-business application. This is a fast-growing market, and there are a number of specialized catalog products, including www.catalog.net from Microsoft, that attempt to put standards in place for searching on attributes of key product categories. In business-to-business marketing, where the products or the search criteria are particularly complex, there is a role for business intelligence tools.

An example of this would be an investment screener or a portfolio management tool. In this case, rather than simply wanting to find more information about a particular stock, a customer may want to screen stock choices using complex selection criteria based on financial ratios and performance metrics. The criteria could include combinations of financial ratios, market capitalization levels, industries, third party ratings, and performance against market indices.

► Profiling and Marketing Analysis



Today's organizations are striving to use the new possibilities offered by internet and business intelligence technology to know their customers better. Let's take a look at two examples of how e-business and business intelligence interact in the area of profiling and marketing analysis.

Net Statistics

In addition to traditional marketing analysis based on customer transactions and demographics, the web can record mouse clicks and navigational choices, letting organizations build more robust web profiles of their clients and prospects, recording their interests and what they might be likely to buy. The recording of users' navigational habits on the web opens up a whole new area called net statistics.

Several firms have entered this space and have created ways to identify individuals when they enter a monitored site. As a result, these providers can offer organizations the ability to profile, based on a user's activity at many different sites in addition to the organization's own web site. Business intelligence tools allow this information to be combined with purchase history for sales and marketing analysis.

Other net statistics analysis needs include optimization of the web infrastructure, in terms of average access time, number of failed connections, etc.

Campaign Analysis

Marketing organizations are responsible for implementing and running promotional campaigns designed to generate incremental business for other organizations. Service bureaus that provide campaign management are improving customer service by putting business intelligence solutions directly into the hands of their customers via the internet. Their customers use the tools to both analyze the performance of current campaigns and to help build better models for future campaigns.

For example, a service bureau aggregates credit information from many different sources and sells it to a bank that is interested in promoting a new credit card. In addition to providing a simple list, the service bureau provides value-added services to the management of the data and the management of the credit card campaign. For example, the service bureau can provide advice on how best to build a targeted list of prospects, and can merge the purchased data with the results of the credit card campaign. Traditionally, the results of these services were sent to the bank in the form of paper reports, a process that could take up to six weeks. By using WEBINTELLIGENCE, the bank is now able to run queries and reports over the web that help it to understand the effectiveness of its campaigns and to make decisions about future campaigns with more flexibility and in less time.

► Creating Promotional Offers

5 News/Ads

The users of e-business intelligence query applications typically represent an extremely targeted group of individuals. In the case of the Owens & Minor application that we saw earlier, for example, the users are the purchasing agents of hospitals and other care providers.

Each time these users access their reports over the web, they are, by definition, actively engaged in considering their purchasing choices, and there is an opportunity to give them news and promotions about medical products that they may be interested in.

To this end, Owens & Minor is considering implementing banner ads that would allow, for example, a medical supplier to promote the availability of a new type of band-aid to the purchasing agents. These banner ads could be targeted according to the query choices made by the users.

In addition, BROADCAST AGENT™ from Business Objects can distribute personalized information, news, and promotions via email or fax to many customers based on their individual profiles.

Conclusion

E-business is a large, fast growing industry, and organizations are looking for fast, effective ways to implement e-business systems.

While placing orders over the web has been the most visible area of e-business, a complete e-business application requires a number of other features that rely on the use of business intelligence technology.

These "e-business intelligence" applications, that give customers, suppliers, and partners controlled access to existing internal information systems, allow organizations to move quickly into the e-business arena, gain competitive advantage, and in the process exploit their existing data warehousing investments.

The benefits of e-business intelligence systems include:

- Lower customer support costs, replacing existing manual, paper-based systems.
- Increased customer satisfaction, through timely, self-service access to information.
- Increased differentiation compared to competitor's product offers, leading directly to increases in top-line revenue.
- Increased strategic visibility of the IT organization.

Appendix A: Glossary of Terms

Business intelligence refers to the access, analysis, and sharing of corporate information throughout the enterprise.

E-business broadly refers to all the ways that companies use the internet as the basis for interacting with customers, suppliers, and other business partners.

E-commerce is a subset of e-business and specifically concerns the business transactions carried out over the internet.

E-business intelligence refers to all the ways an organization communicates and shares information with its customers, suppliers, and partners.

Intranets are similar in concept to the internet, but are intended for the internal use of a single company. Intranets allow internal users to share information with each other and typically span multiple office locations throughout the world.

Extranets occur when an organization extends the boundaries of its intranet and allows customers, suppliers, or other business partners to access and share selected information.

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Audience: This paper is intended for professionals and managers who are involved in either e-business or business intelligence (i.e., decision support) initiatives and are interested in how these two technologies may be combined to provide competitive advantages for their organizations. For more detailed information on either the BUSINESSOBJECTS or WEBINTELLIGENCE product families, the reader is directed to www.businessobjects.com/products.