Reader Notes

1. **What are the best ways to measure the value of EC, and how does EC's value vary by industry?**

2. **Which technology and process components of EC provide the most business value, and which provide the least value?**

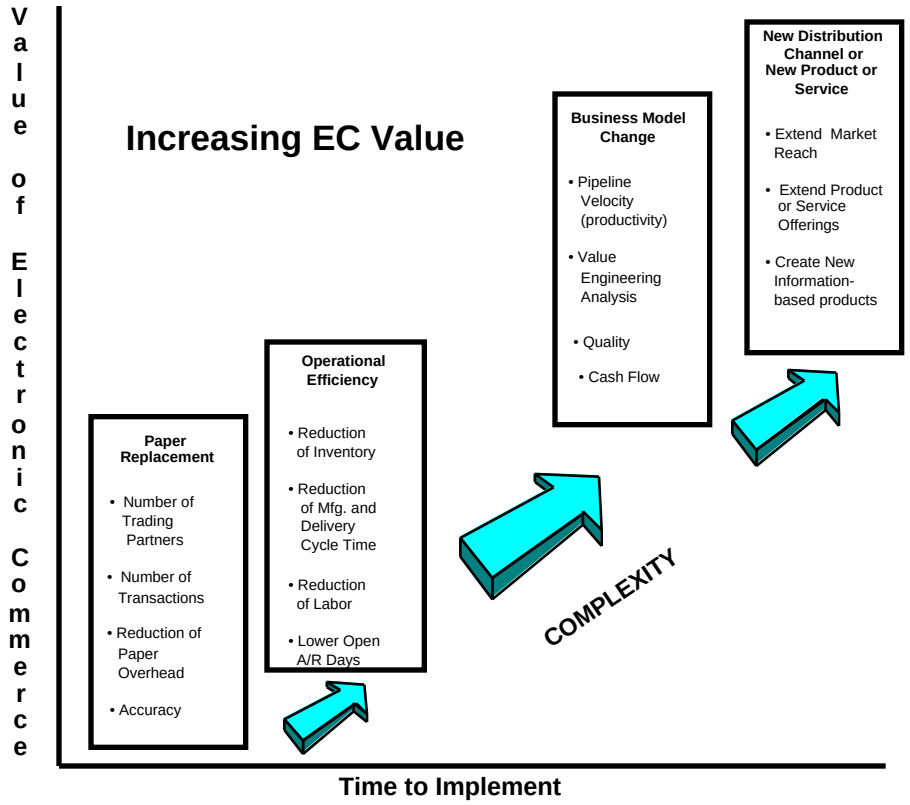
3. **How can EC be made cost effective even for the smallest enterprises?**

The market-driven set of business drivers that are pushing companies to implement EC are related to dramatic changes in the way in which business is normally conducted in certain industries. Examples include JIT and agile manufacturing techniques in manufacturing industries; quick response (QR) and efficient consumer response (ECR) in retailing; governmentwide electronic procurement; managed care in health care; and value-added banking. In these marketplaces, EC-enabled processes have become the norm. Any organization that chooses to maintain a competitive position in these markets must implement EC-enhanced processes. Corporations, financial institutions, and even government agencies trading in these marketplaces need to define business processes, organizational structures, information access and information-sharing policies, and EC implementation techniques that extend well beyond the boundaries of their respective enterprises.

Key Issue

What are the best ways to measure the value of EC, and how does EC's value vary by industry?

Reader Notes



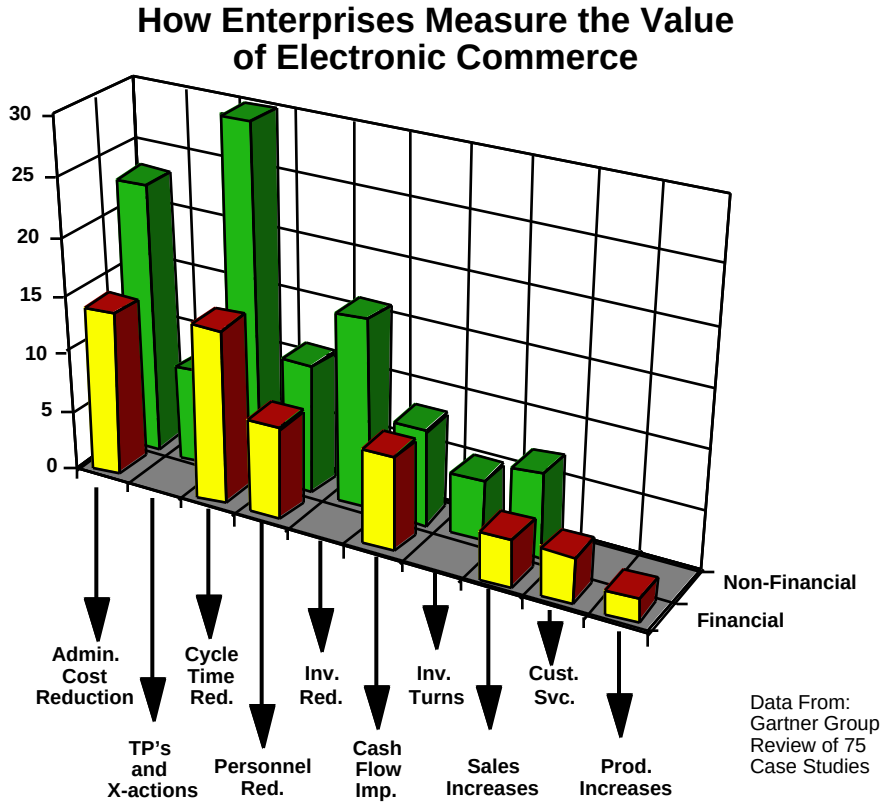
Source: Gartner Group

The business value of EC will more than double over the next five years, due primarily to EC-enabled process improvements and the growth of electronic marketing revenues (0.8 probability).

Early EDI measurements of success centered around numbers of trading partners and transactions. These were primarily measures of absorption of EDI, and they were of interest to determine when critical mass would be reached in a trading community. Other early measures reflected a use of EDI to reduce the numbers of steps required to issue purchase orders, receive goods and pay for them. Measurements were still focused on saving overhead costs associated with "electronifying" familiar processes. As corporations began to realize that the use of multiples of electronic commerce technologies would enable "business process re-engineering" trading communities started changing or eliminating processes entirely. Measurements then change from a focus on impact of electronic commerce to a focus on the impact of the business bottom line.

The value of EC cannot be derived from measuring the impact on IT budgets or productivity. Instead, EC's value can only be determined in terms of business results.

Reader Notes



Source: Gartner Group

Key Issue: What are the best ways to measure the value of EC, and how does EC's value vary by industry?

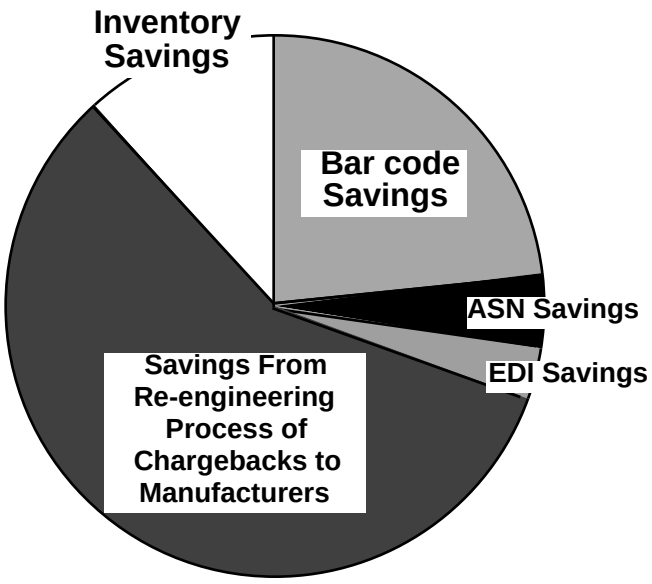
The chart represents information presented in published EC case studies from 75 companies. Measurements of EC value in financial and non-financial companies are contrasted.

EC users represented in both the financial and non-financial case studies have moved from solely counting the number of business partners and number of transactions being exchanged. The case study companies understand that these measurements are not sufficient to convince management EC-enabling processes has any value. Numbers of trading partners and transactions have their place (in SLAs), but certainly do not convey business value. Most EC-experienced companies have moved to measuring how EC is affecting business operations. After EC is completely integrated into the way companies conduct business, even those measures become business as usual and ongoing measurements like Gross Margin Return On Investment or Pipeline Velocity must be used to monitor the health of the EC initiative.

Quick response programs have not only saved money through EC implementation and process changes, they have improved cooperation between retailers, distributors and manufacturers.

Reader Notes

The Value of QR = The Value of EC



Retail Industry Savings From Implementing Quick Response:
Total Savings Estimated at $9 billion per year

Source: Andersen Consulting

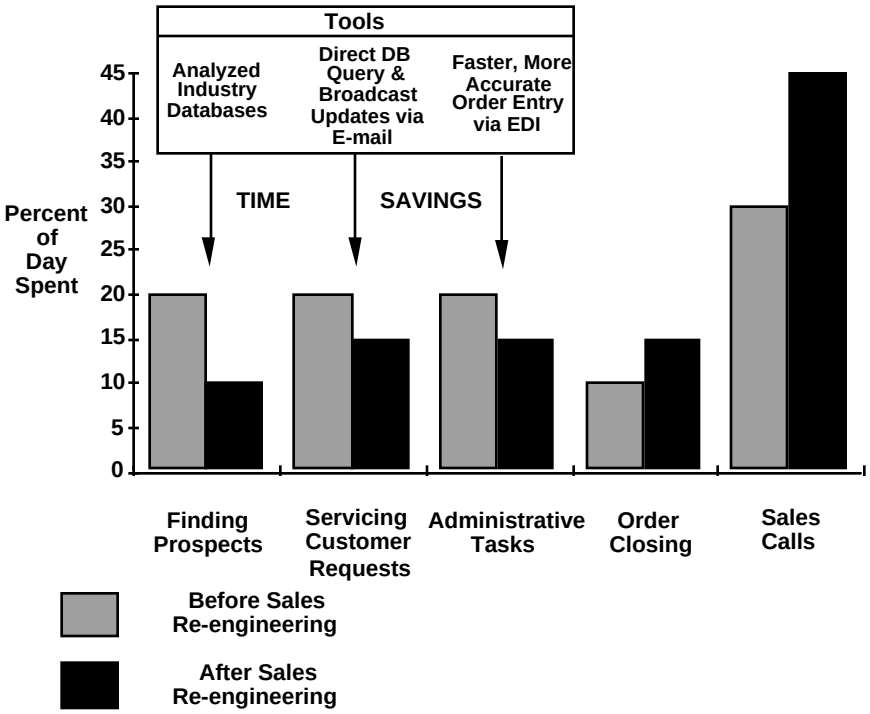
Key Issue: What are the best ways to measure the value of EC, and how does EC's value vary by industry?

According to a study by Andersen Consulting, Quick Response (QR) programs are expected to save the retail industry collectively $9.6 billion per year. A typical mass merchandiser that implemented QR technologies would receive annual savings equivalent to 5.3 percent of sales. For department stores, the savings would be about 4.9 percent of sales. The implications for other companies that use these technologies are clear: The annual savings is far greater when these technologies are combined into a program that impacts business process than they are alone. EDI, for example, would result in "only" $259 million in annual savings, whereas the integration of bar coded shipping containers with an Advance Shipment Notice (ASN) would produce “only” $399 million in annual savings.

The value of EC to sales and marketing is best demonstrated at the personal level, by enabling more productive behavior, such as closing business and calling on prospects.

Reader Notes

Increased Value to Sales and Customers



Source: Information Systems Marketing

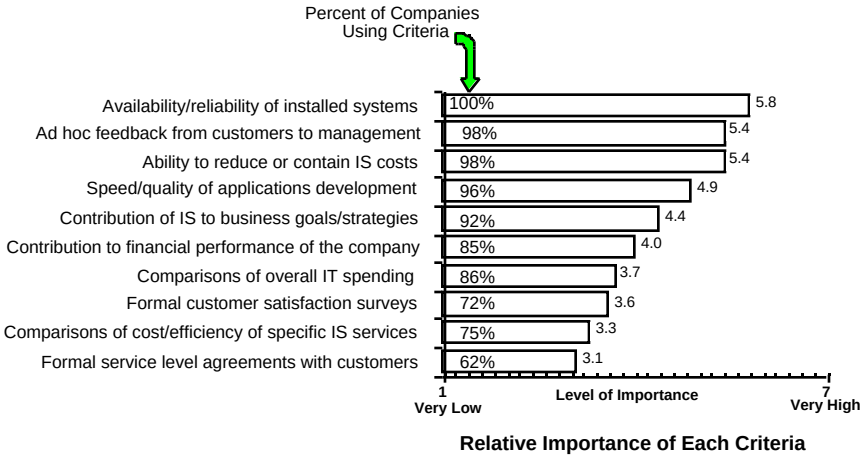
Key Issue: What are the best ways to measure the value of EC, and how does EC's value vary by industry?

Enabling application with EC in the sales organization has traditionally focused on removing some of the administrative burden from sales personnel — such as the effort of entering (or overseeing the entry of) those orders that can be taken electronically. While the reduction in administrative tasks is a business value of electronic trade, more value can be obtained by using links to other companies and networks to generate better information about prospects, current customers and former customers. Shared databases of industry data are used in the health care industry, the transportation industry, the retail industry, the electronics industry and many others. However, these databases are still very "raw" and require applications and internal analysis to uncover their value. Another high value of EC tools can be found in the savings generated by allowing a select group of customers to directly access a restricted set of corporate data (e.g., order status).

IS organizations that do not implement their own performance scorecards will fail in demonstrating contribution to senior management and thus fail in acquiring the resources necessary to support best-in-class performance levels (0.8 probability).

Reader Notes

Overall IS Performance Criteria Determines EC Management Priorities



Data From: 1994 Gartner Group Survey of 200 U.S. and Canadian Companies

Source: Gartner Group

Key Issue: What are the best ways to measure the value of EC, and how does EC's value vary by industry?

The pressures from senior management on IS to contribute have increased dramatically in intensity and scope. In particular, business-related performance criteria are being applied to more IS organizations. Measuring the IS departments contribution to specific business goals (e.g., increasing market share, decreasing time-to-market and the like) has grown from use at 40 percent of companies in 1992 to use at 92 percent of companies in 1994.

The importance of delivering IT services at high levels of technical quality has not diminished. All IS shops are evaluated on the availability and reliability of installed systems. In fact, for 1994 this technical measure was considered the most important performance criteria used by management, (receiving a score of 5.8 on a scale of 1 to 7, where 7 is very important). Rising in use is the speed and quality of applications development, with 77 percent of IS organizations in 1992 and 96 percent of IS organizations in 1994 measured on this criteria.

Most IS organizations recognize that the perception of business management needs to improve. The ability to support EC performance with reliable business-supported results is critical.

Reader Notes

The IS Organization Issues That Are Most Critical for EC Management

Issues	Most Critical for EC
Training IS staff in new technologies	81%
Improving perception of IS staff among business management	74%
Funding to keep up with demand and maintain quality	70%
Educating business managers about how IS staff might help them	60%
Developing a methodology proving IT's return to the business	54%
Educating IS staff on customers' business issues	54%
Determining how much end-users spend on IT	35%
Incenting top-performing IS staff to remain	32%
Improving the morale of IS staff	32%
Competing with outsourcers	19%
Changing IS from a cost center to a profit center	16%

Data From: 1994 Gartner Group Survey of 200 U.S. and Canadian Companies

Source: Gartner Group

Key Issue: What are the best ways to measure the value of EC, and how does EC's value vary by industry?

IS organizations confront a formidable set of issues as they strive to reach and maintain top levels of performance. The biggest hurdle to overcome is ensuring that IS staff is trained in new technologies. Eighty-one percent of IS managers cited staff training as a critical issue. Not surprising, securing adequate funding to keep up with customer demand and maintain service quality is also a predominant concern.

The second most commonly cited IS issue is improving the organization's perception among business management. Today's IS executive must be a public relations expert to communicate with customers (both internal and external EC customers), a politician to work with other IT service suppliers (internal and external), and a magician to stretch shrinking resources. Further, these "soft" skills must be accompanied by superior technical quality and efficiency. The number of dimensions against which the IS department is assessed have increased dramatically. The need to measure and reliably demonstrate the IS organization's performance — e.g., to balance subjective opinion with reliable performance data — is critical.

Reader Notes

The IS marketing objective is to raise customers' perception of the value of its services. Because each customer group has a different value profile, a "one-size-fits-all" marketing campaign will have minimal impact on perceived value.

Marketing Tools and Tactics

	Executive	Operations/ Line Management	Critical End-user	Production User	Trading Partner
Personal interactions					
One-on-one discussions	●	●	◐	○	* ●
Customized small-group presentations (* Ex: supervisors in accounts payable)	●	●	●	○	* ◐
Large audience*, "generic" presentation (* Ex: the entire accounting department)	○	○	◐	◐	○
"Live" or hands-on demonstrations					
Customized demos	●	●	◐	○	○
Group technology fair	○	○	◐	◐	◐
Written materials					
General informational brochures	○	○	○	○	●
Customized reports to management	◐	●	◐	○	○
User tips and information	○	○	◐	●	●
External publicity	○	○	○	○	●

Key to Tools and Tactics Recommendations

● Highly recommended: very effective marketing tool and good return from time/costs involved

◐ Recommended: effective marketing tool but time/costs may be somewhat high for return

○ Not recommended: poor marketing tool and/or poor return from time/costs involved

* One-on-One discussions with executives from various segments of TPs

* Customized small-groups presentations for selected suppliers

Source: Gartner Group

Key Issue: What are the best ways to measure the value of EC, and how does EC's value vary by industry?

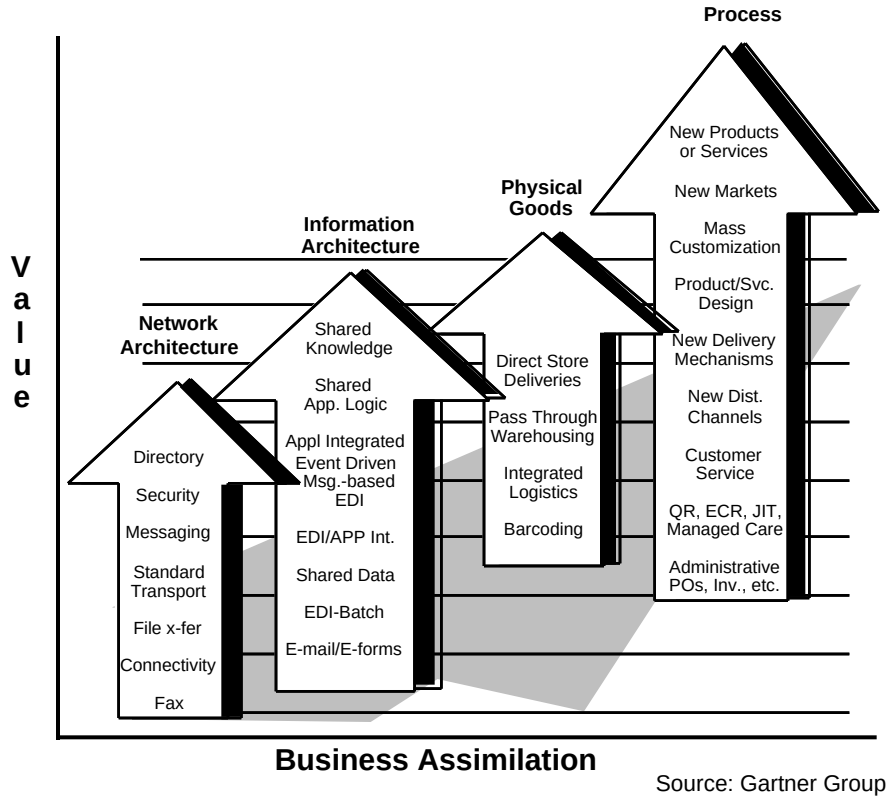
Marketing is an organized system of communications from the seller to the customer to support the sales, retention and growth of the customer base. What customers value in regard to IT and IS staff, however, may differ significantly between different customer groups. The marketing message the IS organization delivers to each customer group must reinforce the varying requirements of that group. The EC manager should be able to segment the EC customer base into five key audience levels: executive, operations/line management, critical end-users, production uses, and trading partners.

Just as marketing messages and goals need to be customized for different audiences, so do marketing tools and tactics. In general, IS organizations tend to underestimate the amount of personal interaction required to deliver, sell and keep the marketing message current in the customer base. Significant amounts of time need to be devoted to researching business results and changes as EC penetration into business processes increases.

Which technology and process components of EC provide the most business value, and which provide the least value?

Reader Notes

The Electronic Commerce Value Proposition



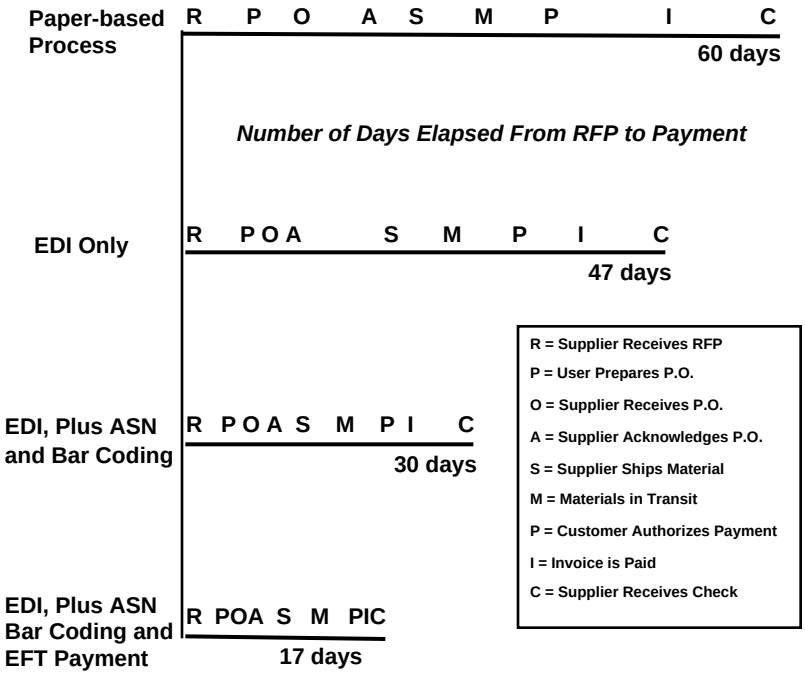
Source: Gartner Group

Organizations that have successfully implemented strategies to EC-enhance business processes have reduced cycle times, improved cash flows, reduced inventories, decreased administrative costs, and opened new marketing and distribution channels. Some organizations have managed to achieve a competitive advantage as a result of EC-enhancing their processes. However, the implementation of EC technologies alone certainly did not bring the benefits. These organizations and their business partners also changed business processes, normalized data definitions and types, agreed on electronic interfaces, and changed or enhanced legacy applications.

EC needs to be managed as a type of business strategy with technical implications, rather than as a tactical technology-driven response to isolated customer demands.

Reader Notes

The Impact of EC on Cycle Time



Source: Pacific Bell; adapted by Gartner Group

Key Issue: Which technology and process components of EC provide the most business value, and which provide the least value?

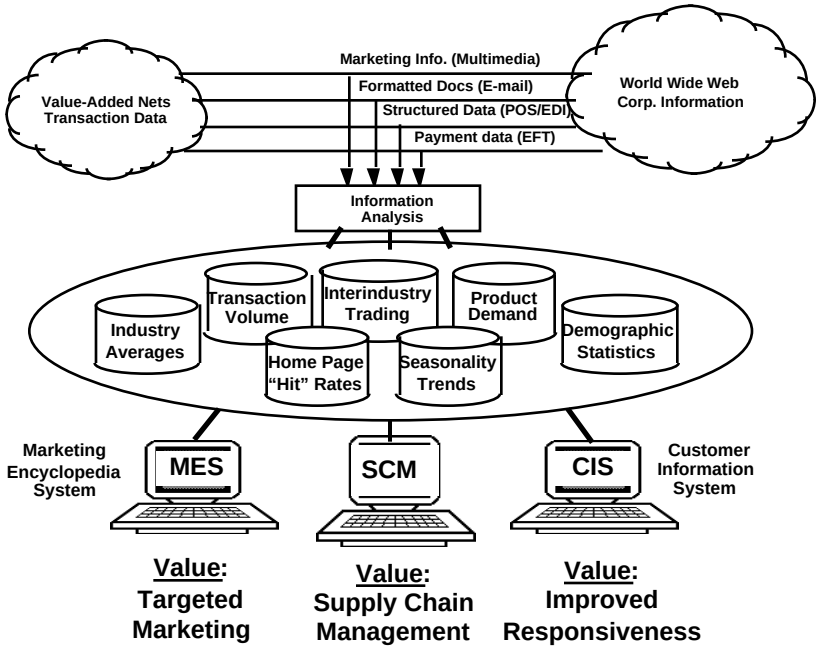
Process cycle time reduction is one of the most common ways the value of EC is measured. But few enterprises have measured the incremental contribution of each EC tool as this Pacific Bell case does.

Driven by corporate directives to reduce costs, Pacific Bell has integrated bar coding for shipping and receiving transactions, and for further systems efficiency. The benefits to the company have been impressive: a reduction from 122 to five staffers in invoice processing; a reduction in the number of order expeditors needed; a halving in invoice keying error rate; and the closure of six warehouses. Further, it has enhanced its relationships with its vendors by improving payment cycle times, and exacting better pricing as a result.

Quick response and efficient consumer response programs are leading edge in terms of using EC tools to collect and analyze customer data and drive logistics and manufacturing.

Reader Notes

EC Enables Quick Response, ECR and Supply Chain Management



Source: Gartner Group

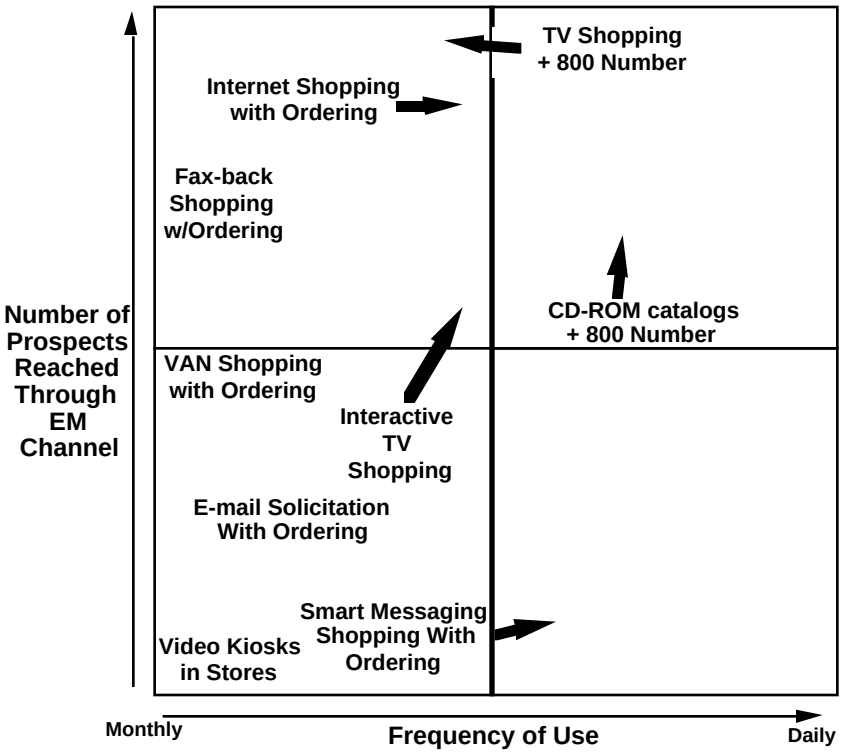
Key Issue: Which technology and process components of EC provide the most business value, and which provide the least value?

To date, one of the best defined efforts to re-engineer an industry using the tools of EC is the Efficient Consumer Response initiative that was started in 1994 in the grocery products and retail grocery industries. Drawing on the prior experience of the many companies in retail dry goods and consumer products manufacturing that have implemented quick response programs, the retail grocery industries began with an extensive series of process models, which were built to ensure that the participants shared a view of the industry. In addition, the ECR study was valuable because it identified dozens of areas of savings which collectively total almost $20 billion.

CD-ROM catalogs, TV shopping with 800 numbers, and interactive TV will be used to overcome bandwidth-to-the-home problems that currently exist with EMs (probability 0.85) .

Reader Notes

EM Options by Reach & Frequency



Source: Gartner Group

Key Issue: Which technology and process components of EC provide the most business value, and which provide the least value?

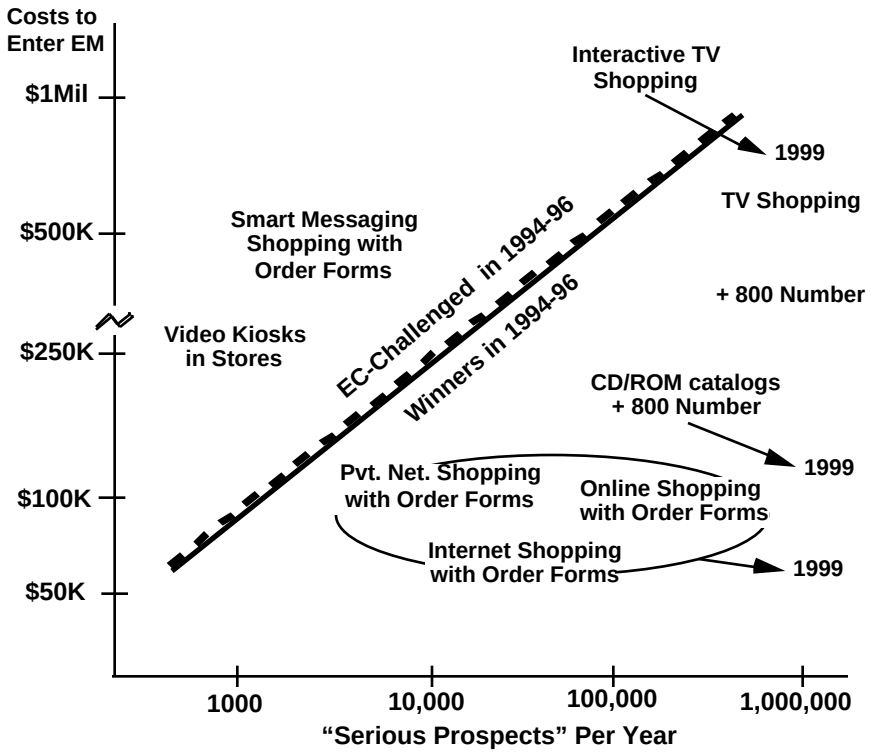
One of the most logical ways to understand EMs is to consider each EM as a separate marketing channel and evaluate it as any other marketing channel would be evaluated — in terms of reach (i.e., number of valid prospects reached) and frequency of exposure of the target to the company's message. One of the difficulties of this type of analysis is that it does not take into consideration that many of the users of an online service should not be counted as part of the “reach” of the online service. There are so many different screens within the system that the real reach of such services is actually much smaller than the number of subscribers to the Internet or an online service. However, in some electronic catalog systems it is possible to determine exactly who looked at what screen and for how long. This is the only true measure of the reach of an EM, and most EMs are not equipped to provide this measure to the vendors that wish to participate in an EM.

Strategic Planning Assumption

Low-cost, high-reach EM winners in the near term will be CD/ ROM catalogs, TV shopping, and the online and messaging-based shopping services (0.8 probability).

Reader Notes

EM Options by Cost and Reach, 1994-99



Source: Gartner Group

Key Issue: Which technology and process components of EC provide the most business value, and which provide the least value?

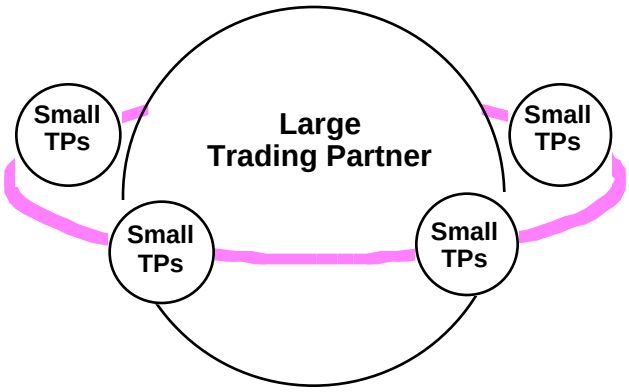
The likelihood that a given EM alternative will succeed can be measured by determining which EM alternative gives vendors the access to the most "serious" prospects for the least cost and effort. In general, we believe that EMs that require special purpose hardware (e.g., video kiosks or smart phones) will be the least successful as they have the highest entry points and will require the most EM-specific effort on the part of users and EM vendors.

One feature still missing from most EM systems is an effective measure of "serious" prospects — those who are likely to buy. This will be important for lining up vendors once there is more EM technology competition. Repeated access to the shopping "screens" within such services can be measured without significantly invading the privacy of the users. Also, statistics that indicate what percentage of total users have actually purchased products through an EM is another good measure that is not published as yet.

How can EC be made cost effective even for the smallest enterprises?

Reader Notes

Ways to Help Your Small Trading Partner



Large Trading Partner Provides:

Electronic Forms and EDI	**Training**
Application and EDI	**Deal Purchases**
Network-Based Services	**Discounted Fees**
CD-ROM	**Adherence to Standard Conventions**

Source: Gartner Group

Depending on the importance of the EC-enabling initiative to business results, the organization may need to: 1) provide financial incentives for business partners to become EC-capable; 2) negotiate deals for hardware, software, network and training services on behalf of smaller trading partners, or even pay all or a portion of the expenses; and 3) get involved in industry groups to try to rationalize multiple business partners' approaches to EC enablement.

If the smaller trading partners are customers, the larger trading partner will have to provide alternative ways to engage in EC based on segmentation of the customer base. Some ideas include providing CD-ROM catalogs with built in E-forms and EDI, setting up a network "storefront," providing an EDI system with an E-forms front-end, etc.

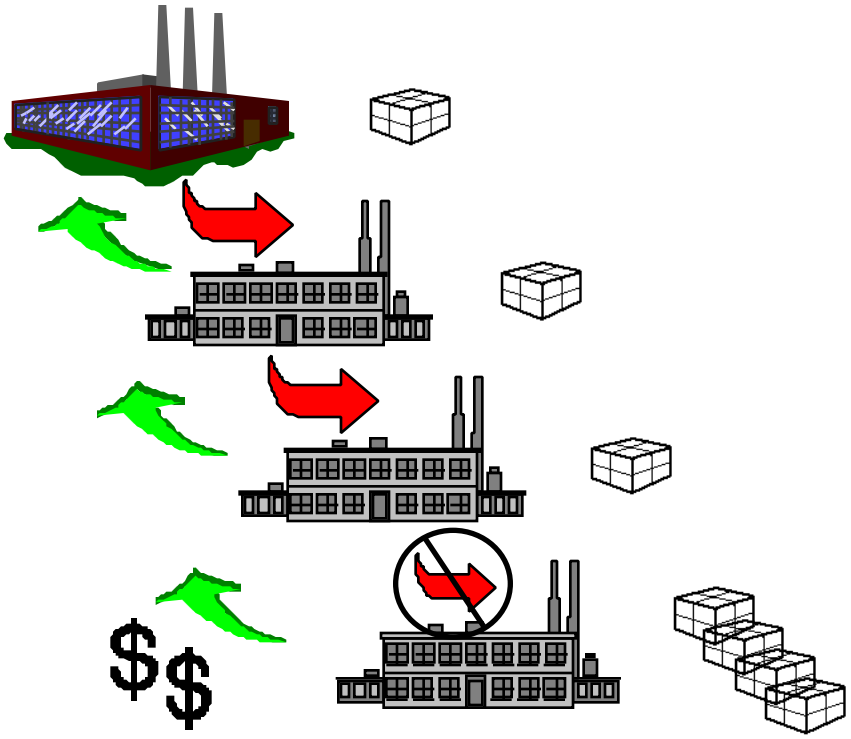
Companies that implement EC need to understand that their internal enterprisewide EC systems, strategies and architectures will not easily generalize to external business partners (0.9 probability).

Strategic Planning Assumption

As extended value chains and supply chains become more fragmented, it will become increasingly impossible to conduct business without EC (probability 0.8).

Reader Notes

Word of Caution Missing EC Links Raise Prices



Source: Gartner Group

Key Issue: How can EC be made cost effective even for the smallest enterprises?

When implementing EC with suppliers, it is possible to demand cooperation and demand it on the company's terms. Suppliers that must do business according to multiple customers' EC rules are being forced to implement numerous and costly internal operating procedures, and their associated costs of doing business rise. In the end, customers that force suppliers to do business their way will force suppliers to raise prices to cover the added expense.

However, it can be equally as costly to allow a player in the extended supply-chain to not implement EC, especially when JIT inventory replenishment is used. In this case, the "unlinked" supplier cannot substitute information for inventory and will be forced to hold more safety stock to meet the delivery requirements of its customers.

It is for these reasons that groups of business partners, working together in a trading community or EM should pursue the goal of cooperative advantage when incorporating EC tools and techniques into business processes.

Bottom Line

Reader Notes

- The business value of EC will more than double over the next five years, due primarily to EC-enabled process improvements and the growth of electronic marketing revenues.
- The value of EC cannot be derived from measuring the impact on IT budgets or productivity. Instead, EC's value can only be determined in terms of business results.
- However, IS management, thus EC managers, are measured on the ability to reduce or contain IT costs. The typical measures of IS performance are often in conflict with gaining the greatest business benefit from EC because EC managers are not measured by business results achieved.
- The realization of value from EC is dependent on the organization's ability to assimilate EC into its business processes.
- Depending on the importance of the EC-enabling initiative to business results, the organization may need to: 1) provide financial incentives for business partners to become EC-capable; 2) negotiate deals for hardware, software, network and training services on behalf of smaller trading partners, or even pay all or a portion of the expenses; and 3) get involved in industry groups to try to rationalize multiple business partners' approaches to EC enablement.