

The first part of the document discusses the importance of maintaining accurate records of all transactions. It emphasizes that every entry should be supported by a valid receipt or invoice. This not only helps in tracking expenses but also ensures compliance with tax regulations.

In the second section, the author provides a detailed breakdown of the monthly budget. It includes categories for housing, utilities, food, and entertainment. The goal is to allocate funds wisely to avoid overspending and to save for future needs.

The third section covers the topic of debt management. It suggests creating a repayment schedule for all outstanding loans and credit cards. Regular payments are crucial to avoid penalties and to improve one's credit score over time.

Finally, the document concludes with advice on emergency fund building. It recommends setting aside a portion of each month's income into a separate savings account. This fund acts as a safety net in case of unexpected financial challenges.

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Opportunities in Internet and Intranet Applications Management

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Abstract

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This report identifies users' plans to use vendor-provided services for Internet- and intranet-based activities in this emerging market. Likely vendor opportunities include intranet-enabled access to corporate data and administrative systems as well as Internet site development, interactive activities, and content management.

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The study examines the most important Internet and intranet activities from the user perspective and the areas that users plan to turn over to vendors. In addition to an analysis of the market for Internet and intranet applications management, this report provides a forecast of market growth through the year 2001. The study also discusses the evolution of applications through the year 2001 and the role of extended intranets or "extranets". Recent examples of contracts for vendor services in the Internet, intranet, and "extranet" segments are included.

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This report is based on data from a primary research project involving over 75 telephone interviews conducted with leading North American companies across a number of industries.

This report contains xx pages and xx exhibits.

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MAP Program

***Opportunities in Internet and
Intranet Applications
Management***

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4. Outlook

D.

1. Conclusions
2. Recommendations
 - a. Users
 - b. Vendors

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- B Profiles of User and Vendor Respondents
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much to be done

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Introduction

A

Overview

This study, from INPUT's Market Analysis Program, examines the plans and priorities of U.S. companies regarding usage of the Internet and intranets.

This chapter will describe:

-  Scope and purpose of this report
- The methodology used for this study
- The organization of this report

B

Scope and Purpose

1. Scope

This research-based report focuses specifically on Internet- and intranet-based activities and applications. The focus of the research was on the plans and priorities of U.S. companies and the opportunities for vendors to provide Internet- and intranet-related services.

2. Purpose

This research addresses the following major questions:

- What is the size of the current and future market for Internet and intranet services? What is the growth rate?
- What types of Internet-related activities/applications are important to users?



- For what types of Internet-related activities/applications will users consider outside services vendors? X
- What types of intranet-related activities/applications are important to users? X
- For what types of intranet-related activities/applications will users employ vendors? X
- What are the drivers of the decision to use a vendor? X
- What is the current and future demand for Internet- and intranet-related applications management? X
- What role will extended intranets, or "extranets", play in the evolution of the market? X
- What are key opportunities for vendors? X

Readers of this report will be assisted in a number of ways:

- Users will be able to evaluate their own plans against those of peer companies
- Vendors will be able to identify and address gaps between requirements and offerings
- Vendors will be able to focus on activities or applications users are likely to outsource
- Vendors will be able to plan future offerings to target emerging
- Users and vendors will learn about precedent setting Intranet and outsourcing contracts

Page #s usually alternate left & right, as reports are printed double sided.

C

Methodology

This report is based on telephone interviews conducted with representatives of user organizations and vendor companies that were knowledgeable about applications management activities within their organizations and the issues brought about by the emergence of Internet and intranet-based activities. A total of 50 user interviews and 25 vendor interviews were conducted. Many industries and a wide range of company sizes are represented. Exhibit B-1 in Appendix B identifies key descriptive characteristics of the user sample. X

Vendors actively positioning for and currently providing applications management were also interviewed. Some of these are already providing Internet- and intranet-based applications management services to clients. Twenty-five structured interviews were conducted along with a number of unstructured vendor interviews. Exhibit B-2 in Appendix B profiles the information service categories of the vendors participating in the structured interviews. X



D

Report Organization

Chapter I—Introduction—describes the purpose, methodology, and organization of the report.

Chapter II—Executive Overview—presents a market forecast and an overview of the characteristics of the Internet and intranet services market. It presents a summary of user priorities and plans to use vendor services, followed by conclusions and recommendations for both users and vendors.

Chapter III—Internet Applications Management—examines users' Internet priorities, the activities for which users are likely to use outside vendors' services, and the probable evolution of Internet applications development. The chapter provides examples of Internet contracts.

Chapter IV—Intranet Applications Management—reviews users' intranet priorities and plans and plans to use a vendor for selected activities. It also discusses the role of extended intranets or "extranets".

Appendix A provides definitions of terms used in this report and indicates the SIC codes of each of the vertical markets.

Appendix B provides profiles of survey respondents.

Appendix C includes a copy of the user and vendor questionnaires used during the telephone interviews.

E

Related INPUT Reports

Other reports from INPUT that could be of interest in relation to this report include:

- *Applications Migration to the Web*
- *Use of Internet Appliances in the Corporation (U.S.)*
- *Use of Internet Appliances in the Corporation (Europe)*
- *Impact of the Internet on Outsourcing and Processing Services*
- *Using the Internet for Business Operations*
- *Internet Application Case Studies*
- *Worldwide Internet Market Forecast Report, 1995-2000*
- *The Future of Worldwide Web Servers and Browsers*
- *Lotus Notes Survival in the Intranet-Enabled Corporation*
- *Internet Sales and Marketing Directions*
- *Opportunities in Applications Management Outsourcing*





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Executive Overview

A

Market Size and Characteristics

Users are beginning to view Internet technologies as tools to be used toward the achievement of such business goals as stronger growth, agility, innovation, and collaboration. The challenge will be to find Internet- and intranet-based applications that maximize business impact. X

INPUT defines an intranet as a secure internal network built on public Internet standards. Its usage is limited to employees and, in the case of an extended intranet (or "extranet"), to specific clients and business partners who have been given access.

1. Market Forecast

The U. S. market for Internet and Intranet Applications Management Services is forecast to grow at a CAGR of 116% from 1996-2001, from \$300 million in 1996 to \$14.2 billion in 2001. This tremendous market growth is being fueled by technology advancement, globalization, competition, and the closer alignment of IT with business goals. X

The worldwide market for these services is forecast to grow at a somewhat faster CAGR of 122% in 1996-2001, from \$400 million in 1996 to \$21.8 billion in 2001. While the U.S. represents 75 percent of the worldwide market in 1996, its share will decrease to 65 percent of the X

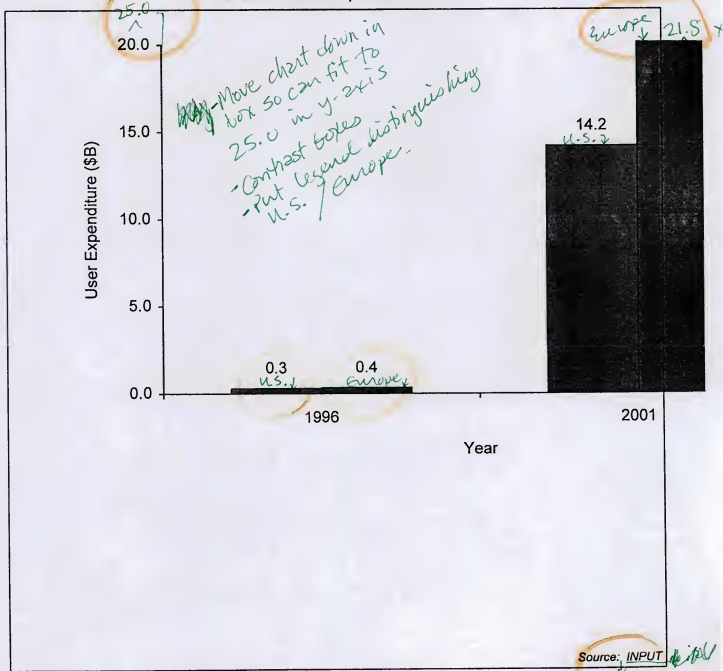


worldwide market in 2001, as usage begins to gather momentum in Europe and Asia. See Exhibit II-1.



Exhibit II-1

**U. S. and Worldwide Internet and Intranet Services
Market Forecast, 1996 - 2001**



Vendors will face tremendous challenges trying to respond to this rapidly growing market. A key challenge will be to acquire resources with the workers



appropriate skill sets to keep up with growth in demand. Another will be to develop innovative applications that truly leverage this new paradigm to benefit businesses.

2. Key Market Drivers

There is strong interest in using internet-based technology as a competitive and operations-enabling tool. The following key drivers are creating demand in this emerging market:

- Virtual corporation evolution: increasing the need for communications and collaboration with mobile workers, employees in remote (including global) locations, and business partners (clients, suppliers, distributors, etc.) worldwide, is increasing.
- Usage of networks and applications for critical business processes is growing.
- Demand for interoperability is increasing.
- The proliferation of basic Internet- and intranet-based applications, often initiated within departments, is creating a need for better planning and control, IT support, back-up, security, monitoring, and general chaos prevention.
- Business pressures are requiring speed, agility in changing markets, reduced costs, improved profitability, better customer service and a greater competitive edge.

The drivers listed above are resulting in increased interest in, and usage of, the Internet by businesses. There is an emerging awareness that the Internet can be a tool to improve customer service and communications with business partners.

B

User View of Internet Priorities and Needs

1. Priority of Internet Activities from the User Perspective

a. Content Management

Users view management of Web site content as the key Internet activity. They are realizing that once an attractive and easy-to-use Web site has been developed, its content needs to be managed through continuous support services, which include:



- Content storage
- Content updates
- Security
- Analysis of customer feedback
- Continuous, 24x7 support

b. Inter-company Communications

There is strong emerging interest in inter-company communications via the Internet, including business transactions with customers and business partners. However, concerns about security and network reliability will impede this transition *to this mode of communication.*

Such transactions now appear likely to be implemented first on extended intranets ("extranets") or Virtual Private Networks (VPNs), until the Internet proves to be more secure and robust. User concerns about security and reliability and the attractiveness of extranets and VPNs represent opportunities for vendors.

At this time, users view content management and inter-company communications as the most important Internet activities.

c. Other Internet Priorities

Creative site development and the use of the Internet as a customer service center ranked as the next most important activities, according to users. See Exhibit II-2.

Exhibit II-2

Key Internet Activities, According to Users *remove #1*

Internet Activity	% Ranking High in Importance	% Ranking Low in Importance
Content Management	57%	30%
Inter-Co. Communications	54%	30%
Creative/Site Development	52%	35%
Customer Service Center	51%	38%

Source: INPUT

Table Source: *format*
Chapter II-5



2. Likelihood of Using a Vendor for Internet-related Activities

Users are likely to use vendors for a number of Internet-related activities. However, they will employ a selective approach to outsourcing—they will seek vendor assistance with certain activities, but not with others. And the areas they choose to outsource will not necessarily correspond to those areas of highest priority. More than 40 percent of users plan to use a vendor for creative site development. Many are highly likely, as well, to use a vendor for content management and for interactive activities, i.e., those activities which enable the interaction of two or more parties. This need is being driven by a lack of adequate skills and experience in-house to support these activities.

Users are unlikely to use vendors for two other high-priority activities: inter-company communications and customer service. Users prefer to handle these activities in-house. Currently, there is a greater comfortable level among users with these activities and more staff available in-house with appropriate skills. Indeed, some users are already performing these activities over the Internet. Nevertheless, vendors may be able to leverage user interest in these activities to

See Exhibit II-3.

Exhibit II-3

Internet Activities Most Likely to be Managed by Vendor

Internet Activity	% Ranking High in Likelihood	% Ranking Low in Likelihood
Creative Site Development	43%	36%
Interactive Activities	40%	36%
Content Management	39%	41%
DB Mining	36%	50%

Table Source: INPUT



C

User View of Intranet Priorities and Needs

Intranets have caught users' attention and proliferated, often initiated at the department level. Eventually, it is likely that enterprise-wide applications will be integrated into corporate intranets to leverage intranet advantages. This change is studied in depth in INPUT's report, *Revolutionary Migration of Applications to the Internet*.

Currently, some of the departments showing greatest interest in establishing intranets are marketing, communications and human resources. This is because intranet applications can fulfill these departments' needs fairly easily.

1. Priority Intranet Activities From the User Perspective

Users view the following as the highest priority activities for the intranet:

- internal communications
- access to corporate data
- the publication of internal information
- collaborative activities

Users perceive the benefits of moving these activities to an intranet as follows:

- Ease of use
- Extended reach
- Reduced costs
- Increased productivity
- Interoperability

Use cannot quantify these advantages at this point.

It is significant that very few—approximately one in ten respondents—believe that intranet-enabled collaboration is low in importance. Vendors should prepare to assist in this area, as there is



widespread consensus that collaboration via the intranet is of medium or high importance in achieving business goals. See Exhibit II-4.

Exhibit II-4

Key Intranet Activities, According to Users

Intranet Activity	% Ranking High in Importance	% Ranking Low in Importance
Internal Corporate Communications	60%	26%
Access to Corp. Data	57%	26%
Publish Internal Information	55%	31%
Management of Collaborative Applications	48%	12%

Source: INPUT

2. Likelihood of Using a Vendor to Manage Intranet-related Activities

Users are likely to employ vendor expertise for intranet-based administrative activities, access to corporate data, browser development, and the migration of existing internal applications to the intranet. Of these, only access to corporate data was rated by users as a high-priority activity. See Exhibit II-5.

Factors that will drive demand for vendor assistance will be:

- Lack of skills and experience in-house
- Non-mission-critical nature of projects and the need to focus on core competencies
- Uncontrolled, unmanaged proliferation of intranet usage at the department level

Users are not inclined to turn over to a vendor the high-priority applications in which they have experience, such as internal



communications, the publication of internal information and collaborative activities. X

Exhibit II-5

Intranet Activities Most Likely to be Managed by Vendor X

Intranet Activity	% Ranking High in Likelihood	% Ranking Low in Likelihood
Access Corporate Data	67%	39%
Administrative Tasks	52%	33%
Develop Browser for Applications	45%	42%
Migrate Existing Applications to Intranet	44%	42%

Source: INPUT X

Among administrative tasks that might be carried out via an intranet are:

- Supply ordering
- Telephone directory and organization charts
- Job postings
- Publication of company policies, and benefits information
- Employee surveys
- Registration for classes

Many companies are interested in having a browser front-end developed for key applications, such as accounting, inventory management and MRP. X

Among existing applications that are likely to be migrated to intranets are: X



- Sales automation
- Expense reporting
- Travel arrangements
- EDI, order processing
- Benefits choices
- Help desk
- Accounting
- Supply chain management (extended intranet)

more to (17)

3. Timing of Internet/Intranet Applications Management Needs

Users clearly intend to use vendors' applications management services to a great degree over the five-year forecast period: all respondents say they will use vendors for management of innovative intranet applications by 2001.

Users are looking to vendors for leadership in this area. They will also rely more on vendors for help with migration of applications to their intranets and with connection. See Exhibit II-6.

Exhibit II-6

Internet/Intranet Applications Management Services Plans

Type of Application	Percent That Would Use a Vendor Now	Percent That Will Use a Vendor in the Future
Migration	76	88
Connection	76	95
Innovation	86	100

Source: INPUT

(Explanation of above terms.....xxxx) ? ←



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Areas of innovation might include:

- Customization of Web site based on visitor profiles, which are developed based on initial visits and stored for subsequent visits (one-to-one marketing)
- Real-time monitoring of valuable information to customers, such as production/order status and time-sensitive financial data
- Collaborative tools such as video conferencing, telephony, electronic white board, document sharing, etc.
- Multimedia enhanced applications (custom training, presentations)
- Electronic commerce applications

4. Outlook

Users were not surveyed on new areas such as extended intranets, or extranets and Virtual Private Networks (VPNs). However, these technologies offer important business potential.

They represent a means to overcome major barriers, such as concerns about Internet reliability and security. Extended intranets and VPNs can enable secure transactions that offer the advantages of speed, low cost, extended reach, and ease of access and use. Thus, they have the potential to help users achieve the agility and increased productivity that they are seeking in the 1990s.

Application vendors are expected to continue to modify their packages for the intranet, as SAP is now doing, thereby enabling the implementation of enterprise-wide applications on intranets.

These trends will enable increasing interactivity among communicating parties, contributing to a shift toward real-time, interactive business processes that should contribute to significant increases in productivity.



The need for extranets and VPNs may diminish in the next millenium, when the infrastructure of the Internet is more robust and benefits can be achieved reliably through its direct use.

D

Conclusions and Recommendations

1. Conclusions

Users are most likely to use vendors for creative/site development for their Internet activities. Users are also likely to seek assistance with interactive applications and content management. See Exhibit II-7.

Exhibit II-7

Conclusions Internet

Users will seek vendors assistance for Internet?

- Site development
- Management of interactive applications
- Content management

- For their intranets, users are most likely to use vendors for access to corporate data. They are also likely to use vendors for the management of administrative tasks, the development of browser frontends, and the migration of existing applications. See Exhibit II-8 for a summary of these key points.



Exhibit II-8

Conclusions Intranets

Users are most likely to use vendors for:

- Data access
- Management of administrative tasks
- Browser frontends
- Application migration

Source: INPUT

A large percentage of users surveyed plan to outsource Intranet-related innovation, connection and migration within the next four to five years. See Exhibit II-9.

Exhibit II-9

Conclusions Intranet Timing

By 2000, all users surveyed:

- Plan to outsource Innovation

By 2001, most users surveyed plan to outsource:

- Connection and
- Migration

Source: INPUT

2. Recommendations

a. Users

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"By 2000, all users surveyed plan to outsource innovation."

"By 2001, most users surveyed plan to outsource connection and migration."

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Survey data supports the need for users to prioritize their activities by business impact and to focus on their areas of experience and expertise. Users should develop a plan for Internet/intranet applications. Such a plan should emphasize strategic priorities and acquisition of required skill sets. The required skill base can be built up through hiring, alliances/acquisitions and/or retraining.

Users should consider communicating and executing transactions with key clients and partners via an extended intranet or Virtual Private Network (VPN) to accelerate the benefits of electronic commerce. As always, it is best to start with easy activities and work up to more difficult projects. A summary of these key recommendations is provided in Exhibit II-9.

Exhibit II-9

Recommendations for Users

- Prioritize
- Focus
- Develop a plan
- Interact via extranet or VPN
- Build up skills
- Start easy

Source: INPUT

From user data and comments, recommendations for vendors have been developed. See Exhibit II-9.

b. Vendors

Even though the opportunities in Internet and intranet-related services appear extensive, vendors should use a calculated approach, taking time to develop a cohesive strategy and plan for targeted offerings.

The critical elements for early entry into this market appear to be: skills and experience to support creative site development, interactive internet-based transactions, content management, the enabling of access to corporate data and to administrative systems via the intranet, and the integration of existing internal applications with intranets and browser frontends. Vendors should choose target areas to emphasize and build skills in those areas.



Vendors should consider establishing alliances with the following:

- Software vendors that are adapting their products to the Web
- Hardware vendors that need to offer a portfolio of Internet services and software
- Implementation and development vendors that have the skills to implement Internet-based solutions
- Outsourcers that can manage implementation and related processing services

Vendors can leverage existing vertical expertise areas and applications experience, transitioning these strengths to Web-based transaction management and targeting users in these vertical markets.

Vendors should consider offering an extended intranet ("extranet") for members of a vertical industry or organization to position for the emerging electronic commerce market and for additional services to these clients. Vendors should also include training and business assessment/consulting in their offerings.

Exhibit II-9 provides a summary of vendor recommendations.

Exhibit II-9

Recommendations for Vendors

- Develop a plan and target offerings
- Build skills in target areas
- Make alliances
- Leverage strengths and transition to Internet/intranet areas
- Consider extranet offerings
- Offer training and consulting

Source: INPUT





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Internet Applications Management

The implementation of Internet technology is becoming an important driver of demand for application management outsourcing, according to vendors. The Internet is clearly on users' minds and in their plans for the future and they have begun to discuss their Internet-related needs with vendors.

indicator

A

Users' Internet Priorities

Content management (content updates, analysis of customer feedback, security) and inter-company communications are the most important Internet activities, from the users' point of view.

The use of the Internet as a customer service center ranked next in importance, with creative site development close behind in fourth place. Less important to users at the present time are using the Internet for interactive activities (e.g., orders, fulfillment, technical support) and database mining of customer information for market targeting purposes. Although these applications have important business potential, they are likely to form a second wave of demand among users, once users are convinced that Internet technology is reliably robust and secure. See Exhibit III-1.

Exh. III-1
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~~some additional notes~~

Exh. III-1
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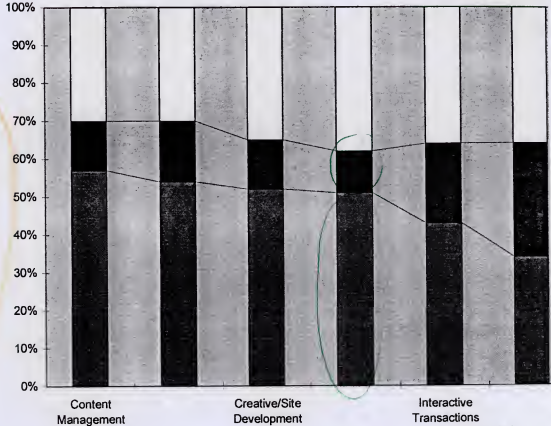


Exhibit III-1 (mmh6/exiii-1a.xls/ExIII-1b)

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Importance of Internet Activities to Users

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Source: INPUT

An example of a customer service center application would be the enabling of direct customer look-up of account or order status, eliminating the need for a middleman.

INPUT believes that interactive transactions will gain in importance as users become convinced of the reliability of the Internet. In the interim, Virtual Private Networks (VPNs) and extended intranets may be developed for reliable usage.



B

Likelihood of Outsourcing Internet-based Activities

When asked how likely they would be to use the services of a vendor for Internet-related activities, users respond that they are most likely to use a vendor for content management. Users would expect a vendor to perform

content refreshment, updates and to manage and analyze customer feedback.

Users are also likely to turn to vendors for assistance in e-commerce development activities, which ranked second. Two other areas users are likely to use vendor assistance are interactive Internet and database mining of customer information. See Exhibit IV

and inter-company communications. For content management.

Exh. III - 2
does not seem to reflect info. given in #4 slope, i.e. #4 says content mgmt. most likely use, etc. pls. fix

Exhibit III-2

Likelihood of Using A Vendor for Internet Activities

Internet Activity	% Ranking High in Likelihood	% Ranking Low in Likelihood
Creative Site Development	43%	36%
Interactive Transactions	40%	36%
Customer Service Ctr.	40%	43%
Content Management	39%	41%
DB Mining	36%	50%
Inter-company Comms.	30%	48%

Source: INPUT

Importance ex. said content mgmt. most important.

Users indicate that they are less likely to turn to an outside vendor for help with inter-company communications, even though this activity rated first in importance to users. Users are more likely to rely on internal resources to carry out this function.

Despite the fact that vendors, such as IBM, are positioning themselves to provide Internet-enabled database mining, half of users surveyed are unlikely to turn to a vendor for database mining assistance. In part, this is because users still do not view database mining as an important activity. Raising users' awareness of the importance of database mining will require more education by vendors in the business advantages of database mining.



C

Evolution of Internet Applications Development**1. Current and Future Sources of Internet Applications Development**

When INPUT surveyed 120 Fortune 1000 companies as to the likely source of current and future Internet applications, respondents outlined an evolution away from in-house developed applications, which currently, in their opinion, represent nearly 40 percent of Internet applications, to an equal proportion of off-the-shelf applications in the year 2000. In that year, respondents believe that 36% of Internet applications will be off-the-shelf and another 36% will be in-house developed. They foresee a smaller share (28%) of custom, externally developed Internet applications, which currently account for about one-third (34%) of Internet applications development at present. See Exhibit III-3.

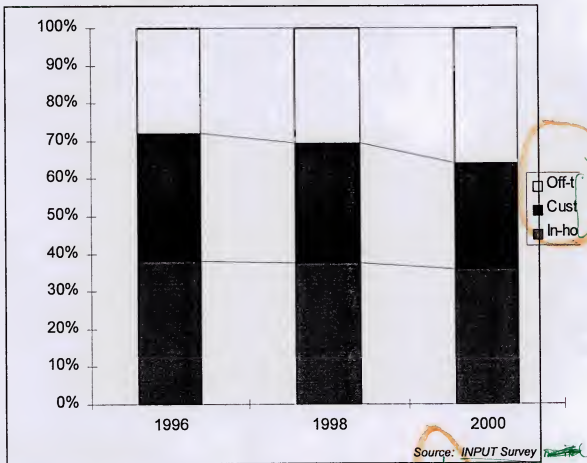


Exhibit III-3

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-3)

Who Will Develop Internet Applications?



In the future, services vendors will be customizing or modifying applications which are off-the-shelf or have been developed by the user in-house, rather than developing custom applications from the ground up. Therefore, there is an opportunity for outsourcers to manage these applications as part of their services.

2. Focus of Internet Applications Development Activity

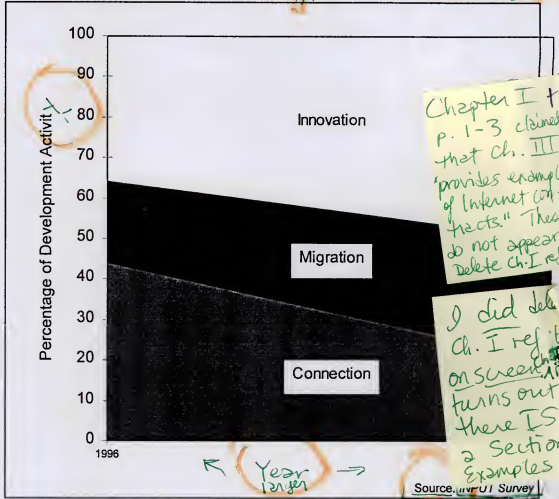
Users believe that focus on innovative applications for the Internet will increase, while connection will become a less important area of activity, as it becomes more of a commodity. There will be a slight increase in focus on



migration applications as well. See Exhibit III-4. What this means for vendors is that their plans should emphasize the acquisition of emerging innovative applications and skills.

Exhibit III-4
{mmh6/mmh6exib.xls/III-4}

Focus of Internet Applications Activity 1996 - 2000 (use Brad's chart)



Chapter I + p. 1-3 claimed that Ch. III 'provides examples of Internet contracts.' These do not appear to delete Ch. I ref.

I did del Ch. I ref. on screen. It turns out there IS a section of examples of

Source: UI Survey

Professional services vendors and outsourcers should position themselves to provide innovative services for future.

Add details re: contract; FDS' Internet + EC... (etc name) has a synth. admin. c... w the interactive... igning of DD2... delw - see attached

Internet contracts, w/ Exh. III-5 showing than. Delete all that or restore refs in TOC, LGE, Ch. I?

Message for Sumits, Sherry

From: Auto-Mailer
Date: Fri, Mar 1, 1996 6:54 PM
Subject: CA:027 Customer: DDB Needham Worldwide

For release 03/04/96

CA 027

Customer: DDB Needham Worldwide

The Internet & New Media business unit signed a 14-month systems administration agreement with the interactive communications group of DDB Needham Worldwide. On behalf of DDB Needham, EDS designed, developed, implemented and hosts an Internet site for Pepsi-Cola, Inc. The web site resides on the EDS webRanch in Plano and includes animation, audio and three-dimensional graphics created in virtual reality mark-up language by EDS. The site went on-line Feb. 29 at the following address:
www.pepsi.com.

Jeff Anderson sold the contract. Michael Kaufman provided project development support. Chris Duffy is the account manager. Contact: Jeff Anderson at (+1) (214) 604-9435 (8-834).



IV

Intranet Applications Management

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Users' interest shifted in 1996 from the Internet to the intranet because the latter can offer reliable and secure present-day business advantages with relative ease of transition. X

Intranets can be leveraged as an important business tool enabling better communications, collaboration and productivity. A key challenge of intranets is the seamless and secure integration of existing internal networks with Web sites. X

Intranet usage is being driven from the department level, with human resources, marketing and communications departments leading the way. INPUT believes that the bottom-up trend parallels the adoption of client/server technologies in the 1980s. Once again, central IS is often only being brought in after implementation to manage the chaos. X

A

Users' Intranet Plans

1. Plans for Intranet-based Applications

When users were surveyed as to whether they have plans for intranet-based applications, a three-quarters majority responded affirmatively. X

in Exhibit IV-1.

as shown

Exhibit IV-1

Intranet-based Applications Plans

Status	% of Respondents
Planning	76%
No plans	24%

This is a signal vendors should consider. If users are planning, there may be opportunities for consulting during the planning stage.

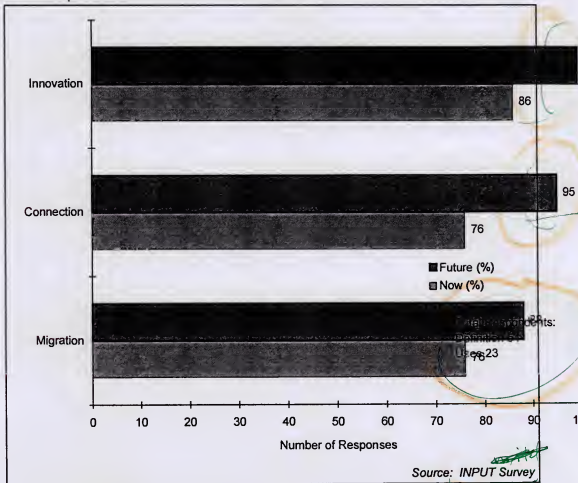
2. Evolution of Intranet Services Plans

A very high percentage of users indicate a willingness to use vendors for innovative intranet applications. Currently, 86 percent of users surveyed would use a vendor for innovative applications. This percentage increases to 100 percent by the year 2001. This is a clear indication that users will look to vendors for leadership in their intranet development. Innovative applications include transactions with a more customized or multimedia aspect than is currently available.

About three-quarters of users currently say they would outsource intranet connection and migration. Like the trend in innovative applications, these percentages, too, increase over the five-year forecast period. By 2001, 88 percent of users would consider using a vendor for migration of applications to the intranet, and 95 percent would use a vendor for connection. See Exhibit IV-2.

Exhibit IV-2
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 inno2)

Evolution of Plans For Intranet Management Services, 1996 - 2001





B

Users' Priorities and Likelihood of Using a Vendor

1. Importance of Intranet Activities to Users

For users, the most important intranet activity is intra-company communications—nearly two-thirds of users believe this is an important intranet-enabled activity. Users see the advantages of intra-company communications as including: extended corporate reach, improved speed of access and response, relatively low cost, and better productivity.

Next in importance to users are: access to corporate data, publication of internal corporate information and collaborative applications. See Exhibit IV-3.

Exhibit IV-3

Importance of Intranet Activities to Users

Intranet Activity	% Ranking High in Importance	% Ranking Low in Importance
Internal Corporate Communications	60%	26%
Access to Corp. Data	57%	26%
Publish Internal Info.	55%	31%
Collaborative Applications	48%	12%
Administrative Tasks	38%	36%
Develop Browser Front-end	34%	39%
Migrate Existing Applications to Intranet	29%	50%

Source: INPUT

An example of an application that could fall under either of the top two categories would be remote access, by a sales or customer service representative, to customer credit information and order status. These areas are important to users because they enable better and faster decisions and an improved workflow.

Timing may be influencing the lower priorities among users. For example, migration of existing applications to intranets is likely to become a higher priority to users once other intranet-enabled applications become more commonplace. Browsers, too, will become a higher priority once applications are nearly in place.

2. Plans to Use Vendors for Intranet-related Activities

Two-thirds of users are likely to use a vendor to help them enable access to corporate data via the intranet. Once data access is facilitated, interest in database mining is likely to grow. Half of users surveyed will look to vendors to assist them in implementing and managing administrative tasks on their intranets, even though such tasks were not rated high in importance.

The fact that user likelihood to use a vendor does not correlate to users' highest priority intranet activities could be an indication that users intend to use in-house resources first for the activities they deem most important.

Intranet-enabled administrative tasks include many of those now carried out at the desktop corporate-wide: job postings, benefits, directory look-up, travel planning, expense reporting, registration for internal training, etc. While these applications appear trivial, intranet access will save corporate spending on paper and clerical staffing, while making life easier for employees.

Users are unlikely to use a vendor for some of their highest priority intranet activities, such as internal communications, collaborative applications, and the publication of internal information. This may be because users feel comfortable with in-house skill levels for these activities and because, traditionally, they tend to outsource what they perceive as the less strategic and less proprietary activities. See Exhibit IV-4.

Exhibit IV-4

Likelihood of Using a Vendor for Intranet-related Activities

Intranet Activity	% Ranking High in Likelihood	% Ranking Low in Likelihood
-------------------	------------------------------	-----------------------------



Access to Corp. Data	67%	39%
Administrative Tasks	52%	33%
Develop Browser for Apps	45%	42%
Migrate Existing Applications to Intranet	44%	42%
Internal Communications	44%	38%
Collaborative Applications	42%	48%
Publish Internal Info.	34%	49%

Source: INPUT

Vendors should prepare to provide selected services related to activities that are highly likely to be outsourced. If vendor experience and skill levels are not expensive in a target area, an alliance or acquisition strategy can fill the gap.

Greater dependence on internal networks for business applications, particularly on a global basis, will drive the need for vendor assistance with applications and network management. Ford Motor depends on Hewlett-Packard to manage its intranet to ensure reliability for the company's 70,000 users in more than two dozen countries. The three-year, \$6 million contract involves primarily network operations.

C

Extended Intranets or "Extranets"**1. Extended Intranets—Definition and Opportunity**

Extended intranets, sometimes referred to as "extranets," are secure and robust intranets that are linked via the Internet to large clients and other partners, such as suppliers and distributors. Virtual Private Networks (VPNs) make use of Internet technologies but traffic runs on an outsourced private network, eliminating the traffic, bandwidth and security problems of the public Internet.

Large vendors, particularly IBM, but also EDS and Andersen Consulting, are beginning to position themselves as extranet providers because they view extranets as a means to enter the potentially lucrative business of managing network-based transactions (electronic commerce) and to do business with a multitude of companies in a vertical segment. IBM has recently announced extranets for the insurance, utility, and oil industries. Many of the vertical players in these industries are large companies with extensive service requirements. The extranet, therefore, can represent a point of entry to significant potential services contracts with multiple important clients.

Insider? Users find extranets attractive because they provide the advantages of security, reliability, speed, and improved links to business partners. The outlook for extranets over the short term is very good because they offer advantages not yet available on the public Internet. For vendors, they have huge potential, partly because they represent the initial mechanism for Net-based electronic commerce. Eventually, when the Internet becomes more reliable, secure and robust, there may be less need for extranets and traffic could shift back to the public Internet, unless vendors can continue to provide advantages that retain these attractive customers.

2. Extended Intranet Contracts—1996

In late 1996, there was an initial flurry of extranet positioning, led by IBM.

- IBM and Siemens Power Systems Control are providing an Internet-based system for the purchase and sale of electrical capacity by utilities, such as Pacific Gas and Electric. It is a flat fee service with an additional per transaction charge.
- IBM's Insure-Commerce enables insurers to do business over the Internet; for example, customers can file auto-glass claims and receive payments via EDI applications.
- EDS' PowerAg network is an Internet-based platform enabling agricultural chemical companies to access data and carry out EDI and EFT transactions with other companies in the network.

See Exhibit IV-5 for a sampling of recent "extranet" contracts.

Exhibit IV-5

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contracts)

Recent "Extranet" Contracts

Vendor	Client	Objective
IBM/ISSC	Brazilian Banks	Intranet Used by Banks to Provide Remote Banking Svcs for Customers
EDS (Energy SBU)	Agric. Chem. Co's	Secure extended intranet for access to industry info
IBM/Siemens	PG&E, Utilities	Secure Internet-based system for purchase and sale of el capacity
IBM	17 Insurance Co's	Enable insurance companies to do business with each other and with customers over Internet; EDI system streamlines glass insurance claims and payments
IBM	Oil Co's	Database and collaboration service ("PetroConnect")

Source: INPUT Survey

The above exhibit of recent contracts demonstrates that "extranet" opportunities are beginning to surface. The important point is that many of the clients are large companies with extensive potential service requirements and that these clients are likely to be heavily involved in future net-based transactions. Therefore, they represent a lucrative future opportunity for the service provider.





as A

Definition of Terms

Need to
provide
short
appendix







Profiles of User and Vendor Respondents



Exhibit B-1

Profile of User Respondents by Industry

Industry	% of Sample	Large Companies (Revenues \geq \$500M)	Small Companies (Revenues $<$ \$500M)	
Communications	10	2	3	
Financial	10	4	1	
Discrete Manufacturing	20	7	3	Delete
Process Manufacturing	18	6	3	
Retail	10	3	2	
Services	8	0	4	
Utilities	10	3	2	
Other	14	4	3	
Total	100%	29	21	

n = 50

Source: INPUT



Exhibit B-2

Vendor Respondents' Profile

Vendor Type	% of Total Respondents
Outsourcer	40
Consultant	20
Professional Services	20
Applications Developer	20
Total	100%

n = 25

Source: INPUT





Questionnaires

2

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Opportunities in Internet and Intranet Applications Management

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Opportunities in Internet and Intranet Applications Management

Access | Privacy | Mobile | Mobile Services



Abstract

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This report identifies users' plans to use vendor-provided services for Internet- and intranet-based activities in the emerging applications management market. Likely vendor opportunities include intranet-enabled access to corporate data and administrative systems as well as Internet site development, interactive activities, and content management.

The study examines the most important Internet and intranet activities from the user perspective and the areas that users plan to turn over to vendors. In addition to an analysis of the market for Internet and intranet applications management, this report provides a forecast of market growth through the year 2001. The study also discusses the evolution of applications through the year 2001 and the role of extended intranets or "extranets." Recent examples of contracts for vendor services in the Internet, intranet, and "extranet" segments are included.

This report is based on data from a primary research project involving over 75 telephone interviews conducted with leading North American companies across a number of industries.

This report contains xx pages and xx exhibits.

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MAP Program

**Opportunities in Internet and
Intranet Applications
Management**

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Introduction

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A

Overview

This study, from INPUT's Market Analysis Program, examines the plans and priorities of U.S. companies regarding usage of the Internet and intranets.

This chapter will describe:

The scope and purpose of this report

The methodology used for this study

The organization of this report

B

Scope and Purpose

1. Scope

This research-based report focuses specifically on Internet- and intranet-based activities and applications. The focus of the research was on the plans and priorities of U.S. companies and the opportunities for vendors to provide Internet- and intranet-related services.

2. Purpose

This research addresses the following major questions:

- What is the size of the current and future market for Internet and intranet services? What is the growth rate?
- What types of Internet-related activities/applications are important to users?

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- For what types of Internet-related activities/applications will users consider outside services vendors?
- What types of intranet-related activities/applications are important to users?
- For what types of intranet-related activities/applications will users employ vendors?
- What drives the decision to use a vendor?
- What is the current and future demand for Internet- and intranet-related applications management?
- What role will extended intranets-"extranets"-play in the evolution of the market?
- What are key opportunities for vendors?

Readers of this report will be assisted in a number of ways:

- Users will be able to evaluate their own plans against those of peer companies
- Vendors will be able to identify and address gaps between requirements and offerings
- Vendors will be able to focus on activities or applications users are likely to outsource
- Vendors will be able to plan future offerings to target emerging opportunities
- Users and vendors will learn about precedent-setting Internet and intranet outsourcing contracts

C

Methodology

This report is based on telephone interviews conducted with representatives of user organizations and vendor companies who were knowledgeable about applications management activities within their organizations and the issues brought about by the emergence of Internet- and intranet-based activities. A total of 50 user interviews and 25 vendor interviews were conducted. Many industries and a wide range of company sizes are represented. Exhibit B-1 in Appendix B identifies key descriptive characteristics of the user sample.

Vendors actively positioning for and currently providing applications management were also interviewed. Some of these are already providing Internet- and intranet-based applications management services to clients. Twenty-five structured interviews were conducted, along with a number of unstructured vendor interviews. Exhibit B-2 in Appendix B profiles the information service categories of the vendors participating in the structured interviews.

1-2 only #



D**Report Organization**

Chapter I—Introduction—describes the purpose, methodology, and organization of the report.

Chapter II—Executive Overview—presents a market forecast and an overview of the characteristics of the Internet and intranet services market. It presents a summary of user priorities and plans to use vendor services, followed by conclusions and recommendations for both users and vendors.

Chapter III—Internet Applications Management—examines users' Internet priorities, the activities for which users are likely to use outside vendors' services, and the probable evolution of Internet applications development. It also provides examples of Internet contracts.

Chapter IV—Intranet Applications Management—reviews users' intranet priorities and plans and plans to use a vendor for selected activities. It also discusses the role of extended intranets or "extranets" and provides examples of extranet contracts.

Appendix A provides definitions of terms used in this report and indicates the SIC codes of each of the vertical markets.

Appendix B provides profiles of survey respondents.

Appendix C includes a copy of the user and vendor questionnaires used during the telephone interviews.

E**Related INPUT Reports**

Other reports from INPUT that could be of interest in relation to this report include:

- *Applications Migration to the Web*
- *Use of Internet Appliances in the Corporation* ~~(U.S.F)~~
- *Use of Internet Appliances in the Corporation* ~~(Europe)~~
- *Impact of the Internet on Outsourcing and Processing Services*
- *Using the Internet for Business Operations*
- *Internet Application Case Studies*
- *Worldwide Internet Market Forecast Report, 1995-2000*
- *The Future of World Wide Web Servers and Browsers*
- *Lotus Notes' Survival in the Intranet-Enabled Corporation*
- *Internet Sales and Marketing Directions*
- *Opportunities in Applications Management Outsourcing*

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*mmh6 ch2***II****Executive Overview****A****Market Size and Characteristics**

Users are beginning to view Internet technologies as tools to be used to achieve such business goals as stronger growth, agility, innovation, and collaboration. The challenge will be to find Internet- and intranet-based applications that maximize business impact.

INPUT defines an intranet as a secure internal network built on public Internet standards. Its usage is limited to employees and, in the case of an extended intranet (or "extranet"), to specific clients and business partners who have been given access.

1. Market Forecast

The U. S. market for Internet and intranet applications management services is forecast to grow at a CAGR of 116% from 1996-2001—from \$300 million in 1996 to \$14.2 billion in 2001. This tremendous market growth is being fueled by technology advancement, globalization, competition, and the closer alignment of IT with business goals.

The worldwide market for these services is forecast to grow at a somewhat faster CAGR of 122% in 1996-2001, from \$400 million in 1996 to \$21.8 billion in 2001. Although the U.S. represents 75% of the worldwide market in 1996, its share will decrease to 65% of the worldwide market in 2001, as usage begins to gather momentum in Europe and Asia. See Exhibit II-1.

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to develop innovative applications that truly leverage this new resource to benefit businesses.

2. Key Market Drivers

There is strong interest in using Internet-based technology as a competitive and operations-enabling tool. The following key drivers are creating demand in this emerging market:

- Virtual corporation evolution: the need for communications and collaboration with mobile workers, employees in remote (including global) locations, and business partners (clients, suppliers, distributors, etc.) worldwide is increasing.
- Use of networks and applications for critical business processes is growing.
- Demand for interoperability is increasing.
- The proliferation of basic Internet- and intranet-based applications, often initiated within departments, is creating a need for better planning and control, IT support, backup, security, monitoring, and general chaos prevention.
- Business pressures are requiring speed, agility in changing markets, reduced costs, improved profitability, better customer service, and a greater competitive edge.

The drivers listed above are resulting in increased interest in, and use of, the Internet by businesses. There is an emerging awareness that the Internet can be a tool to improve customer service and communications with business partners.

B

User View of Internet Priorities and Needs

1. Priority of Internet Activities from the User Perspective

a. Content Management

Users view management of Web site content as the key Internet activity. They are realizing that once an attractive and easy-to-use Web site has been developed, its content must be managed through continuous support services, which include:

- Content storage



- Content updates
- Security
- Analysis of customer feedback
- Continuous, 24x7 support

b. Intercompany Communications

There is strong emerging interest in intercompany communications via the Internet, including business transactions with customers and business partners. However, concerns about security and network reliability will impede the transition to this mode of communication.

Such transactions now appear likely to be implemented first on extended intranets ("extranets") or virtual private networks (VPNs), until the Internet proves to be more secure and robust. User concerns about security and reliability and the attractiveness of extranets and VPNs represent opportunities for vendors.

At this time, users view content management and intercompany communications as the most important Internet activities.

c. Other Internet Priorities

Creative site development and the use of the Internet as a customer service center ranked as the next most important activities, according to users. See Exhibit II-2.

Exhibit II-2

Key Internet Activities, According to Users

Internet Activity	Percent Ranking High in Importance	Percent Ranking Low in Importance
Content Management	57%	30%
Intercompany Communications	54%	30%
Creative/Site Development	52%	35%
Customer Service Center	51%	38%

Source: INPUT



2. Likelihood of Using a Vendor for Internet-related Activities

Users are likely to use vendors for a number of Internet-related activities. However, they will employ a selective approach to outsourcing—they will seek vendor assistance with certain activities, but not with others. And the areas they choose to outsource will not necessarily correspond to the areas of highest priority. More than 40% of users plan to use a vendor for creative site development. Many are highly likely, as well, to use a vendor for content management and for interactive activities, i.e., activities that enable the interaction of two or more parties. This need is being driven by a lack of adequate skills and in-house experience to support these activities.

Users are unlikely to use vendors for two other high-priority activities: intercompany communications and customer service. Users prefer to handle these activities in-house. Currently, users are more comfortable doing these activities themselves and have staff available in-house with the appropriate skills. Indeed, some users are already performing these activities over the Internet. Nevertheless, vendors may be able to convert ~~leverage~~ ^{leverage} user interest in these activities to provide related services.

See Exhibit II-3.

Exhibit II-3

Internet Activities Most Likely To Be Managed by Vendors

Internet Activity	Percent Ranking High in Likelihood	Percent Ranking Low in Likelihood
Creative Site Development	43%	36%
Interactive Activities	40%	36%
Content Management	39%	41%
DB Mining	36%	50%

Table Source: INPUT

C

User View of Intranet Priorities and Needs



Intranets have caught users' attention and proliferated, often initiated at the department level. Eventually, it is likely that enterprise-wide applications will be integrated into corporate intranets to leverage intranet advantages. This change is studied in depth in INPUT's report, *Revolutionary Migration of Applications to the Internet*.

Currently, some of the departments showing greatest interest in establishing intranets are marketing, communications, and human resources. This is because intranet applications can fulfill these departments' needs fairly easily.

relatively

1. Priority Intranet Activities from the User Perspective

Users view the following as the highest priority activities for an intranet:

- Internal communications
- Access to corporate data
- Publication of internal information
- Collaborative activities

Users perceive the benefits of moving these activities to an intranet to include: ease of use, extended reach and reduced costs. Users cannot, however, quantify these advantages at this point.

It is significant that very few respondents—approximately one in ten—believe that intranet-enabled collaboration is *low* in importance. Vendors should prepare to assist in this area, as there is widespread consensus that collaboration via an intranet is of medium or high importance in achieving business goals. See Exhibit II-4.

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Exhibit II-4

Key Intranet Activities, According to Users

Intranet Activity	Percent Ranking High in Importance	Percent Ranking Low in Importance
-------------------	------------------------------------	-----------------------------------



Internal Corporate Communications	60%	26%
Access to Corp. Data	57%	26%
Publish Internal Information	55%	31%
Management of Collaborative Applications	48%	12%

Source: INPUT

2. Likelihood of Using a Vendor To Manage Intranet-related Activities

Users are likely to employ vendor expertise for intranet-based administrative activities, access to corporate data, browser development, and the migration of existing internal applications to the intranet. Of these, only access to corporate data was rated by users as a high-priority activity. See Exhibit II-5.

Factors that will drive demand for vendor assistance will be:

- Lack of skills and experience in-house
- Non-mission-critical nature of projects and the need to focus on core competencies
- Uncontrolled, unmanaged proliferation of intranet usage at the department level

Users are not inclined to turn over to a vendor the high-priority applications in which they have experience, such as internal communications, the publication of internal information, and collaborative activities.

Exhibit II-5

Intranet Activities Most Likely To Be Managed by Vendors

Intranet Activity	Percent Ranking High in Likelihood	Percent Ranking Low in Likelihood
-------------------	------------------------------------	-----------------------------------



Access Corporate Data	67%	39%
Administrative Tasks	52%	33%
Develop Browser for Applications	45%	42%
Migrate Existing Applications to Intranet	44%	42%

Source: INPUT

Among administrative tasks that might be carried out via an intranet are: supply ordering, directory look-up, job postings, and publication of company policies and benefits information.

Many companies are interested in having a browser front end developed for key applications, such as accounting, inventory management, and MRP.

- Among existing applications that are likely to be moved to intranets are: sales automation, expense reporting, help desk, and EDI/order processing.

3. Timing of Internet/Intranet Applications Management Needs

Users clearly intend to use vendors' applications management services heavily over the five-year forecast period: all respondents say they will use vendors for management of innovative intranet applications by 2001.

Users are looking to vendors for leadership in this area. They will also rely more on vendors for help with migration of applications to their intranets and with connection. See Exhibit II-6.

Exhibit II-6

Internet/Intranet Applications Management Services Plans

Type of Application	Percent That Would Use a Vendor Now	Percent That Will Use a Vendor in the Future
---------------------	-------------------------------------	--



Migration	76	88
Connection	76	95
Innovation	86	100

Source: INPUT

(Explanation of above terms.....xxx) C

INPUT defines these types of applications as follows:

- Connection — Linking back office systems and existing applications to the web
- Migration — Porting or re-writing existing applications in Java or ActiveX to the Internet platform
- Innovation — Developing entirely new ~~Internet~~ intranet applications

Areas of innovation might include:

- Customization of a Web site based on visitor profiles, which are developed based on initial visits and stored for subsequent visits (one-to-one marketing)
- Real-time monitoring of valuable information to customers, such as production/order status and time-sensitive financial data
- Electronic commerce applications

4. Outlook

Users were not surveyed on new areas such as extended intranets ("extranets") or virtual private networks (VPNs). However, these technologies offer important business potential.

They represent a means to overcome major barriers, such as concerns about Internet reliability and security. Extended intranets and VPNs can enable secure transactions that offer the advantages of speed, low cost, extended reach, and ease of access and use. Thus, they have the potential to help users achieve the agility and increased productivity that they are seeking in the 1990s.



Application vendors are expected to continue to modify their packages for the intranet, as SAP is now doing, thereby enabling the implementation of enterprise-wide applications on intranets.

These trends will enable increasing interactivity among communicating parties, contributing to a shift toward real-time, interactive business processes that should contribute to significant increases in productivity. The need for extranets and VPNs may diminish in the next millenium, when the infrastructure of the Internet is more robust and benefits can be achieved reliably through its direct use.

D

Conclusions and Recommendations

1. Conclusions

Users are most likely to use vendors for creative/site development for their Internet activities. Users are also likely to seek assistance with interactive applications and content management. See Exhibit II-7.

Exhibit II-7

Conclusions-Internet

Users will seek vendor assistance for Internet:

- Site development
- Management of interactive applications
- Content management

Source: INPUT

For their intranets, users are most likely to use vendors for access to corporate data. They are also likely to use vendors for the management of administrative tasks, the development of browser front ends, and the migration of existing applications. See Exhibit II-8 for a summary of these key points.



Exhibit II-8

Conclusions-Intranets

Users are most likely to use vendors for:

- Data access
- Management of administrative tasks
- Browser front ends
- Application migration

A large percentage of users surveyed plan to outsource intranet-related innovation, connection, and migration within the next four to five years. See Exhibit II-9.

Exhibit II-9

Conclusions-Timing of Intranet Market Demand

Outlook	Greatest User Demand
Short-term	Connection
Medium-term	Migration
Long-term	Innovation

Source: INPUT

2. Recommendations**a. Users**

Survey data supports the need for users to prioritize their activities by business impact and to focus on their areas of experience and expertise. Users should develop a plan for Internet/intranet applications. Such a plan should emphasize strategic priorities and acquisition of required skill sets. The required skill base can be built up through hiring, alliances/acquisitions, and/or retraining.

Users should consider communicating and executing transactions with key clients and partners via an extended intranet or virtual private network (VPN) to accelerate the benefits of electronic commerce. As always, it is best to start with easy activities and work up to more



difficult projects. A summary of these key recommendations is provided in Exhibit II-10.

Exhibit II-10

Recommendations for Users

- Prioritize
- Focus
- Develop a plan
- Interact via extranet or VPN
- Build up skills
- Start easy

Source: INPUT

b. Vendors

Even though ^{case study} opportunities in Internet- and intranet-related services appear to be extensive, vendors should use a calculated approach, taking time to develop a cohesive strategy and plan for targeted offerings.

The critical elements for early entry into this market appear to be: skills and experience to support creative site development, interactive Internet-based transactions, content management, the enabling of access to corporate data and to administrative systems via an intranet, and the integration of existing internal applications with intranets and browser front ends. Vendors should choose target areas to emphasize and build skills in those areas.

Vendors should consider establishing alliances with the following:

- Software vendors that are adapting their products to the Web
- Hardware vendors that need to offer a portfolio of Internet services and software
- Implementation and development vendors that have the skills to implement Internet-based solutions
- Outsourcers that can manage implementation and related processing services



Vendors can leverage existing vertical market expertise and applications experience, transferring these strengths to Web-based transaction management and targeting users in these vertical markets.

Vendors should consider offering an extended intranet ("extranet") for members of a vertical industry or organization to position themselves advantageously for the emerging electronic commerce market and for additional services to these clients. Vendors should also include training and business assessment/consulting in their offerings.

Exhibit II-11 provides a summary of vendor recommendations.

Exhibit II-11

Recommendations for Vendors

Center

-
- Develop a plan and target offerings
 - Build skills in target areas
 - Make alliances
 - Leverage strengths and transfer them to Internet/intranet areas
 - Consider extranet offerings
 - Offer training and consulting

Source: INPUT



III

Internet Applications Management

The implementation of Internet technology is becoming an important instigator of demand for application management outsourcing, according to vendors. The Internet is clearly on users' minds and in their plans for the future and they have begun to discuss their Internet-related needs with vendors.

A

Users' Internet Priorities

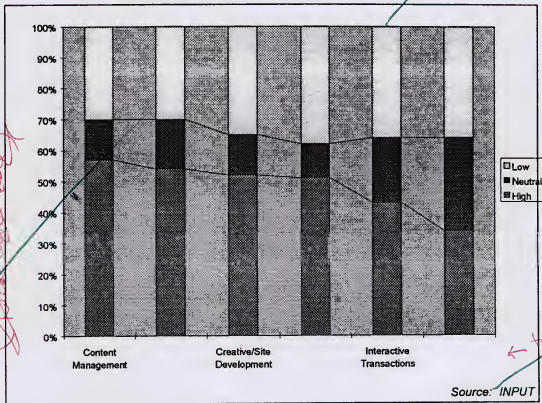
Content management (content updates, analysis of customer feedback, security) and intercompany communications are the most important Internet activities, from the user point of view.

Creative site development and the use of the Internet as a customer service center ranked next in importance. Less important to users at the present time are using the Internet for interactive activities (e.g., orders, fulfillment, technical support) and database mining of customer information for market targeting purposes. Although these applications have important business potential, they are likely to form a second wave of demand among users, once users are convinced that Internet technology is reliably robust and secure. See Exhibit III-1.



Exhibit III-1

Importance of Internet Activities to Users



An example of a customer service center application would be the enabling of direct customer look-up of account or order status, eliminating the need for a middleman.

INPUT believes that interactive transactions will gain in importance as users become convinced of the reliability of the Internet. In the interim, virtual private networks (VPNs) and extended intranets may be developed for reliable use.

B

Likelihood of Outsourcing Internet-based Activities

When asked how likely they would be to use the services of a vendor for Internet-related activities, users responded that they are most likely to use a vendor for creative site development. Forty percent of users surveyed are highly likely to turn to vendors for assistance with interactive transactions and customer service. Other areas for which users are likely to use vendor assistance include content management, database mining of customer

information, and intercompany communications. For content management, users would expect a vendor to perform content refreshment and updates and to manage and analyze customer feedback. See Exhibit III-2.

Exhibit III-2

Likelihood of Using a Vendor for Internet Activities

Internet Activity	Percent Ranking High in Likelihood	Percent Ranking Low in Likelihood
Creative Site Development	43%	36%
Interactive Transactions	40%	36%
Customer Service Ctr.	40%	43%
Content Management	39%	41%
DB Mining	36%	50%
Intercompany Comms.	30%	48%

Source: INPUT

Users indicate that they are less likely to turn to an outside vendor for help with intercompany communications, even though this activity rated first in importance to users. Users are more likely to rely on internal resources to carry out this function.

Despite the fact that vendors, such as IBM, are positioning themselves to provide Internet-enabled database mining, half of users surveyed are unlikely to turn to a vendor for database mining assistance. In part, this is because users still do not view database mining as an important activity. Raising users' awareness of the importance of database mining will require more education by vendors about the business advantages of database mining.

C

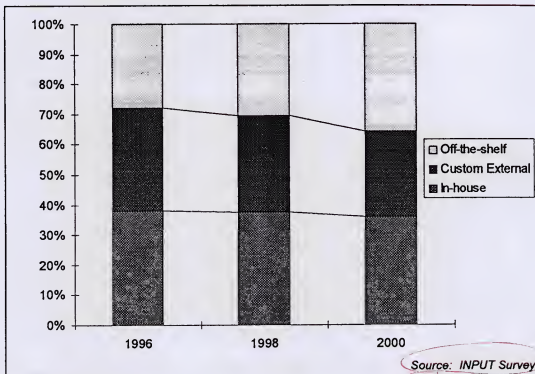
Evolution of Internet Applications Development

1. Current and Future Sources of Internet Applications Development

When INPUT surveyed 120 Fortune 1000 companies as to the likely source of current and future Internet applications, respondents outlined an evolution away from in-house-developed applications, which currently, in their opinion, represent nearly 40% of Internet applications, to an equal proportion of off-the-shelf applications in the year 2000. In that year, respondents believe that 36% of Internet applications will be off-the-shelf and another 36% will be in-house developed. They foresee a smaller share (28%) of custom, externally developed Internet applications, which account for about one-third (34%) of Internet applications development at present. See Exhibit III-3.

Exhibit III-3

Who Will Develop Internet Applications?



In the future, services vendors will be customizing or modifying applications that are off-the-shelf or have been developed by the user in-house, rather than developing custom applications from the ground up. Therefore, there is an opportunity for outsourcers to manage these applications as part of their services.

2. Focus of Internet Applications Development Activity

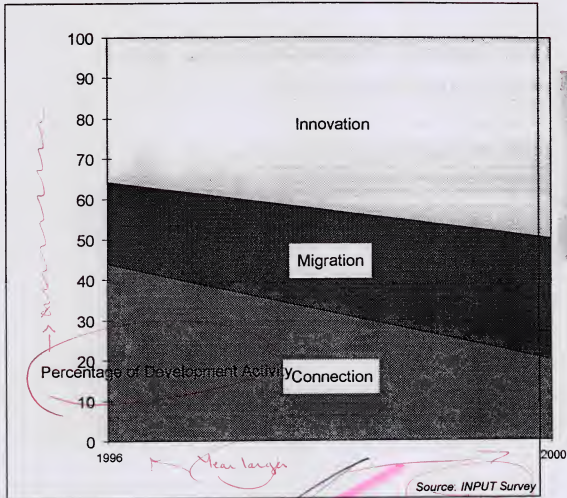
Users believe that focus on innovative applications for the Internet will increase, while connection will become a less important area of activity as it becomes more of a commodity. There will be a slight increase in focus on migration applications as well. See Exhibit III-4. What this means for vendors is that their plans should emphasize the acquisition of emerging innovative applications and skills.

(the terms innovative, migration and connection are defined in Chapter II, page -)

File: mmh6/mmh6exib.xls/III-4

Exhibit III-4

Focus of Internet Applications Activity, 1996 - 2000



For the short term, the focus will be on connection. However, Professional services vendors and outsourcers should position themselves to provide innovative services in the future.

D

Examples of Internet Contracts

Many recent contracts involve site development and management, although some beginning electronic commerce applications are being contracted out. For a sampling of recent Internet services contracts, see Exhibit III-5.

File; client/mm h6/mmh contr. x15/Interactive

Vendor	Client	Objective	Industry
Andersen Consult. and BBN	Airlines	Passenger Revenue Accounting System - airline transactions	Transp.
Applied Graphics Technology	N.Y. Daily News	Web site development	D. Mfg.
AT&T	First Albany	Notes-based access to research info; server maintenance support	Financial
AT&T/CompuServe	Great Plains Software	Database storage, troubleshooting, email, support	Services
BBN Planet	L.L. Bean	Online shopping catalog	Retail
Digital Facades	Epson	Hosting, server maintenance, connectivity, graphics designs	D. Mfg.
EDS	DOB Needham	Design, develop, implement and host site of PepsiCola, a DOB customer; includes animation, audio, 3-D graphics	Services
EDS	Softbank Expo & Conf. Co.	Web-based registration system for trade show participants	Services
Hewlett Packard	Mail Marketing	Web server management, electronic commerce	Retail
Policy Management Systems	Reliance National	Enable insurance agents to underwrite, rate, quote, and process policy applications over the Internet	Insurance

Source: INPUT

EDS' DOB Needham contract is with the customer's interactive communications group. EDS designed, developed, implemented and hosts Pepsi-Cola's Internet site. The web site resides on the EDS WebRanch, part of the Plano, Texas data center. The site features animation, audio and three-dimensional graphics created in virtual reality mark-up language.

Andersen Consulting and BBN have a joint venture to provide a secure infrastructure for end-to-end business processes. This "business utility" targets the travel and tourism, healthcare and utilities markets but is not limited to those markets. The joint venture manages Andersen Consulting's Passenger Revenue Accounting (PRA) Solutions enterprise, which handles an average of 20 million transactions a day for many major airlines. The joint venture enables electronic commerce via the Internet by leveraging Andersen Consulting's strength in business process management and BBN's experience in data communications.

IV

Intranet Applications Management

Users' interest shifted in 1996 from the Internet to intranets because the latter can offer reliable and secure present-day business advantages with relative ease of transition.

Intranets can be leveraged as an important business tool enabling better communications, collaboration, and productivity. A key challenge of intranets is the seamless and secure integration of existing internal networks with Web sites.

Intranet usage is being driven from the department level, with human resources, marketing, and communications departments leading the way. INPUT believes that the bottom-up trend parallels the adoption of client/server technologies in the 1980s. Once again, central IS often is only being brought in after implementation, to manage the chaos.

A

Users' Intranet Plans

1. Plans for Intranet-based Applications

When users were surveyed as to whether they have plans for intranet-based applications, a three-quarters majority responded affirmatively, as shown in Exhibit IV-1.

Exhibit IV-1

Intranet-based Applications Plans

Status	Percent of Respondents
Planning	76%
No plans	24%

This is a signal vendors should consider. If users ^{in the stage} are planning, there may be opportunities for consulting during the planning stage.

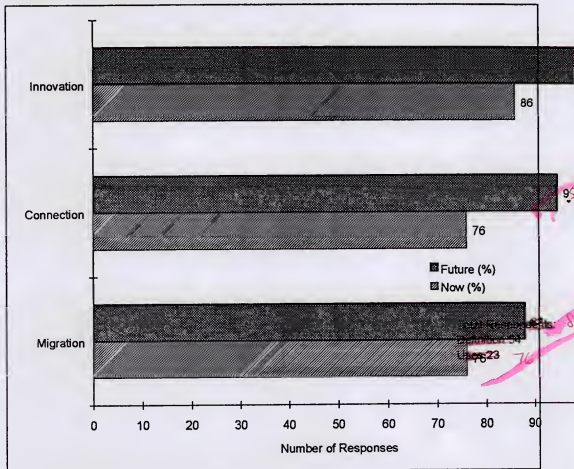
2. Evolution of Intranet Services Plans

A very high percentage of users indicate a willingness to use vendors for innovative intranet applications. Currently, 86% of users surveyed would use a vendor for innovative applications. This percentage increases to 100% by the year 2001. This is a clear indication that users will look to vendors for leadership in intranet development. Innovative applications include transactions with a more customized or multimedia aspect than is currently available. *These transactions will be truly interactive, involving multiple parties, with nearly real-time information access.*

About three-quarters of users currently say they would outsource intranet connection and migration. Like the trend in innovative applications, these percentages, too, increase over the five-year forecast period. By 2001, 88% of users would consider using a vendor for migration of applications to the intranet, and 95% would use a vendor for connection. See Exhibit IV-2.

Exhibit IV-2

Evolution of Plans For Intranet Management Services, 1996 - 2001



Source: INPUT Survey

B

Users' Priorities and Likelihood of Using a Vendor

1. Importance of Intranet Activities to Users

For users, the most important intranet activity is intracompany communications—nearly two-thirds of users believe this is an important intranet-enabled activity. Users see the advantages of intracompany communications as:

- Extended corporate reach

- Improved speed of access and response
- Relatively low cost
- Better productivity

Next in importance to users are the following activities: access to corporate data, publication of internal corporate information, and collaborative applications. See Exhibit IV-3.

Exhibit IV-3

Importance of Intranet Activities to Users

Intranet Activity	Percent Ranking High in Importance	Percent Ranking Low in Importance
Internal Corporate Communications	60%	26%
Access to Corp. Data	57%	28%
Publish Internal Info.	55%	31%
Collaborative Applications	48%	12%
Administrative Tasks	38%	36%
Develop Browser Front End	34%	39%
Migrate Existing Applications to Intranet	29%	50%

Source: INPUT

An example of an application that could fall under either of the top two categories would be remote access by a sales or customer service representative to customer credit information and order status. These areas are important to users because they enable better and faster decisions and improved workflow.

Timing may be influencing the lower priorities among users. For example, migration of existing applications to intranets is likely to become a higher priority to users once other intranet-enabled applications become more commonplace. Browsers, too, will become a higher priority once applications are nearly in place.

2. Plans To Use Vendors for Intranet-related Activities

Two-thirds of users are likely to use a vendor to help them access corporate data via the intranet. Once data access is facilitated, interest in database mining is likely to grow. Half of users surveyed will look to vendors to assist them in implementing and managing administrative tasks on their intranets, even though such tasks were not rated high in importance.

The fact that user likelihood to use a vendor does not correlate to users' highest priority intranet activities could be an indication that users intend to use in-house resources first for the activities they deem most important.

Intranet-enabled administrative tasks include many of those now carried out at the desktop corporate-wide. Among administrative tasks that might be carried out via an intranet are:

- Supply ordering
- Telephone directory and organization charts
- Job postings
- Publication of company policies and benefits information
- Employee surveys
- Registration for classes

Although these applications may seem trivial, intranet access will save corporate spending on paper and clerical staffing, while making life easier for employees and accelerating processes.

Nearly half of companies surveyed are likely to use an outside vendor to have a browser front end developed for key applications, such as accounting, inventory management, and MRP.

One third of respondents will use an external service provider for the migration of existing applications to their intranets. Among existing applications that are likely to be moved to intranets are:

- Sales automation
- Expense reporting
- Travel arrangements
- EDI, order processing
- Benefits choices

- Help desk
- Accounting
- Supply chain management (extended intranet)

Users are unlikely to use a vendor for some of their highest priority intranet activities, such as internal communications, collaborative applications, and the publication of internal information. This may be because users feel comfortable with in-house skill levels for these activities and because, traditionally, they tend to outsource what they perceive as the less strategic and less proprietary activities. See Exhibit IV-4.

Exhibit IV-4

Likelihood of Using a Vendor for Intranet-related Activities

Intranet Activity	Percent Ranking High in Likelihood	Percent Ranking Low in Likelihood
Access to Corp. Data	67%	39%
Administrative Tasks	52%	33%
Develop Browser for Apps	45%	42%
Migrate Existing Applications to Intranet	44%	42%
Internal Communications	44%	38%
Collaborative Applications	42%	48%
Publish Internal Info.	34%	49%

Source: INPUT

Vendors should prepare to provide selected services related to activities that are highly likely to be outsourced. If vendor experience and skill levels are not expensive in a target area, an alliance or acquisition strategy can fill the gap.

Greater dependence on internal networks for business applications, particularly on a global basis, will drive the need for vendor assistance with applications and network management. Ford Motor depends on Hewlett-Packard to manage its intranet to ensure reliability for the company's 70,000 users in more than two dozen countries. The three-year, \$6 million contract primarily involves network operations.

C**Extended Intranets or "Extranets"**

1. Extended Intranets—Definition and Opportunity

Extended intranets, sometimes referred to as "extranets," are secure and robust intranets that are linked via the Internet to large clients and other partners, such as suppliers and distributors. Virtual private networks (VPNs) make use of Internet technologies, but traffic runs on an outsourced private network, eliminating the traffic, bandwidth, and security problems of the public Internet.

Large vendors, particularly IBM, but also EDS and Andersen Consulting, are beginning to position themselves as extranet providers because they view extranets as a way to enter the potentially lucrative business of managing network-based transactions (electronic commerce) and to do business with a multitude of companies in a vertical segment. IBM has recently announced extranets for the insurance, utility, and oil industries. Many of the vertical players in these industries are large companies with extensive service requirements. The extranet, therefore, can represent a point of entry to significant potential services contracts with multiple important clients.

Users find extranets attractive because they provide the advantages of security, reliability, speed, and improved links to business partners. The outlook for extranets over the short term is very good because they offer advantages not yet available on the public Internet. For vendors, they have huge potential, partly because they represent the initial mechanism for Net-based electronic commerce. Eventually, when the Internet becomes more reliable, secure and robust, there may be less need for extranets and traffic could shift back to the public Internet, unless vendors can continue to provide advantages that retain these attractive customers.

2. Extended Intranet Contracts—1996

In late 1996, there was an initial flurry of extranet positioning, led by IBM.

- IBM and Siemens Power Systems Control are providing an Internet-based system for the purchase and sale of electrical capacity by utilities, such as Pacific Gas and Electric. It is a flat fee service with an additional per-transaction charge.
- IBM's Insure-Commerce enables insurers to do business over the Internet; for example, customers can file auto-glass claims and receive payments via EDI applications.

- EDS's PowerAg network is an Internet-based platform enabling agricultural chemical companies to access data and carry out EDI and EFT transactions with other companies in the network.

See Exhibit IV-5 for a sampling of recent "extranet" contracts.

Exhibit IV-5

File: mmh contr. xls / Intranetcontracts

Recent "Extranet" Contracts

Vendor	Client	Objective	Industry
IBM/ISSC	Brazilian Banks	Intranet Used by Banks to Provide Remote Banking Svcs for Customers	Finance
EDS (Energy SBU)	Agric. Chem. Co's	Secure extended intranet for access to industry info	Proc. Mfg
IBM/Siemens	PG&E, Utilities	Secure Internet-based system for purchase and sale of electric capacity	Utilities
IBM	17 Insurance Co's	Enable insurance companies to do business with each other and with customers over Internet; EDI system streamlines auto-glass insurance claims and payments.	Insurance
IBM	Oil Co's	Database and collaboration service ("PetroConnect")	Proc. Mfg

Source: INPUT Survey

Signals the emergence of

The above exhibit of recent contracts demonstrates that "extranet" opportunities are beginning to surface. The important point is that many of the clients are large companies with extensive potential service requirements and are likely to be heavily involved in future net-based transactions. Therefore, they represent a lucrative future opportunity for the service provider.



Definition of Terms

A

Introduction

INPUT's *Definition of Terms* provides the framework for all of INPUT's market analyses and forecasts of the information services industry. It is used for all U.S. programs, in Europe, and for INPUT's worldwide forecasts. One of the strengths of INPUT's market analysis services is the consistency of the underlying market sizing and forecast data. Each year, INPUT reviews its industry structure and makes changes if they are required. When changes are made, they are carefully documented and the new definitions and forecasts reconciled to the prior definitions and forecasts. INPUT clients have the benefit of being able to track market forecast data from year to year against a proven and consistent foundation of definitions.

B

Overall Definitions and Analytical Framework**1. Information Services**

Information Services are computer/telecommunications-related products and services that are oriented toward the development or use of information systems. Information services typically involve one or more of the following:

- Packaged software products, including systems software or applications software (called *Software Products*)
- A combination of computer equipment, packaged software and associated support services that will meet an application systems need (called *Turnkey Systems*)
- People services that support users in developing and operating their own information systems (called *Professional Services*)
- A combination of products (software and equipment) and services in which the vendor assumes total responsibility for the development of a custom integrated solution, or part of a solution, to an information systems need (called *Systems Integration*)
- Services that provide operation and management of all or a significant part of a user's information systems or telecommunications functions under a long-term contract (called *Outsourcing*)
- Use of vendor-provided computer processing services to develop or run applications or provide services such as disaster recovery or data entry (called *Processing Services*)
- *Network Services* has two components:
 - Services that support the delivery of information in electronic form— typically network-oriented services such as value-added networks and electronic mail (called *Network Applications*)

- Services that support the access and use of public and proprietary information such as on-line databases and news services (called *Electronic Information Services*)
- Services that support the operation and maintenance of computer and digital communication equipment (called *Equipment Services*)

In general, the market for information services does not involve providing equipment to users. The exception is when the equipment is part of an overall service offering such as a turnkey system, an outsourcing contract, or a systems integration project.

The information services market also excludes pure data transport services (i.e., data or voice communications circuits such as T-1 carriers). However, where information transport is associated with a network-based service (e.g., electronic data interchange services) or cannot feasibly be separated from other bundled services (e.g., some outsourcing contracts), the transport costs are included as part of the information services market.

The analytical framework of the information services industry consists of the following interacting factors: overall and industry-specific business environment (trends, events, and issues); technology environment; user information system requirements; size and structure of information services markets; vendors and their products, services, and revenues; distribution channels; and competitive issues.

C

Outsourcing

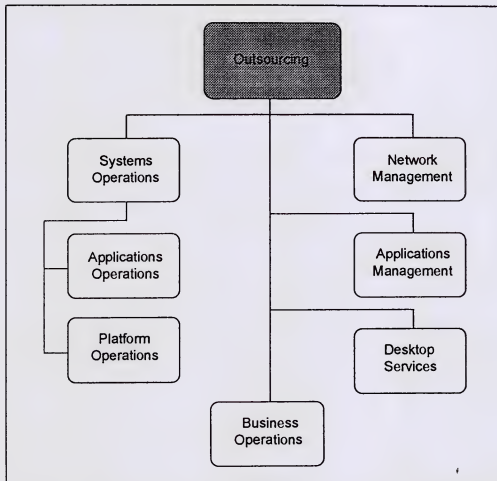
Outsourcing is a long-term (greater than one year) relationship between a client and a vendor in which the client delegates all, or a major portion, of an operation or function to the vendor. The operation or function may be solely information systems outsourcing-based, or include information systems outsourcing as a major component (at least 30%) of the operation.

The critical components that define an outsourcing service are:

- Delegating an identifiable area of the operation to a vendor
- Single-vendor responsibility for performing the delegated function
- An intended, long-term relationship between the client and the vendor, where:
 - The contract term is for at least one year
 - The client's intent is not to perform the function with internal resources
- The contract may include noninformation systems outsourcing activities, but information systems outsourcing must be an integral part of the contract.

For 1996, the outsourcing product/service subcategories have been defined as shown in Exhibit A-1 and defined below:
Exhibit A-1

Outsourcing Components



Source: INPUT

- **Platform Operations** - The vendor manages and operates the computer systems to perform the client's business functions, without taking responsibility for the client's application systems.
- **Applications Operations** - The vendor manages and operates the computer systems to perform the client's business functions, and is also responsible for maintaining, or developing and maintaining, the client's application systems.
- **Network Management** - The vendor assumes responsibility for operating and managing the client's data communications systems. This may also include the client's voice communications resources. A network management outsourcing contract may include only the management services or it may cover the full costs of the communications services and equipment plus the management services.

- *Desktop Services* - The vendor assumes responsibility for the deployment, maintenance, and connectivity among the personal computers and/or workstations in the client organization. The services may also include performing the help-desk function. Equipment as well as services can be part of a desktop services outsourcing contract.

Note: This type of client service can also be provided through traditional professional services where the contractual criteria of outsourcing are not present.

- *Applications Management* - The vendor has full responsibility for maintaining and upgrading some or all of the application systems that a client uses to support business operations and may also develop and implement new application systems for the client.

An applications management contract differs from traditional software development in the form of the client/vendor relationship. Under traditional software development services, the relationship is project based. Under applications management, it is time and function based.

These services may be provided in combination or separately from platform outsourcing.

- *Business Operations* - Business operations outsourcing (also known as business outsourcing or functional outsourcing) is a relationship in which one vendor is responsible for performing an entire business/operations function, including the information systems outsourcing that supports it. The information systems outsourcing content of such a contract must be at least 30% of the total annual expenditure in order for INPUT to include it in the outsourcing market. Examples of business operations that are outsourced include telephone company billing and employee benefits processing.

Outsourcing vendors now provide a wide variety of services in support of existing information systems. The vendor can plan, control, provide, operate, maintain, and manage any or all components of the client's information systems environment (equipment, networks, applications systems), either at the client's site or the vendor's site.

D

Industry Sector Definitions

INPUT structures the information services market into industry sectors such as process manufacturing, insurance, transportation, etc. The definitions of these sectors are based on the most recent revision of the Standard Industrial Classification (SIC) code system. The specific industries (and their SIC codes) included under these industry sectors are detailed in Exhibit A-2.

INPUT includes all product/service categories except systems software products and equipment services in industry market sectors.

Note: SIC code 88 is Personal Households. INPUT does not currently analyze or forecast information services in this market sector.

Exhibit A-2

Industry Sector Definitions

Industry Sector	SIC Code	Description
Discrete Manufacturing	23xx	Apparel and other finished products
	25xx	Furniture and fixtures
	27xx	Printing, publishing, and allied industries
	31xx	Leather and leather products
	34xx	Fabricated metal products, except machinery and transportation equipment
	35xx	Industrial and commercial machinery and computer equipment
	36xx	Electronic and other electrical equipment and components, except computer equipment
	37xx	Transportation equipment
	38xx	Instruments; photo/med/optical goods; watches/clocks
39xx	Miscellaneous manufacturing industry	
Process Manufacturing	10xx	Metal mining
	12xx	Coal mining
	13xx	Oil and gas extraction
	14xx	Mining/quarrying nonmetallic minerals
	20xx	Food and kindred products
	21xx	Tobacco products
	22xx	Textile mill products
	24xx	Lumber and wood products, except furniture
	26xx	Paper and allied products
	28xx	Chemicals and allied products
	29xx	Petroleum refining and related industries
	30xx	Rubber and miscellaneous plastic products
	32xx	Stone, clay, glass and concrete
	33xx	Primary metal industries
	Transportation Services	40xx
41xx		Public transit/transport
42xx		Motor freight transport/warehousing
43xx		U.S. Postal Service
44xx		Water transportation
45xx		Air transportation (including airline reservation services in 4512)
46xx		Pipelines, except natural gas
47xx		Transportation services (including 472x, arrangement of passenger transportation)

Source: INPUT

Exhibit A-2 (continued)

Industry Sector Definitions

Industry Sector	SIC Code	Description
Telecommunications	48xx	Communications
Utilities	49xx	Electric, gas and sanitary services
Retail Trade	52xx 53xx 54xx 55xx 56xx 57xx 58xx 59xx	Building materials General merchandise stores Food stores Automotive dealers, gas stations Apparel and accessory stores Home furniture, furnishings and accessory stores Eating and drinking places Miscellaneous retail
Wholesale Trade	50xx 51xx	Wholesale trade - durable goods Wholesale trade - nondurable goods
Banking and Finance	60xx 61xx 62xx 67xx	Depository institutions Nondepository credit institutions Security and commodity brokers, dealers, exchanges and services Holding and other investment offices
Insurance	63xx 64xx	Insurance carriers Insurance agents, brokers and services
Health Services	80xx	Health services
Education	82xx	Educational services

Source: INPUT

Exhibit A-2 (continued)

Industry Sector Definitions

Industry Sector	SIC Code	Description
Business Services	65xx	Real estate
	70xx	Hotels, rooming houses, camps, and other lodging places
	72xx	Personal services
	73xx	Business services (except hotel reservation services in 7389)
	7389	Hotel reservation services
	75xx	Automotive repair, services and parking
	76xx	Miscellaneous repair services
	78xx	Motion pictures
	79xx	Amusement and recreation services
	81xx	Legal services
	83xx	Social services
	84xx	Museums, art galleries, and botanical/zoological gardens
	86xx	Membership organizations
87xx	Engineering, accounting, research, management, and related services	
89xx	Miscellaneous services	
Federal Government	9xxx	
State and Local Government	9xxx	
Miscellaneous Industries	01xx	Agricultural production - crops
	02xx	Agricultural production - livestock/animals
	07xx	Agricultural services
	08xx	Forestry
	09xx	Fishing, hunting and trapping
	15xx	Building construction - general contractors, operative builders
	16xx	Heavy construction - contractors
	17xx	Construction - special trade contractors

Source: INPUT

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B

Profiles of User and Vendor Respondents

Exhibit B-1

Profile of User Respondents by Industry

Industry	Percent of Sample	Large Companies (Revenues \geq \$500M)	Small Companies (Revenues $<$ \$500M)
Communications	10	2	3
Financial	10	4	1
Discrete Manufacturing	20	7	3
Process Manufacturing	18	6	3
Retail	10	3	2
Services	8	0	4
Utilities	10	3	2
Other	14	4	3
Total	100%	29	21

 $n = 50$

Source: INPUT

Exhibit B-2

Vendor Respondents' Profile

Vendor Type	Percent of Total Respondents
Outsourcer	40
Consultant	20
Professional Services	20
Applications Developer	20
Total	100%

n = 25

Source: INPUT



Questionnaires

USER QUESTIONNAIRE**INTERNET AND INTRANET APPLICATIONS MANAGEMENT**

1. a. Do you have/plan to have any Intranet-based applications? Y / N

Comment

- 1.b. If yes, for which types of applications would you consider using an external vendor (now and in the future [3 - 5 yrs.]?)

Applications	Now	Future
Connection (Developing an Intranet browser front-end for an existing application)		
Migration (Moving existing application functionality to Intranet technology)		
Innovation (Developing new applications for an Intranet)		

Comment

2. Would you rate the importance of the following Internet activities to your company? Again on a scale of 1 - 5, how likely are you to use a third-party for these applications?

Application	Importance	Likelihood - Use Vendor
Creative services for Web site development		
Content management (updates, customer feedback)		
Interactive: orders, fulfillment, tech support for customers		
Database mining of customer information		
Inter-company communications		
Customer service center		
Other		

Comment

3. Would you rate the importance of the following Intranet activities to your company? Again on a scale of 1 - 5, how likely are you to use a third-party for these applications?

Application	Importance	Likelihood - Use Vendor
Develop browser front-end for existing applications		
Migration of existing applications		
Publishing of internal corporate information		
Collaborative applications to enhance productivity		
Administrative tasks (directory, benefits, travel, supplies, etc.)		
Access to corporate data		
Intra-company communications, including worldwide sites		
Other		

Comment

VENDOR QUESTIONNAIRE

INTERNET AND INTRANET APPLICATIONS MANAGEMENT

1. What is the size of your company in terms of annual revenue?

Under \$100M
 \$200 - \$500M
 \$500M - \$1B
 >\$1B

2. What type(s) of applications does your company manage? and for what industry?

Application

Industry

Comment

3. Does your experience in this market indicate that the trend toward Internet and intranet usage is a driver of demand for applications management services? Y/N

Comment

5. What architectures are most likely to require applications management services? Please rate the likelihood of each as low, medium or high.

<u>Architecture</u>	<u>Low</u>	<u>Medium</u>	<u>High</u>
Centralized			
Distributed			
Desktop			
Intranet			
Internet			

Comment

6. In your view, what percent of applications will come from the following sources?

Source	1996	2000
Off-the-shelf		
Custom External		
In-House		

Comment

7. How do you rate the emphasis of applications development activity during 1996 - 2000 (1=weak, 5=strong)?

Focus	1996	2000
Connection		
Migration		
Innovation		

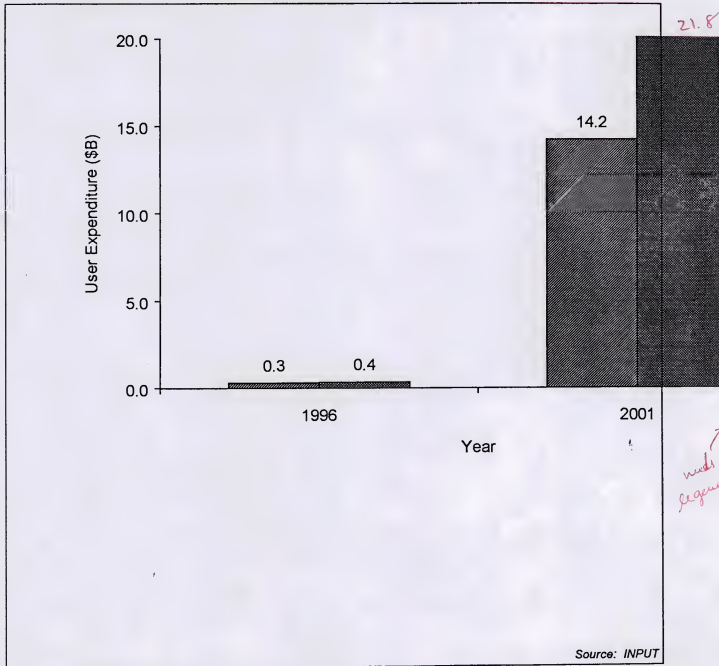
Comment



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Exhibit II-1

**U. S. and Worldwide Internet and Intranet Services
 Market Forecast, 1996 - 2001**



Vendors will face tremendous challenges trying to respond to this rapidly growing market. A key challenge will be to acquire workers with the appropriate skill sets to keep up with growth in demand. Another will be



NSF

INPUT Report Checklist

Report Code MMHG Report Program Market Analysis © Year 1996
Report Title Opportunities in Internet and Intranet Applications Management
Author Sherry Summits Date Submitted _____
QC _____ Date Received _____ Returned 5
Editor Anna Reynolds Trabucco Date Received 1/9/97 Returned 1/13/97
Layout _____ Date Received _____ Returned 22
Prepub _____ Date Received _____ Returned _____

1. Editing (First Draft)

- Make note of precise report title for records
- Check:
 - TOC/LOE versus text heads/chart titles
 - headers/footers (title, INPUT, rule/code, © phrase, page #)
 - report pagination
- Edit entire report
 - text
 - headings
 - charts
 - CAGRs, etc.
- Mark queries for appropriate party:
 - author
 - layout person or prepub
 - INPUT policy arbiter
- Update style guide
- Enter changes on disk—be sure one current copy remains intact at INPUT for insurance!
 - mark anything not done CLEARLY so it will get done

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- Get queries answered
- Correct any visual problems (i.e., bad line breaks, widows)
- SpellCheck!

3. Prepub (BEFORE PRINTING)

- Proof report
 - changes all made correctly
 - no new mistakes
 - no visual problems
- Check pagination against TOC/LOE
- Make sure ALL queries have been satisfactorily settled
- Make sure ALL documentation is complete; with report/filed appropriately
 - "Blue Sheet"
 - this checklist

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Opportunities in Internet and Intranet Applications Management

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MAP Program

***Opportunities in Internet and
Intranet Applications
Management***

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Abstract

This report identifies users' plans to use vendor-provided services for Internet- and intranet-based activities in the emerging applications management market. Likely vendor opportunities include intranet-enabled access to corporate data and administrative systems as well as Internet site development, interactive activities, and content management.

The study examines the most important Internet and intranet activities from the user perspective and the areas that users plan to turn over to vendors. In addition to an analysis of the market for Internet and intranet applications management, this report provides a forecast of market growth through the year 2001. The study also discusses the evolution of applications through the year 2001 and the role of extended intranets or "extranets." Recent examples of contracts for vendor services in the Internet, intranet, and "extranet" segments are included.

This report is based on data from a primary research project involving over 75 telephone interviews conducted with leading North American companies across a number of industries.

This report contains xx pages and xx exhibits.





Introduction

A

Overview

This study, from INPUT's Market Analysis Program, examines the plans and priorities of U.S. companies regarding usage of the Internet and intranets.

This chapter will describe:

The scope and purpose of this report

The methodology used for this study

The organization of this report

B

Scope and Purpose

1. Scope

This research-based report focuses specifically on Internet- and intranet-based activities and applications. The focus of the research was on the plans and priorities of U.S. companies and the opportunities for vendors to provide Internet- and intranet-related services.

2. Purpose

This research addresses the following major questions:

- What is the size of the current and future market for Internet and intranet services? What is the growth rate?
- What types of Internet-related activities/applications are important to users?



- For what types of Internet-related activities/applications will users consider outside services vendors?
- What types of intranet-related activities/applications are important to users?
- For what types of intranet-related activities/applications will users employ vendors?
- What drives the decision to use a vendor?
- What is the current and future demand for Internet- and intranet-related applications management?
- What role will extended intranets—"extranets"—play in the evolution of the market?
- What are key opportunities for vendors?

Readers of this report will be assisted in a number of ways:

- Users will be able to evaluate their own plans against those of peer companies
- Vendors will be able to identify and address gaps between requirements and offerings
- Vendors will be able to focus on activities or applications users are likely to outsource
- Vendors will be able to plan future offerings to target emerging opportunities
- Users and vendors will learn about precedent-setting Internet and intranet outsourcing contracts

C

Methodology

This report is based on telephone interviews conducted with representatives of user organizations and vendor companies who were knowledgeable about applications management activities within their organizations and the issues brought about by the emergence of Internet- and intranet-based activities. A total of 50 user interviews and 25 vendor interviews were conducted. Many industries and a wide range of company sizes are represented. Exhibit B-1 in Appendix B identifies key descriptive characteristics of the user sample.

Vendors actively positioning for and currently providing applications management were also interviewed. Some of these are already providing Internet- and intranet-based applications management services to clients. Twenty-five structured interviews were conducted, along with a number of unstructured vendor interviews. Exhibit B-2 in Appendix B profiles the information service categories of the vendors participating in the structured interviews.

D

Report Organization

Chapter I—Introduction—describes the purpose, methodology, and organization of the report.

Chapter II—Executive Overview—presents a market forecast and an overview of the characteristics of the Internet and intranet services market. It presents a summary of user priorities and plans to use vendor services, followed by conclusions and recommendations for both users and vendors.

Chapter III—Internet Applications Management—examines users' Internet priorities, the activities for which users are likely to use outside vendors' services, and the probable evolution of Internet applications development. It also provides examples of Internet contracts.

Chapter IV—Intranet Applications Management—reviews users' intranet priorities and plans and plans to use a vendor for selected activities. It also discusses the role of extended intranets or "extranets" and provides examples of extranet contracts.

Appendix A provides definitions of terms used in this report and indicates the SIC codes of each of the vertical markets.

Appendix B provides profiles of survey respondents.

Appendix C includes a copy of the user and vendor questionnaires used during the telephone interviews.

E

Related INPUT Reports

Other reports from INPUT that could be of interest in relation to this report include:

Applications Migration to the Web
Use of Internet Appliances in the Corporation (U.S.)
Use of Internet Appliances in the Corporation (Europe)
Impact of the Internet on Outsourcing and Processing Services
Using the Internet for Business Operations
Internet Application Case Studies
Worldwide Internet Market Forecast Report, 1995-2000
The Future of World Wide Web Servers and Browsers
Lotus Notes' Survival in the Intranet-Enabled Corporation
Internet Sales and Marketing Directions
Opportunities in Applications Management Outsourcing



II

Executive Overview

A

Market Size and Characteristics

Users are beginning to view Internet technologies as tools to be used to achieve such business goals as stronger growth, agility, innovation, and collaboration. The challenge will be to find Internet- and intranet-based applications that maximize business impact.

INPUT defines an intranet as a secure internal network built on public Internet standards. Its usage is limited to employees and, in the case of an extended intranet (or "extranet"), to specific clients and business partners who have been given access.

1. Market Forecast

The U. S. market for Internet and intranet applications management services is forecast to grow at a CAGR of 116% from 1996-2001—from \$300 million in 1996 to \$14.2 billion in 2001. This tremendous market growth is being fueled by technology advancement, globalization, competition, and the closer alignment of IT with business goals.

The worldwide market for these services is forecast to grow at a somewhat faster CAGR of 122% in 1996-2001, from \$400 million in 1996 to \$21.8 billion in 2001. Although the U.S. represents 75% of the worldwide market in 1996, its share will decrease to 65% of the worldwide market in 2001, as usage begins to gather momentum in Europe and Asia. See Exhibit II-1.

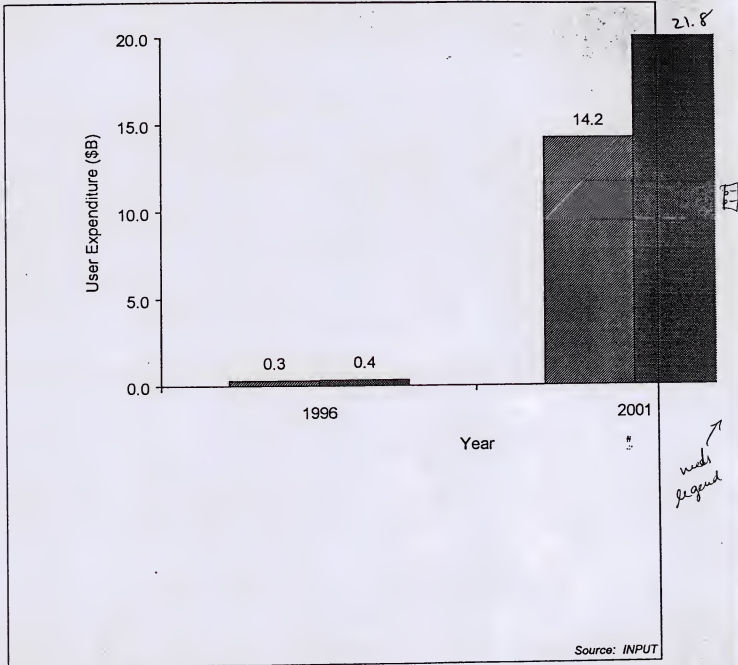


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Exhibit II-1

U. S. and Worldwide Internet and Intranet Services
Market Forecast, 1996 - 2001



Vendors will face tremendous challenges trying to respond to this rapidly growing market. A key challenge will be to acquire workers with the appropriate skill sets to keep up with growth in demand. Another will be

to develop innovative applications that truly leverage this new resource to benefit businesses.

2. Key Market Drivers

There is strong interest in using Internet-based technology as a competitive and operations-enabling tool. The following key drivers are creating demand in this emerging market:

- Virtual corporation evolution: the need for communications and collaboration with mobile workers, employees in remote (including global) locations, and business partners (clients, suppliers, distributors, etc.) worldwide is increasing.
- Use of networks and applications for critical business processes is growing.
- Demand for interoperability is increasing.
- The proliferation of basic Internet- and intranet-based applications, often initiated within departments, is creating a need for better planning and control, IT support, backup, security, monitoring, and general chaos prevention.
- Business pressures are requiring speed, agility in changing markets, reduced costs, improved profitability, better customer service, and a greater competitive edge.

The drivers listed above are resulting in increased interest in, and use of, the Internet by businesses. There is an emerging awareness that the Internet can be a tool to improve customer service and communications with business partners.

B

User View of Internet Priorities and Needs

1. Priority of Internet Activities from the User Perspective

a. Content Management

Users view management of Web site content as the key Internet activity. They are realizing that once an attractive and easy-to-use Web site has been developed, its content must be managed through continuous support services, which include:

- Content storage



information, and intercompany communications. For content management, users would expect a vendor to perform content refreshment and updates and to manage and analyze customer feedback. See Exhibit III-2.

Exhibit III-2

Likelihood of Using a Vendor for Internet Activities

Internet Activity	Percent Ranking High in Likelihood	Percent Ranking Low in Likelihood
Creative Site Development	43%	36%
Interactive Transactions	40%	36%
Customer Service Ctr.	40%	43%
Content Management	39%	41%
DB Mining	36%	50%
Intercompany Comms.	30%	48%

Source: INPUT

Users indicate that they are less likely to turn to an outside vendor for help with intercompany communications, even though this activity rated first in importance to users. Users are more likely to rely on internal resources to carry out this function.

Despite the fact that vendors, such as IBM, are positioning themselves to provide Internet-enabled database mining, half of users surveyed are unlikely to turn to a vendor for database mining assistance. In part, this is because users still do not view database mining as an important activity. Raising users' awareness of the importance of database mining will require more education by vendors about the business advantages of database mining.

C

Evolution of Internet Applications Development

- Content updates
- Security
- Analysis of customer feedback
- Continuous, 24x7 support

b. Intercompany Communications

There is strong emerging interest in intercompany communications via the Internet, including business transactions with customers and business partners. However, concerns about security and network reliability will impede the transition to this mode of communication.

Such transactions now appear likely to be implemented first on extended intranets ("extranets") or virtual private networks (VPNs), until the Internet proves to be more secure and robust. User concerns about security and reliability, ^{combined with the} attractiveness of extranets and VPNs represent opportunities for vendors.

At this time, users view content management and intercompany communications as the most important Internet activities.

c. Other Internet Priorities

Creative site development and the use of the Internet as a customer service center ranked as the next most important activities, according to users. See Exhibit II-2.

Exhibit II-2

Key Internet Activities, According to Users

Internet Activity	Percent Ranking High in Importance	Percent Ranking Low in Importance
Content Management	57%	30%
Intercompany Communications	54%	30%
Creative/Site Development	52%	35%
Customer Service Center	51%	38%

Source: INPUT

2. Likelihood of Using a Vendor for Internet-related Activities

Users are likely to use vendors for a number of Internet-related activities. However, they will employ a selective approach to outsourcing—they will seek vendor assistance with certain activities, but not with others. And the areas they choose to outsource will not necessarily correspond to the areas of highest priority. More than 40% of users plan to use a vendor for creative site development. Many are highly likely, as well, to use a vendor for content management and for interactive activities, i.e., activities that enable the interaction of two or more parties. This need is being driven by a lack of adequate skills and in-house experience to support these activities.

Users are unlikely to use vendors for two other high-priority activities: intercompany communications and customer service. Users prefer to handle these activities in-house. Currently, users are more comfortable doing these activities themselves and have staff available in-house with the appropriate skills. Indeed, some users are already performing these activities over the Internet. Nevertheless, vendors may be able to convert leverage user interest in these activities to provide related services.

See Exhibit II-3.

Exhibit II-3

Internet Activities Most Likely To Be Managed by Vendor

Internet Activity	Percent Ranking High in Likelihood	Percent Ranking Low in Likelihood
Creative Site Development	43%	36%
Interactive Activities	40%	36%
Content Management	39%	41%
DB Mining	36%	50%

Table Source: INPUT

C

User View of Intranet Priorities and Needs

Intranets have caught users' attention and proliferated, often initiated at the department level. Eventually, it is likely that enterprise-wide applications will be integrated into corporate intranets to leverage intranet advantages. This change is studied in depth in INPUT's report, *Revolutionary Migration of Applications to the Internet*.

Currently, some of the departments showing greatest interest in establishing intranets are marketing, communications, and human resources. This is because intranet applications can fulfill these departments' needs ^{fairly easily.}
_{relatively}

1. Priority Intranet Activities from the User Perspective

Users view the following as the highest priority activities for an intranet:

- Internal communications
- Access to corporate data
- Publication of internal information
- Collaborative activities

Users perceive the benefits of moving these activities to an intranet to include: ease of use, extended reach and reduced costs. Users cannot, however, quantify these advantages at this point.

It is significant that very few respondents—approximately one in ten—believe that intranet-enabled collaboration is *low* in importance. Vendors should prepare to assist in this area, as there is widespread consensus that collaboration via an intranet is of medium or high importance in achieving business goals. See Exhibit II-4.

Exhibit II-4

Key Intranet Activities, According to Users

Intranet Activity	Percent Ranking High in Importance	Percent Ranking Low in Importance
-------------------	------------------------------------	-----------------------------------

Internal Corporate Communications	60%	26%
Access to Corp. Data	57%	26%
Publish Internal Information	55%	31%
Management of Collaborative Applications	48%	12%

Source: INPUT

2. Likelihood of Using a Vendor To Manage Intranet-related Activities

most
 Users are likely to employ vendor expertise for intranet-based administrative activities, access to corporate data, browser development, and the migration of existing internal applications to the intranet. Of these, only access to corporate data was rated by users as a high-priority activity. See Exhibit II-5.

to assist with
Many companies are also likely to seek outside help with intranet

Factors that will drive demand for vendor assistance will be:

- Lack of skills and experience in-house
- Non-mission-critical nature of projects and the need to focus on core competencies
- Uncontrolled, unmanaged proliferation of intranet usage at the department level

Users are not inclined to turn over to a vendor the high-priority applications in which they have experience, such as internal communications, the publication of internal information, and collaborative activities.

Exhibit II-5

Intranet Activities Most Likely To Be Managed by Vendors

Intranet Activity	Percent Ranking High in Likelihood	Percent Ranking Low in Likelihood
-------------------	------------------------------------	-----------------------------------



Migration	76	88
Connection	76	95
Innovation	86	100

Source: INPUT

(Explanation of above terms.....xxxx) C

INPUT defines these types of applications as follows:

- Connection — Linking back-office systems and existing applications to the web
- Migration — Porting or re-writing existing applications in Java or ActiveX to the Internet platform
- Innovation — Developing entirely new Internet ~~or~~ intranet applications

Areas of innovation might include:

- Customization of a Web site based on visitor profiles, which are developed based on initial visits and stored for subsequent visits (one-to-one marketing)
- Real-time monitoring of valuable information to customers, such as production/order status and time-sensitive financial data
- Electronic commerce applications

4. Outlook

Users were not surveyed on new areas such as extended intranets ("extranets") or virtual private networks (VPNs). However, these technologies offer important business potential.

They represent a means to overcome major barriers, such as concerns about Internet reliability and security. Extended intranets and VPNs can enable secure transactions that offer the advantages of speed, low cost, extended reach, and ease of access and use. Thus, they have the potential to help users achieve the agility and increased productivity that they are seeking in the 1990s.



Access Corporate Data	67%	39%
Administrative Tasks	52%	33%
Develop Browser for Applications	45%	42%
Migrate Existing Applications to Intranet	44%	42%

Source: INPUT

Among administrative tasks that might be carried out via an intranet are: supply ordering, directory look-up, job postings, and publication of company policies and benefits information.

Many companies are interested in having a browser front end developed for key applications, such as accounting, inventory management, and MRP.

- Among existing applications that are likely to be moved to intranets are: sales automation, expense reporting, help desk, and EDI/order processing.

3. Timing of Internet/Intranet Applications Management Needs

Users clearly intend to use vendors' applications management services heavily over the five-year forecast period: all respondents say they will use vendors for management of innovative intranet applications by 2001.

Users are looking to vendors for leadership in this area. They will also rely more on vendors for help with migration of applications to their intranets and with connection. See Exhibit II-6.

Exhibit II-6

Internet/Intranet Applications Management Services Plans

Type of Application	Percent That Would Use a Vendor Now	Percent That Will Use a Vendor in the Future
---------------------	-------------------------------------	--



Migration	76	88
Connection	76	95
Innovation	86	100

Source: INPUT

(Explanation of above terms.....xxxx)

Areas of innovation might include:

- Customization of a Web site based on visitor profiles, which are developed based on initial visits and stored for subsequent visits (one-to-one marketing)
- Real-time monitoring of valuable information to customers, such as production/order status and time-sensitive financial data
- Electronic commerce applications

4. Outlook

Users were not surveyed on new areas such as extended intranets ("extranets") or virtual private networks (VPNs). However, these technologies offer important business potential.

They represent a means to overcome major barriers, such as concerns about Internet reliability and security. Extended intranets and VPNs can enable secure transactions that offer the advantages of speed, low cost, extended reach, and ease of access and use. Thus, they have the potential to help users achieve the agility and increased productivity that they are seeking in the 1990s.



Application vendors are expected to continue to modify their packages for the intranet, as SAP is now doing, thereby enabling the implementation of enterprise-wide applications on intranets.

These trends will enable increasing interactivity among communicating parties, contributing to a shift toward real-time, interactive business processes that should contribute to significant increases in productivity. The need for extranets and VPNs may diminish in the next millenium, when the infrastructure of the Internet is more robust and benefits can be achieved reliably through its direct use.

D

Conclusions and Recommendations

1. Conclusions

Users are most likely to use vendors for creative/site development for their Internet activities. Users are also likely to seek assistance with interactive applications and content management. See Exhibit II-7.

Exhibit II-7

Conclusions-Internet

Users will seek vendor assistance for Internet:

- Site development
- Management of interactive applications
- Content management

Source: INPUT

For their intranets, users are most likely to use vendors for access to corporate data. They are also likely to use vendors for the management of administrative tasks, the development of browser front ends, and the migration of existing applications. See Exhibit II-8 for a summary of these key points.



Exhibit II-8

Conclusions-Intranets

Users are most likely to use vendors for:

- Data access
- Management of administrative tasks
- Browser front ends
- Application migration

A large percentage of users surveyed plan to outsource intranet-related innovation, connection, and migration within the next four to five years. See Exhibit II-9.

Exhibit II-9

Conclusions-Timing of Intranet Market Demand

Outlook	Greatest User Demand
Short-term	Connection
Medium-term	Migration
Long-term	Innovation

Source: INPUT

2. Recommendations

a. Users

Survey data supports the need for users to prioritize their activities by business impact and to focus on their areas of experience and expertise. Users should develop a plan for Internet/intranet applications. Such a plan should emphasize strategic priorities and acquisition of required skill sets. The required skill base can be built up through hiring, alliances/acquisitions, and/or retraining.

Users should consider communicating and executing transactions with key clients and partners via an extended intranet or virtual private network (VPN) to accelerate the benefits of electronic commerce. As always, it is best to start with easy activities and work up to more



difficult projects. A summary of these key recommendations is provided in Exhibit II-10.

Exhibit II-10

Recommendations for Users

(make this list narrower + center)

- Prioritize
- Focus
- Develop a plan
- Interact via extranet or VPN
- Build up skills
- Start easy

Source: INPUT

b. Vendors

Even though ^{emerging} opportunities in Internet- and intranet-related services appear to be extensive, vendors should use a calculated approach, taking time to develop a cohesive strategy and plan for targeted offerings.

The critical elements for early entry into this market appear to be: skills and experience to support creative site development, interactive Internet-based transactions, content management, the enabling of access to corporate data and to administrative systems via an intranet, and the integration of existing internal applications with intranets and browser front ends. Vendors should choose target areas to emphasize and build skills in those areas.

Vendors should consider establishing alliances with the following:

- Software vendors that are adapting their products to the Web
- Hardware vendors that need to offer a portfolio of Internet services and software
- Implementation and development vendors that have the skills to implement Internet-based solutions
- Outsourcers that can manage implementation and related processing services



Vendors can leverage existing vertical market expertise and applications experience, transferring these strengths to Web-based transaction management and targeting users in these vertical markets.

Vendors should consider offering an extended intranet ("extranet") for members of a vertical industry or organization to position themselves advantageously for the emerging electronic commerce market and for additional services to these clients. Vendors should also include training and business assessment/consulting in their offerings.

Exhibit II-11 provides a summary of vendor recommendations.

Exhibit II-11

Recommendations for Vendors

Center

- | | |
|---|--|
| <ul style="list-style-type: none">• Develop a plan and target offerings• Build skills in target areas• Make alliances• Leverage strengths and transfer them to Internet/intranet areas• Consider extranet offerings• Offer training and consulting | |
|---|--|

Source: INPUT



III

Internet Applications Management

The implementation of Internet technology is becoming an important instigator of demand for application management outsourcing, according to vendors. The Internet is clearly on users' minds and in their plans for the future and they have begun to discuss their Internet-related needs with vendors.

A

Users' Internet Priorities

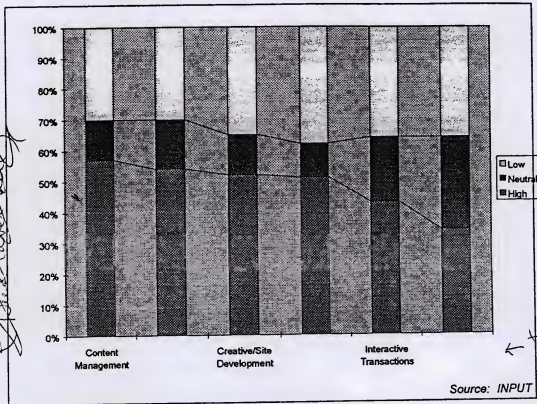
Content management (content updates, analysis of customer feedback, security) and intercompany communications are the most important Internet activities, from the user point of view.

Creative site development and the use of the Internet as a customer service center ranked next in importance. Less important to users at the present time are using the Internet for interactive activities (e.g., orders, fulfillment, technical support) and database mining of customer information for market targeting purposes. Although these applications have important business potential, they are likely to form a second wave of demand among users, once users are convinced that Internet technology is reliably robust and secure. See Exhibit III-1.



Exhibit III-1

Importance of Internet Activities to Users



An example of a customer service center application would be the enabling of direct customer look-up of account or order status, eliminating the need for a middleman.

INPUT believes that interactive transactions will gain in importance as users become convinced of the reliability of the Internet. In the interim, virtual private networks (VPNs) and extended intranets may be developed for reliable use.

B

Likelihood of Outsourcing Internet-based Activities

When asked how likely they would be to use the services of a vendor for Internet-related activities, users responded that they are most likely to use a vendor for creative site development. Forty percent of users surveyed are highly likely to turn to vendors for assistance with interactive transactions and customer service. Other areas for which users are likely to use vendor assistance include content management, database mining of customer



1. Current and Future Sources of Internet Applications Development

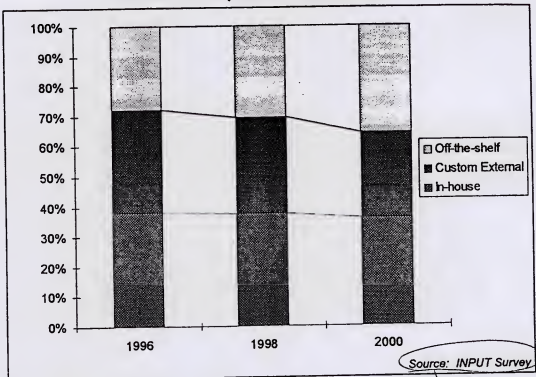
When INPUT surveyed 120 Fortune 1000 companies as to the likely source of current and future Internet applications, respondents outlined an evolution away from in-house-developed applications, which currently, in their opinion, represent nearly 40% of Internet applications, to an equal proportion of off-the-shelf applications in the year 2000. In that year, respondents believe that 36% of Internet applications will be off-the-shelf and another 36% will be in-house developed. They foresee a smaller share (28%) of custom, externally developed Internet applications, which account for about one-third (34%) of Internet applications development at present. See Exhibit III-3.



Exhibit III-3

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III-3

Who Will Develop Internet Applications?



In the future, services vendors will be customizing or modifying applications that are off-the-shelf or have been developed by the user in-house, rather than developing custom applications from the ground up. Therefore, there is an opportunity for outsourcers to manage these applications as part of their services.

2. Focus of Internet Applications Development Activity

Users believe that focus on innovative applications for the Internet will increase, while connection will become a less important area of activity as it becomes more of a commodity. There will be a slight increase in focus on migration applications as well. See Exhibit III-4. What this means for vendors is that their plans should emphasize the acquisition of emerging innovative applications and skills.

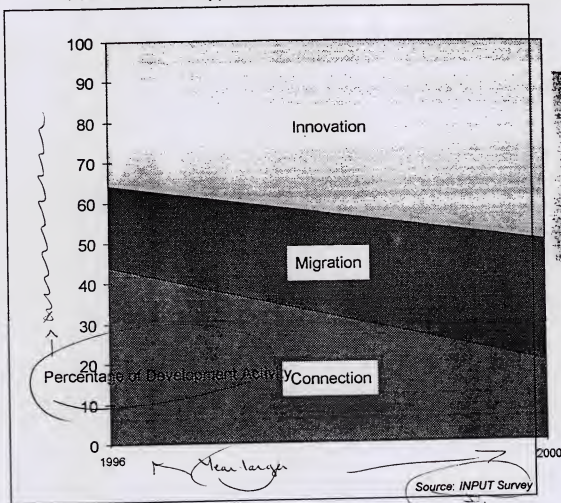
(the terms innovation, migration and connection are defined in Chapter II, page -)



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Exhibit III-4

Focus of Internet Applications Activity, 1996 - 2000



For the short term, the focus will be on connection. However, professional services vendors and outsourcers should position themselves to provide innovative services in the future.

D

Examples of Internet Contracts

Many recent contracts involve site development and management, although some beginning electronic commerce applications are being contracted out. For a sampling of recent Internet services contracts, see Exhibit III-5.



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Vendor	Client	Objective	Industry
Andersen Consult. and BBN	Airlines	Passenger Revenue Accounting System - airline transactions	Transp.
Applied Graphics Technology	N Y Daily News	Web site development	D. Mfg.
AT&T	First Albany	Notes-based access to research info; server maintenance support	Financial
AT&T/CompuServe	Great Plains Software	Database storage, troubleshooting, email, support	Services
BBN Planet	L.L. Bean	Online shopping catalog	Retail
Digital Facades	Epson	Hosting, server maintenance, connectivity, graphics designs	D. Mfg.
EDS	DCB Needham	Design, develop, implement and host site of PepsiCola, a DCB customer; includes animation, audio, 3-D graphics	Services
EDS	Softbank Expo & Conf. Co	Web-based registration system for trade show participants	Services
Hewlett Packard	Mail Marketing	Web server management, electronic commerce	Retail
Policy Management Systems	Reliance National	Enable insurance agents to underwrite, rate, quote, and process policy applications over the Internet	Insurance

Source: INPUT

EDS' DDB Needham contract is with the customer's interactive communications group. EDS designed, developed, implemented and hosts Pepsi-Cola's Internet site. The web site resides on the EDS WebRanch, part of the Plano, Texas data center. The site features animation, audio and three-dimensional graphics created in virtual reality mark-up language.

Andersen Consulting and BBN have a joint venture to provide a secure infrastructure for end-to-end business processes. This "business utility" targets the travel and tourism, healthcare and utilities markets but is not limited to those markets. The joint venture manages Andersen Consulting's Passenger Revenue Accounting (PRA) Solutions enterprise, which handles an average of 20 million transactions a day for many major airlines. The joint venture enables electronic commerce via the Internet by leveraging Andersen Consulting's strength in business process management and BBN's experience in data communications.



IV

Intranet Applications Management

Users' interest shifted in 1996 from the Internet to intranets because the latter can offer reliable and secure present-day business advantages with relative ease of transition.

Intranets can be leveraged as an important business tool enabling better communications, collaboration, and productivity. A key challenge of intranets is the seamless and secure integration of existing internal networks with Web sites.

Intranet usage is being driven from the department level, with human resources, marketing, and communications departments leading the way. INPUT believes that the bottom-up trend parallels the adoption of client/server technologies in the 1980s. Once again, central IS often is only being brought in after implementation, to manage the chaos.

A

Users' Intranet Plans

1. Plans for Intranet-based Applications

When users were surveyed as to whether they have plans for intranet-based applications, a three-quarters majority responded affirmatively, as shown in Exhibit IV-1.



Exhibit IV-1

Intranet-based Applications Plans

Status	Percent of Respondents
Planning	76%
No plans	24%

This is a signal vendors should consider. If users ^{in the} ^{stage} are planning, there may be opportunities for consulting ~~during the planning stage.~~

2. Evolution of Intranet Services Plans

A very high percentage of users indicate a willingness to use vendors for innovative intranet applications. Currently, 86% of users surveyed would use a vendor for innovative applications. This percentage increases to 100% by the year 2001. This is a clear indication that users will look to vendors for leadership in intranet development. Innovative applications include transactions with a more customized or multimedia aspect than is currently available. *These transactions will be truly interactive, with multiple parties, with nearly real-time information access.*

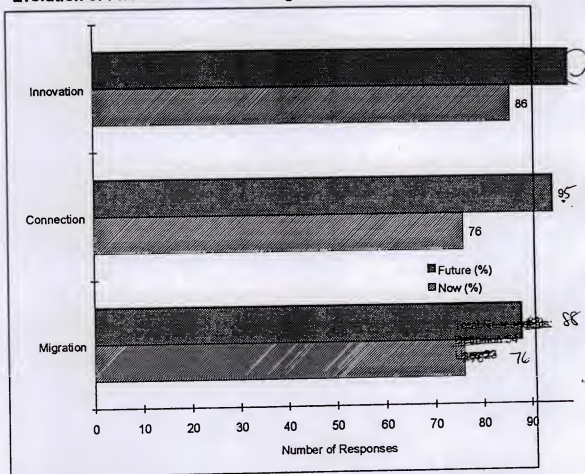
About three-quarters of users currently say they would outsource intranet connection and migration. Like the trend in innovative applications, these percentages, too, increase over the five-year forecast period. By 2001, 88% of users would consider using a vendor for migration of applications to the intranet, and 95% would use a vendor for connection. See Exhibit IV-2.



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migr-innote2

Exhibit IV-2

Evolution of Plans For Intranet Management Services, 1996 - 2001



Source: INPUT Survey

B

Users' Priorities and Likelihood of Using a Vendor

1. Importance of Intranet Activities to Users

For users, the most important intranet activity is intracompany communications—nearly two-thirds of users believe this is an important intranet-enabled activity. Users see the advantages of intracompany communications as:

- Extended corporate reach



- Improved speed of access and response
- Relatively low cost
- Better productivity

Next in importance to users are the following activities: access to corporate data, publication of internal corporate information, and collaborative applications. See Exhibit IV-3.

Exhibit IV-3

Importance of Intranet Activities to Users

Intranet Activity	Percent Ranking High in Importance	Percent Ranking Low in Importance
Internal Corporate Communications	60%	26%
Access to Corp. Data	57%	26%
Publish Internal Info.	55%	31%
Collaborative Applications	48%	12%
Administrative Tasks	38%	36%
Develop Browser Front End	34%	39%
Migrate Existing Applications to Intranet	29%	50%

Source: INPUT

An example of an application that could fall under either of the top two categories would be remote access by a sales or customer service representative to customer credit information and order status. These areas are important to users because they enable better and faster decisions and improved workflow.

Timing may be influencing the lower priorities among users. For example, migration of existing applications to intranets is likely to become a higher priority to users once other intranet-enabled applications become more commonplace. Browsers, too, will become a higher priority once applications are nearly in place.



2. Plans To Use Vendors for Intranet-related Activities

Two-thirds of users are likely to use a vendor to help them access corporate data via the intranet. Once data access is facilitated, interest in database mining is likely to grow. Half of users surveyed will look to vendors to assist them in implementing and managing administrative tasks on their intranets, even though such tasks were not rated high in importance.

The fact that user likelihood to use a vendor does not correlate to users' highest priority intranet activities could be an indication that users intend to use in-house resources first for the activities they deem most important.

Intranet-enabled administrative tasks include many of those now carried out at the desktop corporate-wide. Among administrative tasks that might be carried out via an intranet are:

- Supply ordering
- Telephone directory and organization charts
- Job postings
- Publication of company policies and benefits information
- Employee surveys
- Registration for classes

Although these applications may seem trivial, intranet access will save corporate spending on paper and clerical staffing, while making life easier for employees and accelerating processes.

Nearly half of companies surveyed are likely to use an outside vendor to have a browser front end developed for key applications, such as accounting, inventory management, and MRP.

One third of respondents will use an external service provider for the migration of existing applications to their intranets. Among existing applications that are likely to be moved to intranets are:

- Sales automation
- Expense reporting
- Travel arrangements
- EDI, order processing
- Benefits choices



- Help desk
- Accounting
- Supply chain management (extended intranet)

Users are unlikely to use a vendor for some of their highest priority intranet activities, such as internal communications, collaborative applications, and the publication of internal information. This may be because users feel comfortable with in-house skill levels for these activities and because, traditionally, they tend to outsource what they perceive as the less strategic and less proprietary activities. See Exhibit IV-4.

Exhibit IV-4

Likelihood of Using a Vendor for Intranet-related Activities

Intranet Activity	Percent Ranking High in Likelihood	Percent Ranking Low in Likelihood
Access to Corp. Data	67%	39%
Administrative Tasks	52%	33%
Develop Browser for Apps	45%	42%
Migrate Existing Applications to Intranet	44%	42%
Internal Communications	44%	38%
Collaborative Applications	42%	48%
Publish Internal Info.	34%	49%

Source: INPUT

Vendors should prepare to provide selected services related to activities that are highly likely to be outsourced. If vendor experience and skill levels are not expensive in a target area, an alliance or acquisition strategy can fill the gap.

Greater dependence on internal networks for business applications, particularly on a global basis, will drive the need for vendor assistance with applications and network management. Ford Motor depends on Hewlett-Packard to manage its intranet to ensure reliability for the company's 70,000 users in more than two dozen countries. The three-year, \$6 million contract primarily involves network operations.



C

Extended Intranets or "Extranets"**1. Extended Intranets—Definition and Opportunity**

Extended intranets, sometimes referred to as "extranets," are secure and robust intranets that are linked via the Internet to large clients and other partners, such as suppliers and distributors. Virtual private networks (VPNs) make use of Internet technologies, but traffic runs on an outsourced private network, eliminating the traffic, bandwidth, and security problems of the public Internet.

Large vendors, particularly IBM, but also EDS and Andersen Consulting, are beginning to position themselves as extranet providers because they view extranets as a way to enter the potentially lucrative business of managing network-based transactions (electronic commerce) and to do business with a multitude of companies in a vertical segment. IBM has recently announced extranets for the insurance, utility, and oil industries. Many of the vertical players in these industries are large companies with extensive service requirements. The extranet, therefore, can represent a point of entry to significant potential services contracts with multiple important clients.

Users find extranets attractive because they provide the advantages of security, reliability, speed, and improved links to business partners. The outlook for extranets over the short term is very good because they offer advantages not yet available on the public Internet. For vendors, they have huge potential, partly because they represent the initial mechanism for Net-based electronic commerce. Eventually, when the Internet becomes more reliable, secure and robust, there may be less need for extranets and traffic could shift back to the public Internet, unless vendors can continue to provide advantages that retain these attractive customers.

2. Extended Intranet Contracts—1996

In late 1996, there was an initial flurry of extranet positioning, led by IBM.

- IBM and Siemens Power Systems Control are providing an Internet-based system for the purchase and sale of electrical capacity by utilities, such as Pacific Gas and Electric. It is a flat fee service with an additional per-transaction charge.
- IBM's Insure-Commerce enables insurers to do business over the Internet; for example, customers can file auto-glass claims and receive payments via EDI applications.



- EDS's PowerAg network is an Internet-based platform enabling agricultural chemical companies to access data and carry out EDI and EFT transactions with other companies in the network.

See Exhibit IV-5 for a sampling of recent "extranet" contracts.

Exhibit IV-5

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Recent "Extranet" Contracts

Vendor	Client	Objective	Industry
IBM/ISSC	Brazilian Banks	Intranet Used by Banks to Provide Remote Banking Svcs for Customers	Finance
EDS (Energy SBU)	Agric. Chem. Co's	Secure extended intranet for access to industry info	Proc. Mfg
IBM/Siemens	PG&E, Utilities	Secure Internet-based system for purchase and sale of electric capacity	Utilities
IBM	17 Insurance Co's	Enable insurance companies to do business with each other and with customers over Internet; EDI system streamlines auto-glass insurance claims and payments.	Insurance
IBM	Oil Co's	Database and collaboration service ("PetroConnect")	Proc. Mfg

Source: INPUT Survey

The above exhibit of recent contracts ^{*signals the emergence of*} demonstrates that "extranet" opportunities ~~are beginning to surface~~. The important point is that many of the clients are large companies with extensive potential service requirements and are likely to be heavily involved in future net-based transactions. Therefore, they represent a lucrative future opportunity for the service provider.





Definition of Terms



A

Introduction

INPUT's *Definition of Terms* provides the framework for all of INPUT's market analyses and forecasts of the information services industry. It is used for all U.S. programs, in Europe, and for INPUT's worldwide forecasts. One of the strengths of INPUT's market analysis services is the consistency of the underlying market sizing and forecast data. Each year, INPUT reviews its industry structure and makes changes if they are required. When changes are made, they are carefully documented and the new definitions and forecasts reconciled to the prior definitions and forecasts. INPUT clients have the benefit of being able to track market forecast data from year to year against a proven and consistent foundation of definitions.

B

Overall Definitions and Analytical Framework**1. Information Services**

Information Services are computer/telecommunications-related products and services that are oriented toward the development or use of information systems. Information services typically involve one or more of the following:

- Packaged software products, including systems software or applications software (called *Software Products*)
- A combination of computer equipment, packaged software and associated support services that will meet an application systems need (called *Turnkey Systems*)
- People services that support users in developing and operating their own information systems (called *Professional Services*)
- A combination of products (software and equipment) and services in which the vendor assumes total responsibility for the development of a custom integrated solution, or part of a solution, to an information systems need (called *Systems Integration*)
- Services that provide operation and management of all or a significant part of a user's information systems or telecommunications functions under a long-term contract (called *Outsourcing*)
- Use of vendor-provided computer processing services to develop or run applications or provide services such as disaster recovery or data entry (called *Processing Services*)
- *Network Services* has two components:
 - Services that support the delivery of information in electronic form— typically network-oriented services such as value-added networks and electronic mail (called *Network Applications*)



- Services that support the access and use of public and proprietary information such as on-line databases and news services (called *Electronic Information Services*)
- Services that support the operation and maintenance of computer and digital communication equipment (called *Equipment Services*)

In general, the market for information services does not involve providing equipment to users. The exception is when the equipment is part of an overall service offering such as a turnkey system, an outsourcing contract, or a systems integration project.

The information services market also excludes pure data transport services (i.e., data or voice communications circuits such as T-1 carriers). However, where information transport is associated with a network-based service (e.g., electronic data interchange services) or cannot feasibly be separated from other bundled services (e.g., some outsourcing contracts), the transport costs are included as part of the information services market.

The analytical framework of the information services industry consists of the following interacting factors: overall and industry-specific business environment (trends, events, and issues); technology environment; user information system requirements; size and structure of information services markets; vendors and their products, services, and revenues; distribution channels; and competitive issues.

C

Outsourcing

Outsourcing is a long-term (greater than one year) relationship between a client and a vendor in which the client delegates all, or a major portion, of an operation or function to the vendor. The operation or function may be solely information systems outsourcing-based, or include information systems outsourcing as a major component (at least 30%) of the operation.

The critical components that define an outsourcing service are:

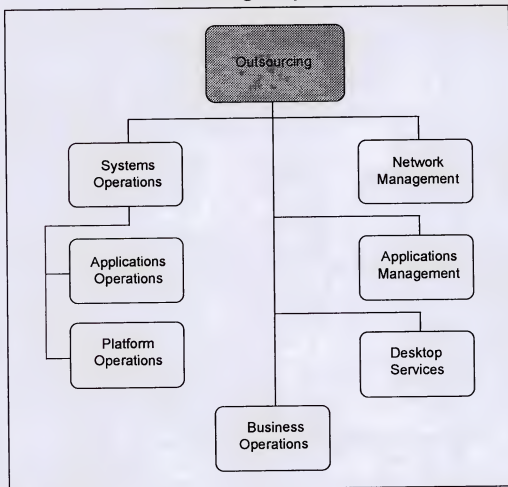
- Delegating an identifiable area of the operation to a vendor
- Single-vendor responsibility for performing the delegated function
- An intended, long-term relationship between the client and the vendor, where:
 - The contract term is for at least one year
 - The client's intent is not to perform the function with internal resources
- The contract may include noninformation systems outsourcing activities, but information systems outsourcing must be an integral part of the contract.



For 1996, the outsourcing product/service subcategories have been defined as shown in Exhibit A-1 and defined below:

Exhibit A-1

Outsourcing Components



Source: INPUT

- *Platform Operations* - The vendor manages and operates the client's business systems to perform the client's business functions, without taking responsibility for the client's application systems.
- *Applications Operations* - The vendor manages and operates the computer systems to perform the client's business functions, and is also responsible for maintaining, or developing and maintaining, the client's application systems.
- *Network Management* - The vendor assumes responsibility for operating and managing the client's data communications systems. This may also include the client's voice communications resources. A network management outsourcing contract may include only the management services or it may cover the full costs of the communications services and equipment plus the management services.



- *Desktop Services* - The vendor assumes responsibility for the deployment, maintenance, and connectivity among the personal computers and/or workstations in the client organization. The services may also include performing the help-desk function. Equipment as well as services can be part of a desktop services outsourcing contract.

Note: This type of client service can also be provided through traditional professional services where the contractual criteria of outsourcing are not present.

- *Applications Management* - The vendor has full responsibility for maintaining and upgrading some or all of the application systems that a client uses to support business operations and may also develop and implement new application systems for the client.

An applications management contract differs from traditional software development in the form of the client/vendor relationship. Under traditional software development services, the relationship is project based. Under applications management, it is time and function based.

These services may be provided in combination or separately from platform outsourcing.

- *Business Operations* - Business operations outsourcing (also known as business outsourcing or functional outsourcing) is a relationship in which one vendor is responsible for performing an entire business/operations function, including the information systems outsourcing that supports it. The information systems outsourcing content of such a contract must be at least 30% of the total annual expenditure in order for INPUT to include it in the outsourcing market. Examples of business operations that are outsourced include telephone company billing and employee benefits processing.

Outsourcing vendors now provide a wide variety of services in support of existing information systems. The vendor can plan, control, provide, operate, maintain, and manage any or all components of the client's information systems environment (equipment, networks, applications systems), either at the client's site or the vendor's site.

D

Industry Sector Definitions

INPUT structures the information services market into industry sectors such as process manufacturing, insurance, transportation, etc. The definitions of these sectors are based on the most recent revision of the Standard Industrial Classification (SIC) code system. The specific industries (and their SIC codes) included under these industry sectors are detailed in Exhibit A-2.

INPUT includes all product/service categories except systems software products and equipment services in industry market sectors.

Note: SIC code 88 is Personal Households. INPUT does not currently analyze or forecast information services in this market sector.



Exhibit A-2

Industry Sector Definitions

Industry Sector	SIC Code	Description
Discrete Manufacturing	23xx	Apparel and other finished products
	25xx	Furniture and fixtures
	27xx	Printing, publishing, and allied industries
	31xx	Leather and leather products
	34xx	Fabricated metal products, except machinery and transportation equipment
	35xx	Industrial and commercial machinery and computer equipment
	36xx	Electronic and other electrical equipment and components, except computer equipment
	37xx	Transportation equipment
	38xx	Instruments; photo/med/optical goods; watches/clocks
39xx	Miscellaneous manufacturing industry	
Process Manufacturing	10xx	Metal mining
	12xx	Coal mining
	13xx	Oil and gas extraction
	14xx	Mining/quarrying nonmetallic minerals
	20xx	Food and kindred products
	21xx	Tobacco products
	22xx	Textile mill products
	24xx	Lumber and wood products, except furniture
	26xx	Paper and allied products
	28xx	Chemicals and allied products
	29xx	Petroleum refining and related industries
	30xx	Rubber and miscellaneous plastic products
	32xx	Stone, clay, glass and concrete
	33xx	Primary metal industries
Transportation Services	40xx	Railroad transport
	41xx	Public transit/transport
	42xx	Motor freight transport/warehousing
	43xx	U.S. Postal Service
	44xx	Water transportation
	45xx	Air transportation (including airline reservation services in 4512)
	46xx	Pipelines, except natural gas
	47xx	Transportation services (including 472x, arrangement of passenger transportation)

Source: INPUT



Exhibit A-2 (continued)

Industry Sector Definitions

Industry Sector	SIC Code	Description
Telecommunications	48xx	Communications
Utilities	49xx	Electric, gas and sanitary services
Retail Trade	52xx 53xx 54xx 55xx 56xx 57xx 58xx 59xx	Building materials General merchandise stores Food stores Automotive dealers, gas stations Apparel and accessory stores Home furniture, furnishings and accessory stores Eating and drinking places Miscellaneous retail
Wholesale Trade	50xx 51xx	Wholesale trade - durable goods Wholesale trade - nondurable goods
Banking and Finance	60xx 61xx 62xx 67xx	Depository institutions Nondepository credit institutions Security and commodity brokers, dealers, exchanges and services Holding and other investment offices
Insurance	63xx 64xx	Insurance carriers Insurance agents, brokers and services
Health Services	80xx	Health services
Education	82xx	Educational services

Source: INPUT



Exhibit A-2 (continued)

Industry Sector Definitions

Industry Sector	SIC Code	Description
Business Services	65xx	Real estate
	70xx	Hotels, rooming houses, camps, and other lodging places
	72xx	Personal services
	73xx	Business services (except hotel reservation services in 7389)
	7389	Hotel reservation services
	75xx	Automotive repair, services and parking
	76xx	Miscellaneous repair services
	78xx	Motion pictures
	79xx	Amusement and recreation services
	81xx	Legal services
	83xx	Social services
	84xx	Museums, art galleries, and botanical/zoological gardens
	86xx	Membership organizations
87xx	Engineering, accounting, research, management, and related services	
89xx	Miscellaneous services	
Federal Government	9xxx	
State and Local Government	9xxx	
Miscellaneous Industries	01xx	Agricultural production - crops
	02xx	Agricultural production - livestock/animals
	07xx	Agricultural services
	08xx	Forestry
	09xx	Fishing, hunting and trapping
	15xx	Building construction - general contractors, operative builders
	16xx	Heavy construction - contractors
	17xx	Construction - special trade contractors

Source: INPUT



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**B**

Profiles of User and Vendor Respondents



Exhibit B-1

Profile of User Respondents by Industry

Industry	Percent of Sample	Large Companies (Revenues \geq \$500M)	Small Companies (Revenues $<$ \$500M)
Communications	10	2	3
Financial	10	4	1
Discrete Manufacturing	20	7	3
Process Manufacturing	18	6	3
Retail	10	3	2
Services	8	0	4
Utilities	10	3	2
Other	14	4	3
Total	100%	29	21

n = 50

Source: INPUT



Exhibit B-2

Vendor Respondents' Profile

Vendor Type	Percent of Total Respondents
Outsourcer	40
Consultant	20
Professional Services	20
Applications Developer	20
Total	100%

n =25

Source: INPUT





Questionnaires



USER QUESTIONNAIRE**INTERNET AND INTRANET APPLICATIONS MANAGEMENT**

1. a. Do you have/plan to have any Intranet-based applications? Y / N

Comment

1. b. If yes, for which types of applications would you consider using an external vendor (now and in the future [3 - 5 yrs.])?

Applications	Now	Future
Connection (Developing an Intranet browser front-end for an existing application)		
Migration (Moving existing application functionality to Intranet technology)		
Innovation (Developing new applications for an Intranet)		

Comment



2. Would you rate the importance of the following Internet activities to your company? Again on a scale of 1 - 5, how likely are you to use a third-party for these applications?

Application	Importance	Likelihood - Use Vendor
Creative services for Web site development		
Content management (updates, customer feedback)		
Interactive: orders, fulfillment, tech support for customers		
Database mining of customer information		
Inter-company communications		
Customer service center		
Other		

Comment

3. Would you rate the importance of the following Intranet activities to your company? Again on a scale of 1 - 5, how likely are you to use a third-party for these applications?

Application	Importance	Likelihood - Use Vendor
Develop browser front-end for existing applications		
Migration of existing applications		
Publishing of internal corporate information		
Collaborative applications to enhance productivity		
Administrative tasks (directory, benefits, travel, supplies, etc.)		
Access to corporate data		
Intra-company communications, including worldwide sites		
Other		

Comment



VENDOR QUESTIONNAIRE

INTERNET AND INTRANET APPLICATIONS MANAGEMENT

1. What is the size of your company in terms of annual revenue?

- _____ Under \$100M
_____ \$200 - \$500M
_____ \$500M - \$1B
_____ >\$1B

2. What type(s) of applications does your company manage? and for what industry?

Application

Industry

Comment

3. Does your experience in this market indicate that the trend toward Internet and intranet usage is a driver of demand for applications management services? Y/N

Comment



5. What architectures are most likely to require applications management services? Please rate the likelihood of each as low, medium or high.

<u>Architecture</u>	<u>Low</u>	<u>Medium</u>	<u>High</u>
Centralized			
Distributed			
Desktop			
Intranet			
Internet			

Comment

6. In your view, what percent of applications will come from the following sources?

Source	1996	2000
Off-the-shelf		
Custom External		
In-House		

Comment

7. How do you rate the emphasis of applications development activity during 1996 - 2000 (1=weak, 5=strong)?

Focus	1996	2000
Connection		
Migration		
Innovation		

Comment

