



iSeries 400 Experts Journal

Top iSeries and AS/400 Minds Share Their Know-how

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Common sense e-business investing, Part I and Part II

By Jim Mason and David Slater

Investments in e-business are not different from any other business investments. Companies need to understand the benefits, costs and risks of delivering Web-based application solutions. There are a wide variety of challenges for companies to overcome in planning and managing their investments successfully. Some of the benefits are difficult to measure. The value of the improved ease of learning and ease of use of a Web GUI versus a green-screen interface is difficult to quantify. However, the benefits must be identified and the measurements must be established in order to determine if the goals have been realized.

It's also helpful to understand the key reasons that e-business projects fail:

- Poorly-defined objectives, goals, or benefits
- Lack of appropriate measurement criteria
- No project management plans with interim milestones
- Poor execution of project plans

This article contributes some key insights on managing your e-business investments. Part I focuses on identifying e-business opportunities and how companies measure their e-business investments. Part II looks at the costs and risks companies face with e-business investments and how they can manage them.

Typical e-business investment life cycle

Like other investments, e-business solutions go through a common investment life cycle. Associated with each phase are a set of key objectives, decisions to be made and corresponding metrics to measure results.

The major phases of an e-business investment are:

- **Definition-** Defining the project covers the identification of needs, sponsors, goals, the viability of the opportunity business case, challenges, issues, and success keys.
- **Planning-** Activities for planning the project include defining requirements; evaluating alternatives, project controls, solution design, and resources; and validating the above definition.
- **Implementation-** Managing implementation effectively starts with the project kickoff on detail design through implementation.
- **Operation** - In this phase, users operate the solution to deliver value and assess results.

Defining e-business benefits

While the investment-definition phase outlined above describes a number of activities for a company to complete, this article focuses on the types of opportunities and benefits of e-business investments. Most

businesses can benefit from e-business investments. For many companies which one already selling a product or service, opening e-business channels can produce a variety of benefits with relatively lower costs and risks. Your specific benefits depend on your company's offerings and target markets and your competitor's e-business services. Here are ten examples of the potential benefits of e-business solutions:

Business survival

Some supply chains now require vendor integration using EDI or the Web. Software vendors with older 5250 interfaces see rapidly declining sales for their software. Many solution providers in the iSeries market place can't participate in "requests for proposal" or "requests for quotation" because they lack a Web interface to their solutions (see sidebar example). If your local markets are declining in sales, the Web offers a way to expand your market size. Many companies are forced to play catch-up when their competitors successfully open e-business services that grow sales, expand services and lower costs.

Find new customers

Company Web sites, public portals, and search engines are great low-cost, high-volume lead generators for many companies. Web self-registration applications easily collect useful customer profiles automatically for better service. These costs of these Web vehicles for generating leads need to be compared to the cost of more traditional methods such as advertising and direct mail. The traditional methods often have a 1% - 2% impact rate.

Grow sales to new and existing customers and provide information

The Web is a great way for customers to get the personalized information they need about your products and services. Everything from parts catalogs and manuals to expert wizards on how to buy and use products are now provided over the Web. The cost, currency, and reach of the Web catalog must be compared to traditional catalog formats to determine the e-business opportunity.

Traditional Web storefronts such as the IBM® WebSphere® Commerce offer customers a way to buy conveniently without location and time limits. Web self service applications help companies selling both products and services to grow sales to new and existing customers. B2B applications are linking companies in effective supply and service chains to speed customer delivery times with lower costs. Many of these online sales vehicles offer lower operations costs and allow companies to grow volume and profits. The increased revenues and costs of the new Web channel must be compared to the costs and revenues of the traditional distribution networks.

Improve customer service levels and satisfaction

Customers can access and pay their bills online for many businesses and order and access the services they need whenever and wherever they need to while lowering your administrative support costs. The costs of traditional customer service and the associated level of customer satisfaction must be compared to the cost of the Web-based customer relationship management system, the reduction in traditional customer service, and the associated increase in customer satisfaction. The increase in customer satisfaction must be factored into the value of the solution because it is much less costly to keep an existing customer than to recruit a new customer. The cost ratios are often greater than 1 to 5. This is why customer satisfaction is so important.

Improve order processing, supply and service cycle times

This can result in faster cycle times on all customer transactions, especially when the channel has multiple partners in it. Order an iSeries server from a business partner, who orders from IBM, who orders other parts from other suppliers, and so on. Business integration reduces the channel

administration costs for order processing and the tighter cycle times reduce inventory carrying costs through the whole channel. These savings need to be reflected in the business opportunity of the e-business solution.

Lower customer service and operations costs with higher efficiencies

Airlines, hotels, and rental agencies now heavily discount prices if you order online over the Internet, driving some of the service cost savings back to the customer to create higher market shares. One iSeries customer was able to cut its prices by 50% to customers with automated, online transactions, while actual costs dropped 75%, providing a profit increase in addition to increased sales volume! A utility created a Web front-end for its billing system so customers could register and manage their utility bills online using WebSphere, which provides better service at lower costs. In many cases, integrated Web applications can improve business process workflows by lowering costs and improving efficiencies.

Lower purchasing costs with integrated supply and service chains

With lower overhead and administration for all partners in a channel, purchasing costs for goods and services are dropping. Web exchanges are starting to save companies money in some industries. These exchanges offer an alternative to traditional EDI integration, which can be more expensive to implement. For our students, online virtual classrooms are less expensive than traditional on-site classrooms for providing iSeries Java and WebSphere development training. Small builders were able to realize a 25% reduction on their material costs as a result of forming a Web buying consortium (see sidebar).

Grow sales through e-business add-on services and products

Companies have added new web-based services to help customers apply and use their products on both per-call and subscription plans (anyone here on IBM Support line?). It has been said that “everyone’s a mall.” For example, Amazon.com is now selling many products from other companies over its Web site. IBM now sells online e-business training to business partners and customers. By utilizing the personalization capabilities on their Web sites, vendors can suggest additional items to their customers. Vendors can track the impact of personalization to their revenues and determine the impact of this e-business capability.

Learn more about customers’ needs and buying habits

Many companies let customers register as online users to provide customized information and request service. Thanks to enrollment surveys, actual Web usage (“on click” technology), and other personalized surveys, a tremendous amount of knowledge is now available on who are customers are, why they buy, and what they want. The Web customer-profile information is also many times more accurate than alternative ways of collecting the same information – from paper mail surveys, secondhand information from salespeople, and so on.

Lower training and usage costs for software with improved graphical user interfaces

If there is a significant turnover in the users of the applications, you can realize an even greater reduction in application training time by creating a Web interface to your existing applications. These reductions in training need to be balanced against the retraining costs for existing users.

How do you measure returns on e-business?

Given the stronger focus on managing e-business investments today for most companies, one of the most important questions is how to measure returns on e-business investments.

Metrics used for review of investment phases change

Throughout each of the investment phases, there is ongoing review of current performance and assessment of future plans. The nature and specifics of the review process can change during these different phases. In the definition phase, the focus is on discovery and analysis of current business performance and other related metrics and comparison with the anticipated results with a new e-business solution. In planning, the business experience and IT's performance on related projects are closely reviewed to create realistic estimates of the resources and time required to meet goals. The focus is on developing good, realistic estimates for the benefits and costs of the e-business solutions. Alternative solutions are compared from a cost, benefit and risk perspective. During implementation, the review emphasis logically shifts to focus more heavily on effective management of project deliverables and risks. In the operations phase, review shifts back to the business metrics defined for the project to assess whether results are meeting expectations for the solution.

Metrics help provide measurements for many key investment questions:

- What is the value of an investment opportunity for us?
- What business risks are we facing for this investment?
- How much will it cost to find out if the investment is viable?
- Are we managing our technical risks on this investment well?
- How much will it cost to implement and operate a solution?
- How well are we controlling our project risks?

What investment goals are metrics used for?

The Meta Group (www.metagroup.com) has a useful model for categorizing the primary goals of an investment. Based on the primary goals, the metrics that are appropriate are different. The Meta Group defines investment business goals as:

- Run the business
 - Improve performance using the same strategies and resources.
 - There are typically minimal contingencies used in this type of investment.
- Grow the business
 - Expand the business with new markets, products, services or higher volumes.
 - Contingencies are higher against the increases in revenues. The increases in revenues are typically factored down by up to 50% to reflect the uncertainty in the new markets, products and services.
- Transform the business
 - Run the business differently than we do today (for example, ERP, CRM solutions).
 - These types of investments have higher contingencies against the costs, the schedules and the revenues associated with the solution. These higher contingencies reflect the uncertainties associated with these types of investments.

The metrics used and the information that is available for each often depend greatly on these business goals. For “run the business” investments, there is both tremendous experience and useful historical data available to measure opportunities and results. For “grow the business” projects, new or changed strategies may require collecting information which is different from what we normally have available. In “transform the business” scenarios, it can be difficult to identify who has the knowledge to predict future performance, let alone what that performance will be. Many ERP and CRM projects we've run fell into this category.

Types of criteria for measuring e-business investments

By examining certain criteria, we can measure the business value and impacts of an investment (usually a top priority) as well as the efficiency of IT in delivering the services needed for the investment (usually project management controls and IT services controls).

Business measurement criteria

Beyond using basic financial criteria, which is a prerequisite for all business, operations many businesses have other measurements as well. These are some of the major categories for criteria that businesses may use to measure their e-business investments:

- **Costs**
Cost benefits in a project are either cost savings (direct expense reductions) or avoidance (because we did X, we won't have to spend Y).
- **Services**
Service measures are usually specific to different departments' activities. Marketing focuses on market share, product lines, services, channel ratios, and so on; manufacturing focuses on order shipments, backlog, and inventories; customer service focuses on user satisfaction, order cycle times, overdue ratios, credit ratios, and customer loyalty; sales looks at orders, billings, leads, revenue increases, and so on. Not all measures that are important in services are easily quantifiable. For customer satisfaction, loyalty, and other such "soft" measures, qualitative user surveys can be used to confirm or refute findings from statistical measures.
- **Revenue**
Revenue generation is reasonably easy to measure normally. Identifying the causes of revenue increases or decreases is much more difficult in some cases.
- **Risks**
Risk measurements fall into categories as well: business risks, project risks and technical risks for a solution. These risks, must be factored into the cost, benefits and schedules of the e-business solution.

IT services measurement criteria

IT services usually don't directly generate revenue. IT solutions represent either direct or indirect costs for business operations. The value or contribution of IT services (those that don't earn revenue) generally can be measured with four categories of criteria: ACUT for short.

- Accuracy – How accurate is the information produced by the solution?
- Cost – What are the total costs of an IT solution – (implementation, operational, risks)?
- Utility – What is the value of the information produced in running the business?
- Timeliness – Is the information timely enough to produce the best results?

In measuring how effective IT solutions and services are in delivering value to the business, we use metrics for the value categories above. To measure how efficient IT is in delivering services, we use service quality metrics that make sense for our situation: number of support incidents, costs to create the solution relative to some meaningful standards, support levels, response time, capacity, defect levels, and so on.

Set business and technical “yardsticks” which are right for your situation

Each company must define and select their own valid criteria and associated metrics for measuring both business and technical aspects of solutions. Sounds simple. It isn't. Many companies need help in finding the opportunities, solutions, relevant metrics and success keys for e-business investments. The metrics used by another business in your industry aren't necessarily valid for your situation.

Case studies we've reviewed differ in many ways but scale is perhaps most significant. You can see differences in the metrics applied to each IT project. Investment criteria used were reasonably appropriate for the given projects in many cases. For larger investments, driving results back to financial and operational metrics is better-justified. In some large ERP projects, users actually “forecast” pro forma financial statements after the system is in place! This put the emphasis where it belongs for most companies: on using the solutions to deliver results as opposed to delivering the solutions.

It's your business!

Investments in e-business are not different from any other business investments. Companies need to understand the benefits, costs, and risks of delivering Web-based application solutions. Some executives feel ill-equipped to make decisions regarding e-business investments because of their lack of understanding of the technologies involved. Although companies may require some outside consulting support, the company and its executives must assume responsibility for the decision. The worst e-business investments occur when companies defer to the advice of the e-business experts. E-business experts can't understand your business as well you do.

The first step in the investment process is understanding the financial benefits of an e-business solution. Once a company has a good understanding of this value proposition, it can properly evaluate the costs and risks of the alternative solutions.

In the next issue, we will talk in some depth about ways to minimize the costs and risks of e-business investments.

As a high-level introduction to the next issue, remember this: When you start to invest in e-business solutions, make smaller bets. You may not realize huge returns, but any failed investments won't put your business at risk.

The focus should not be on delivering e-business solutions but rather on leveraging e-business solutions to deliver business results.

Where can you get more information?

Read Part II of this article to learn more about e-business investment risks and strategies, and how to get started finding the right solutions for you. Also check these Web sites below for iSeries and third-party information on e-business solutions and services.

IBM WebSphere Development Studio for iSeries - home page www-3.ibm.com/software/ad/wds400/

IBM WebSphere for iSeries - home page www-1.ibm.com/servers/eserver/series/software/websphere/wsappserver/

IBM iSeries - home page www-1.ibm.com/servers/eserver/series/

Apache software - open software group with free downloads www.apache.org

ebt-now planning, courses, Java and WebSphere development and implementation services
www.ebt-now.com

ebt-now free WDS e-business tutorials <http://groups.yahoo.com/group/QuickWebSupport/>

IBM iSeries e-business service providers www.eserversoftware.net/

IBM iSeries server Greenstreak promotion www-1.ibm.com/servers/eserver/series/greenstreak/

iSeries 400 Experts Journal - for iSeries technical topics www.the400group.com/aej/

Search400.com - iSeries information online www.search400.com

iSeries Tools Network www-1.ibm.com/servers/enable/tools/series/

What is e-business?

E-business is simply electronic business. It is transacting business electronically rather than in person or over the phone. In most cases, we think of e-business as transacting business over the Web. It has always been possible to link applications electronically, but the rapid expansion of the Internet has made the communications costs associated with linking applications much more affordable. Some common e-business scenarios include: B2C - business to consumer, B2B - business to business and B2E - business, to employee.

Is e-business different from normal business? In most cases, the activities are the same, but how they are done is different, leading to very different opportunities and challenges. E-business investments require the same planning, implementation, management and measurement, principles as other business investments.

The typical sources for e-business applications one:

- Buy e-business packages and integrate with existing systems
- Build new, integrated e-business applications | Migrate existing applications and data to e-business environments

Why is e-business important?

The importance of e-business is increasing because business transactions are becoming more distributed. Company suppliers are typically located in different cities, different states, and different countries.

In the past, large companies became vertically integrated by buying/acquiring their key suppliers to coordinate and manage the production process effectively.

In the age of e-business, the integration, coordination, and management is done through the integration of business processes and applications. Companies integrate their systems with those of their key suppliers and customers to realize the key benefits that were associated with vertical integration. This integration process also allows large companies to spread or minimize their business risks. If there is a slowdown in market demand for the company's product, the company not faced with idle capacity for the entire supply chain, but only for their production facility.

Many companies ask why they should invest in e-business. Here are a few specific examples of e-business investments and their associated returns.

ISVs: Packaged solutions for the iSeries Market

Many of the current “Requests for Price” and “Requests for Bid” specify the requirement for either a Windows or a Web Graphical User Interface. In order to submit a bid to address the solution requirements, the solution provider must have a Windows or Web interface for their proposed solution. In this situation, we don’t even need to discuss the benefits of a Web interface to the solution. Without a Web interface, the solution provider can not submit a bid. Having a Web or Windows interface for their solutions becomes a requirement to survive in the current market. One iSeries solution provider Web-enabled their application and reported a four-fold increase in revenues.

Builders: Purchasing power of the e-business community

Many small builders form a builders buying consortium. By consolidating their orders, they can negotiate bulk purchases from a national distributor, eliminating the markups associated with the regional distributor and the retailer. They realize a 25% discount off the normal retail costs of their materials. The use of e-business technologies allows the smaller builders to compete effectively with their larger competitors.

Insurance: Efficiencies in the insurance industry

Customers used to come to an agent and request a quote. The agent would request the quote from the insurance company via fax. Customer support for the insurance agency would submit a query and then fax the quote back to the agent. The agent would then call the customer to inform him of the quote or mail him the quotation. If the quote was acceptable, the customer would come back to the agent and fill in the required information, and the insurance application would be faxed to the insurance company. The insurance documentation/certificates would be mailed to the customer.

With the new e-business applications, the agent can request quotes directly against the insurance company’s quote system and give the customer the information on the first visit. If the quote is acceptable, the agent can input the required information directly to the insurance company’s application, print the insurance documentation/certificates, and hand them to the customer.

Results: Customer satisfaction is improved because customers can get an insurance policy in one trip to the agent. Agent workload is reduced because the turnaround time from inquiry to closing is dramatically reduced. The insurance company reduces the staffing required to create quotes and process new policies. The error rate in the application process is reduced from 15% to 0.5% because the problems with unreadable faxes are eliminated and the agent takes greater care in inputting the data.

Just the reduction in the error rate pays back the insurance company’s e-business investment in six months. The insurance company is also able to recruit more agents and deliver better customer satisfaction.

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Common sense e-business investing, Part II

By Jim Mason and David Slater

Managing investments is about maximizing your ROI (return on investment) while minimizing your risk. We have three categories of risk for e-business investments: business, implementation, and technical. There are many keys to successful projects, and all of them apply in e-business environments as well. Failed projects may never impact operations or may be abandoned before implementation. We don't know of any company implementing a number of solutions that hasn't had their share of failure. The better ones have learned from their failures and scored significant successes.

Business risks

We define business risk as the possibility that the expected investment value will not be realized due to business factors. There are numerous reasons why a solution may not pay off. Examples of factors that impact business risk include:

1. Business objectives or measurements are not clearly defined.
2. Business solution is not well-defined or thought out.
3. Business paybacks are not well-known or established.
4. Investments are not adequate or timely.
5. Business conditions change, impacting the investment value.
6. Failure to invest in e-business solutions leads to lost opportunities.

Implementation risks

Even good e-business solutions can fail due to poor execution. The solution may be the right one, but may be poorly implemented. Like any IT project, strong project management is required. Unsuccessful implementations can be caused by:

1. Poor project planning: Schedule is too aggressive, requirements, tasks, and resources are missing.
2. Poor project control: Failed to measure results and take corrective action, users were not in charge.
3. Project scope changes.
4. Project size and complexity are too large.
5. Lack of skills and resources, both in-house and with vendors.
6. Business solution is operated poorly after implementation.

7. Failure to budget adequate time and funds for a successful project.

Technical risks

Finally, a well-defined business solution with a well-run implementation project may fail for technical reasons. Technical risks are magnified in e-business environments because of the rate of technological evolution (How much has COBOL changed in the last five years compared to WebSphere? Not much). Examples of technical factors include:

- Technologies selected are not sufficiently mature for this project.
- e-Business infrastructure is inadequate to support implementation effectively.
- New Web applications don't integrate well with existing IT assets (data, programs, etc.).
- Solution's technical design is weak or poorly engineered (used wrong frameworks, etc.).
- Project and support teams lack the needed technical skills to succeed.
- Solution design doesn't support the business use cases. Use cases should drive the design.
- Solution design was done poorly.
- Solution development was done poorly.
- There was poor quality control on software process.
- Deployment is too complex.

e-Business – Generation 2 changes investment decisions

If you think of 1996 as the year e-business started to make a big impact (certainly in the media), it could be considered the beginning of Generation 1 of e-business (the dot-com era). The end could be defined as the dot-com crash that hit hard in 2000. During that time, e-Business – Generation 1 was characterized by:

- Fast growth for companies with new, innovative Web-based services.
- High levels of investment in technology and solutions by larger companies.
- Solutions that companies built from the ground up.
- Rapid technological advancement of solutions with limited maturity.
- A majority of businesses which weren't exploiting e-business opportunities.
- Many e-business investments that failed or didn't deliver expected payoffs.
- Confusion in the marketplace over technology, solutions, and how to make them pay off.

Some early thoughts on Generation 2 came in IBM's 2000 Annual Report. In referring to the recent dot-com crash, Louis V. Gerstner, Jr., Chairman and CEO, said, "The collapse of the dot-coms was not a failure of e-business. It was the failure of an overly narrow approach to e-business. For all the proclamations we have been hearing about a 'new economy,' the problem with most dot-coms was that their business model – win customers through lower prices – wasn't anything new, not to mention transformative.

"IBM has always said that e-business involves more than transforming one part of a company, such as selling directly over the Net. We said the real action, the real work – and the ultimate payoff – involved the

transformation and the integration of the entire enterprise, from the customer all the way through the supply chain. Things have played out pretty much that way – and that may have been a bucket of cold water for some. For IBM, it was a tough but ultimately heartening reaffirmation of the strategic direction we set in place several years ago.

“So, if there is a lesson to be extracted from the dot-com crash, it may be this: There is no shortcut to e-business. And if 2000 comes to be seen as a watershed (and I think it will), that will be because this was the year the world’s established enterprises awoke to the true possibilities of e-business. I believe a broad consensus has emerged that e-business is just... business, real business. And real business is serious work.”

Generation 2 has shown big changes in the e-business investing decisions made by many companies. While we don’t know how it will end, we can already see these clear differences in Generation 2:

- Growth of new, innovative Web-based services continues, but at a slower pace.
- Larger companies’ investments “flatten out” while smaller companies expand.
- More companies look to buy solutions, services, and components to save time and money.
- Technological solutions mature.
- A majority of businesses look to extend their business operations to e-business.
- Companies demand more from e-business investments with lower risks.
- “Best of breed” solutions start to show as the base of successful e-businesses grow.

If the first generation was the dot-com era, what can we call this generation? Probably the “integration era,” since more companies integrate e-business with their existing operations and the management of e-business investments follows other investments.

e-Business success strategies

Given the risks to manage, there are e-business success strategies that can help to reduce the different types of risks defined above. These strategies cover several of areas: IT planning, solution definition, project planning, and project control.

IT planning strategies

Your company may not use the same names to define the planning items below, but should have equivalent deliverables to organize the planning process.

- **ISP (Information Services Plan)** An ISP is strategic. It defines how IT services support the business objectives. The ISP process generates or updates the IT strategy for servicing business operations and objectives. As part of the ISP, start with the current business plan and an audit of the existing IT performance.
- **ITP (Information Technology Plan)** Having completed the ISP, the technology plan defines or reviews the technology and infrastructure strategy for implementing the ISP. It begins by creating a technology requirements model to support the ISP, conducts an audit of the current technology and infrastructure, and builds a technology service model for the ISP.
- **ISR (Information Solution Review)** The ISR is a plan or review for a single project. While it ties the project plan to both the IT strategy and the business objectives, it does not create an IT strategy (like the ISP) or a technical strategy (like the ITP). Both the ISP and the ITP are normally prerequisites to an ISR.

e-Business solution definition strategies

These items ensure that you have defined an appropriate strategy for your specific business needs.

- **Drive IT investments clearly from business plans.** Establish a top-down business case for your required business solution. Clearly quantify business benefits by time period before setting a budget for an IT solution. You'll see net cash flows and other impacts more clearly. Work as a team across the business to define responsibilities and contributions to specific measurable results.
- **Ask the right three questions to define an IT solution:**
 - What's it worth? If the value is not there, don't move forward.
 - What's it cost? This is a tough question for a new type of solution - this includes all costs.
 - What's it take to get it right? Given the net benefits from the first two, how can we implement the solution without risk of missing the results above? Project management, technical quality, and solid operational execution all come into play here.
- **Use proof-of-concept prototypes to test solution viability for high-risk solution areas.** Doing a "proof of concept" during the design phase helps to define and validate the business value and the technical risks of the solution. Often, it is possible to do a proof of concept quickly at a fixed price.
- **Be careful with both vendor success stories and failures.** Neither may be relevant to whether a particular solution will succeed in your business. Just because I use the same clubs as Tiger Woods doesn't mean I break par.

e-Business project planning strategies

The planning strategies are designed to help you build achievable project plans:

- **Focus on the business objectives clearly throughout a project.** Have a clear understanding of the strengths, weaknesses, and opportunities in your market.

Set a focus for what you want to achieve, and keep the implementation and operations phases focused on that objective. Adjust the plan and objectives as needed when you discover they are out of alignment during periodic project reviews.
- **Place smaller bets.** Many large projects can be broken into several smaller deliverables. If this is a new technology or business model, start with a smaller project and investment. The loss is much more affordable, but the lessons learned are just as good.
- **Evolution beats revolution for better returns on new IT investments.** Projects which leverage and extend your current IT assets usually deliver the highest ROI and the lowest overall risks. Your existing data, business logic, and applications are typically your most valuable IT assets.

You should consider brand-new solutions only when it is clear that the existing logic and applications will not address your new business requirements or cannot be reused. Solutions with new business logic and applications have the highest costs and the highest risks. A brand-new solution should be considered only if this solution yields the highest returns and the risks can be controlled.

- **Get outside help to understand how to succeed.** For most e-business development projects, it is best to use a combination of in-house personnel and outside experts. The in-house personnel best understand the goals and needs of the business. They will be responsible for running the system and will be accountable for the end results.

Outside experts may be better-equipped to handle some of the technical design and technical implementation sections of the project. Web development is progressing rapidly, and it may be unreasonable to expect in-house resources to be expert in this area.

- **Understand the difference and linkage between IT metrics and business metrics.** Develop a set of appropriate yardsticks for each metric. Your best solution alternative will score well on both yardsticks. IT should use the appropriate measurements to track their progress, but they should always understand how their measurements relate to the overall business goals. You will have to set priorities for measurements on each type of yardstick relative to others: Is an easy, flexible item search more important to growing e-business sales than fast order processing cycle time?

e-Business project control strategies

The items below can help to control a project to ensure that results match objectives better.

- **Business users should direct projects with business objectives.**
Decide who's responsible for achieving the business objectives. Put them in charge of defining and implementing the solution so that they own it in the operations phase. A manager who "owns" the operational results of a project will be best suited to direct the project, although he may not have the time or skills to manage a project at a detailed level.
- **Use experienced project managers and methodologies to manage the project details.**
At ebt-now, we use GAPS to plan many projects and OARS to control them. For more on project management, see the Capability Maturity Model pages at the Software Engineering Institute (www.sei.cmu.edu). Ideally, the project manager has three skills: business application knowledge, project management, and technical knowledge. If you need to, you can subcontract the last skill to a more technically-skilled outside consultant. This is fairly common.
- **Transform the users first to avoid "catch-22" IT solutions.** In some large transformation projects, users begin complaining about the old system, select and implement a new system, and then adapt it to look (and perform) like the old system they understood. To avoid large losses here, transform the users to a new way of working before the system goes in! Our greatest project successes came from this strategy.
- **Set up an independent quality control group.** Users need to dedicate resources for quality control (not IT), especially on larger investments, to ensure that objectives are met and that the review is independent. If necessary, arrange for periodic outside reviews. 1 Deliver a pilot program for deployment. If you are going to roll this project out across 20,000 branch locations around the world, why not cut risk by doing a single branch pilot? Once you get the feedback and make adjustments, you can do a full rollout.
- **Do periodic reviews for larger investments.** More formal audits and reviews of implementation and operations performance are warranted. In some of the best solutions we've seen, the opera-

tions implementation team continued to meet monthly on a permanent basis. The solution evolved into a continuous improvement process applying TQM principles linked to business objectives and measurements. Business sponsors need to review projects as part of an executive steering committee.

How e-business success strategies mitigate risks

Table 1 shows how the different strategies can reduce the risks mentioned above. The same strategy won't always have the same impacts in different companies, but this provides an indication of which risk factors a given strategy might reduce.

Finding the right e-business solution

Finding the right e-business solution begins with an internal definition of your specific opportunities, challenges, and success keys. IBM and third-party service providers offer a variety of services that can help in these areas. From there, look to IBM iSeries solutions and iSeries partners for help in providing the best solutions available. Measure IBM and third-party consultants on their iSeries e-business skills, not on general IBM e-business experience and success on other platforms.

Strategy	Business	Implementation	Technical
Information Service Plan	X		
Information Technology Plan	X	X	X
Information Solution Review	X		
Drive IT investments from business plans	X		
Ask the three right questions to define an IT solution	X	X	X
Use proof-of-concept prototypes to test viability	X	X	X
Be careful with vendor success stories		X	X
Focus on business objectives throughout project	X	X	
Place smaller bets	X	X	
Evolution beats revolution for better returns			X
Get outside help to understand how to succeed		X	X
Understand difference, linkage for business & IT metrics	X	X	
Business managers should direct projects	X	X	X
Experienced project managers should run projects		X	X
Transform users before the new system	X	X	X
Set up an independent quality control team		X	X
Deliver a pilot program for deployment	X	X	X
Do periodic reviews for larger investments	X	X	X

Table 1. Strategies to reduce e-business risk

iSeries' integrated e-business environment makes it easier

iSeries customers have a complete, reliable, and scalable server and an e-business runtime environment built in: DB2 database, the Apache HTTP server, Tomcat, Java Virtual Machine, and the Java toolkit. Often, companies will not require any additional software to run their Web applications. IBM's new WebSphere Express and Domino application servers offer very cost-effective, scalable, secure e-business runtime environments for a wide variety of business application solutions. A few companies may want more advanced features (EJB or clustered servers, for instance). WebSphere Advanced is a good option as your e-business needs grow.

IBM's WDS for iSeries is the tool for iSeries e-business

WebSphere Development Studio for iSeries is a comprehensive suite of application development tools for traditional, client/server, and e-business development. The new refresh of WebSphere Development Studio for iSeries, available on July 5, 2002, delivers an Eclipse-based set of workstation tools to new customers at less than 25% of their retail value. For existing customers with Software Subscription, WebSphere Development Studio for iSeries is a free upgrade from the traditional iSeries tools (like RPG and ADTS). The IBM WebFacing Tool creates Web interfaces to existing 5250 applications, quickly, easily, and cost-effectively.

IBM has delivered this new tool set to help customers and partners rapidly increase the number of e-business applications for the iSeries server. If you want certain advanced features, such as EJB, you will require an enhanced version of the development tools from IBM for a fee.

IBM offers other WebSphere tools as well. However, these tools lack the ease of learning, productivity, and integration features available in the iSeries-specific WebSphere tools.

Third-party application tools add more options for iSeries tools and services

A variety of sites provide lists of IBM iSeries business partner solutions, services and tools. The IBM e-Server Tools Network for iSeries showcases third-party application development tools. Some of these tools extend IBM's capabilities, and some are standalone alternatives. A new site, Software Net, makes it easier to find iSeries e-business service providers by creating an eWorkshop with e-business solution blueprints and matching vendor offerings to review.

iSeries service providers help to deliver higher e-business returns faster

Finding a good service provider and good information on iSeries e-business isn't as easy as you might like. When talking to IBM or other service providers, make sure that the person you are talking to has solid *iSeries e-business skills*, versus general e-business skills on WebSphere.

IBM iSeries has a solid channel of dedicated iSeries e-business service providers which specialize in e-business solutions: WebSphere, Java, DB2, MQ, Domino, etc. They offer a wide range of services from IT planning and education through design, implementation, and support of custom and package solutions. Many providers operate effectively on a global basis over the Internet. They can give you help in understanding which services fit your specific needs. Why pay for outside help? iSeries experts can save you time and money and help you to avoid costly mistakes.

At ebt-now, many of our projects are based on an integrated model. We often engineer and build an initial prototype for a customer while we train the in-house IT staff on IBM's new e-business tools: WebSphere Development Studio Client for iSeries (WDSC). On the next project, we provide engineering, mentoring, design, infrastructure services, and component development. The IT staff assists in building the application using IBM's tools. The generation wizards and visual editors available make it easy for existing iSeries developers to begin building substantial portions of almost any e-business application. In this model, leveraging IBM's new tools leads to better projects with faster participation by in-house staff compared to traditional e-business project models and education. The older models include full outsourcing, starting with Java education. These may still be appropriate in some instances, but the integrated model usually delivers better results for iSeries customers.

Your next steps

Below are some key steps you can take to start finding and integrating e-business solutions into your current

IT and business plans. With a commonsense approach, most of the steps (or at least the first phase of each) don't have to be enormously expensive or take a long time. At ebt-now, we've leveraged IBM's newest versions of WebSphere and the WebSphere Development Studio Client for iSeries to rapidly plan, train, create, and test integrated e-business applications for companies.

See the Web sites on the next page for more information.

These sites offer starting points for IBM iSeries and third-party iSeries solutions and services. They also offer general sources of iSeries and related e-business information.

Get the latest e-business technology payoffs for your business.

Find an e-business firm that offers custom iSeries-specific e-business planning seminars focused on IBM's latest iSeries WebSphere middleware and tools. Seminars help you to map your highest e-business opportunities to the latest e-business technologies. With a few key "live" demos on running and building e-business applications and on customized solution plans for your top business priorities, you can pick up the basics of e-business quickly.

Create a valid e-business solution definition for your company.

To create a valid solution definition, we create a Web application definition that defines a specific business case, a Web application, and how these integrate with your existing information and systems. In addition, we build a proof-of-concept prototype to validate both the business case and the technical risks involved, and then host it on the Web for user testing. This usually eliminates most large risks before we start a major project. This also defers a lot of infrastructure implementation until the actual project begins.

Integrate e-business solutions into your IT plans.

An IT e-business consultant can help you to customize your IT and technology plans to provide scenarios with e-business projects for top business priorities and the corresponding infrastructure support you need to deliver them. For example, you can have an outside service provider do an e-business audit on your current infrastructure and architecture.

Get e-business training where needed.

IBM and other e-business partners can deliver customized or standard training in a variety of prices and formats (classroom, on-site, and e-learning) to meet your needs. The on-site option offers the most customization to your needs and may better tie into your team's needs and skills. The e-learning option may offer some customization but has the most flexibility in scheduling, location, etc., and may be very cost-effective. Our experience with the technical training we've offered via e-learning has been good to date.

Build an e-business project plan.

Find an e-business consultant who can help you to build a valid e-business project plan. The project plan will have to address all the infrastructure issues for your specific environment, as well as application engineering. Getting some outside help is usually productive if you don't have experienced e-business technical managers in house.

Create and deploy a pilot project in a test environment.

While your plan may be to do a production rollout to all your locations, it is usually faster to get a pilot site deployed and then let the project team reflect on the specific issues in deployment and support before the full production rollout happens.

Where can you get more information?

Read Part I of this article in the previous issue to learn more about e-business investment opportunities and measurements. Also check the Web sites in **Table 2** for iSeries and third-party information on e-business solutions and services.

Site Content	Site URL
IBM WebSphere Development Studio for iSeries – home page	www-3.ibm.com/software/ad/wds400/
IBM WebSphere for iSeries – home page	www1.ibm.com/servers/eserver/series/software/websphere/wsappserver/
IBM iSeries – home page	www-1.ibm.com/servers/eserver/series/
Apache software – open software group with free downloads	www.apache.org
ebt-now planning, courses, Java & WebSphere development and implementation services	www.ebt-now.com
ebt-now free WDSC e-business tutorials	http://groups.yahoo.com/group/QuickWebSupport/
IBM iSeries e-business service providers	www.eserversoftwarenet.com/
IBM iSeries server Green Streak promotion	www-1.ibm.com/servers/eserver/series/greenstreak/
iSeries 400 Experts Journal – iSeries technical topics	www.the400group.com/aej/
Search400.com - iSeries information online	www.search400.com
iSeries Tools Network	www-1.ibm.com/servers/enable/tools/series/

Table 2. Web sites for iSeries and third-party information on e-business solutions and services

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