Information
Services
Program
(ISP)

Information Systems Planning Report

Banking and Finance Sector

INPUT®

1280 Villa Street, Mountain View, CA 94041 (415) 961-3300

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INFORMATION SYSTEMS PLANNING REPORT

BANKING AND FINANCE SECTOR

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1280 Villa Street, Mountain View, California 94041-1194 (415) 961-3300

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Major Issues

I

Major Issues

A

Driving Forces

Cost pressures intensified by increases in loan loss provisions and turbulent financial market conditions became the major driving force in the market during 1987.

Cost pressures are leading banks to consider mergers, shared operations, or offloading part of their operational load to processing vendors. Processing vendors are enjoying an expansion of work as a result and are greatly increasing the services that they offer. MTech has added more ATM capability, a COM service bureau, education and training courses, and new commercial bank processing services. First Financial Management has also acquired a COM facility and added other new products.

Cost pressures have also intensified the effort by major banks to find new sources of revenues through market place expansion or the development of new or enhanced products.

Deregulation by federal and state governments in the banking and finance sector have dramatically affected the competitive environment and banks would like to see further deregulation, particularly in regard to the Glass-Steagall act.

- Money center banks have carried out a number of mergers across, as well as within, state boundaries and will be involved in more mergers, to reduce costs through consolidation of operations and to gain access to new markets.

- One regional bank, First Tennessee, was involved in over 30 mergers in the mid 1930's.

- The emerging super regional banks such as Core States, Midtlantic, and First Wachovia will also be involved in more acquisition and merger activities.

Due to the market entry of new small financial service institutions (FSI's), particularly savings and loan institutions, the total number of FSI's will not decrease as rapidly as formerly projected.

New technology, primarily in the form of intelligent network services, including new approaches to credit card and ATM use (touch screen versus keyboard input and uses of A.I.), will continue to expand distribution channels for banking and financial services. It will also provide the opportunity for nontraditional competitors such as retail organizations to expand services to the financial services industry.

Deregulation and consolidation have provided the opportunity for banks to attempt to improve productivity through economies of scale.

Money center banks must continue to grow in size to economically provide a full range of services to commercial and individual customers through:

- Efficient interfaces to major money transfer systems.
- Extensive branch office network links to national ATM networks.
- Large scale processing capabilities for check clearance, loan handling, and other processing functions.
- Integrated information networks to support business offices and bank clients.
- Services that offer nationwide, and in some cases worldwide, "market presence."
- Up-to-the-minute information on worldwide lending, currency, and investment markets.

A number of large banks have or are attempting to leverage their size, resources, and market knowledge to gain market share in certain product areas through the use of technology.

- Chase dominates ACH origination through this strategy.
- Citibank, Bank America, Chase, and First of Chicago dominate bank card insurance.
- Bank of New York has become a significant player in many areas of security processing.

Some industry observers feel that the combination of asset size and the use of technology will result in the domination of the industry by large institutions, those who can afford to buy the most effective systems.

However, the creation of competitive large-scale capabilities by a group of major banks to serve clients has created a situation of over-capacity where individual banks may find that they cannot run their systems with sufficient volume to create peak efficiency.

Banks below the top ten in asset size have also demonstrated the ability to use technology profitably. The check clearing services of First Tennessee and National Bank of Detroit illustrate this.

A few large banks may be able to concentrate their attention on segments of work (e.g., Bankers Trust on corporate banking and Continental of Illinois on merchant banking), but most large banks will continue to provide a mix of services to both retail and corporate clients.

Large banks and other financial institutions will also have to pay more attention to their markets. Their ability to sell to chosen markets may become limited by their customer and demographic data bases.

Exhibit I-1 summarizes the major driving forces affecting the Banking and Finance sector.

EXHIBIT I-1

BANKING AND FINANCE DRIVING FORCES

- Loan Portfolio Risk
- Cost Reduction
- Merger and Acquisition
- Product Opportunities
- Use of Technology/Conversion from Paper
- Deregulation

B

Issues and Objectives

There is pressure to upgrade and integrate software faster due to product changes, competition, and deregulation, which causes a need for faster development methods and more flexible software.

- Bank services are changing and increasing so rapidly that the professional services capabilities, application packages, processing capabilities, and in many cases, product knowledge of vendors must be called on for assistance.

- Many bank systems are old and do not account for the need for customer—versus functionally oriented data bases.

The continuing growth of ATM and POS use, the interbank EFT systems and on-line applications have made communications one of the key areas of change affecting this sector's IS department.

- The growing demand for electronic information delivery is affecting many industries.

- Banks have to be prepared to supply electronic information to a group of offices at client corporations as well as to link corporations for such purposes as trade payments.

- Individuals now also receive electronic information on payments, account details and investment opportunities from banks.

Major banks are planning to expand and upgrade information service capabilities that are customer-oriented.

- A greater use of user-friendly interfaces, such as the Citibank ATM display, and the use of AI in interface systems has been explored in 1987.

- Improved CIF capabilities are being introduced in retail and wholesale banking, and banks and other FSI are intensifying efforts to locate and sell prospects.

- Systems development has been focused on an application (i.e., product) basis. Because of this structure, banks have a difficult time associating a customer with the services the banks perform. Banks are also having difficulty developing prospects for services from their current customer base. Steps are underway to orient business more toward customer relations.

Developing an architecture that offers an integration and improvement of customer services is a major undertaking. The key will be to obtain and relate information from separate data bases. This task could involve

restructuring most systems in the organization. The institutions that are considering or undertaking this task are planning for up to five years to achieve their goal, with expenditures that may exceed $1 billion. Each bank must consider their needs and situation in developing an architecture.

- Core States developed a plan that allowed migration toward an integrated data base through a gradual upgrade of applications.

- First Tennessee developed a plan that relates customer accounts in two ways, for operational or marketing needs.

The need to reduce costs or expand processing to gain economies of scale or expand revenue has benefited from deregulation and the eroding barriers of interstate banking. This has accelerated the rate of bank mergers and acquisitions which has led to consolidation of IS departments and the development of information service companies in multibank holding companies.

- Systems compatibility has become a major issue. As different banks begin using a single consolidated source for information services, the migration to compatible computing systems becomes paramount if the efficiencies inherent in the consolidation are to be realized.

- A number of banks now find themselves with two, three, four, or even five manufacturers of computing systems. The costs of IS per asset dollar can be considerably higher in these institutions.

- Some consolidations of financial institutions are only occurring at the data center level. Systems development and maintenance still remain in the individual banks. Ultimately, the institutions that are merging are planning to consolidate the systems development group also, but this is a longer term and more complex goal.

As more information is stored and processed, the need for internal and external data security increases dramatically. Consumer protection laws provide strong incentives for financial institutions to control the dissemination of financial information.

Even though the banking and finance sector is continuing to exhibit the most technological opportunity (and disruption) of any sector, the top IS objective is still cost containment.

- Increased competitive pressures have mandated cost containment strategies for administrative systems.

II

New and Changing Applications

- Bank profitability continues to be under severe pressure due to poor loan performance. Management is trying to reduce costs to keep its equity position high enough to prevent regulatory intervention.

Banking management is in a dilemma regarding information systems.

- It must invest heavily in new systems and technologies to meet the competitive threat of other financial institutions, insurance companies, and nontraditional competitors such as retailers.

- But if business doesn't increase, banks may find themselves burdened with overcapacity.

- And poor loan performance means that costs must be controlled to maintain acceptable profitability.

Some banks may find that the only solution is to share production or use third-party processors where economies of scale dictate a heavy use of technology but competition may prevent business from expanding to fill the capacity.

To gain maximum leverage of marketing efforts, financial service organizations must keep the customers they worked so hard to sign. MIS must work more closely with senior management to obtain and analyze necessary account information and find the appropriate products or services for the organization's customer base. Information in the financial services business can no longer be seen as a competitive advantage; it is a necessity.

Deregulation, new products, and the need for more integration has led to a growing applications backlog. While all applications may not be of equal importance, the sheer number of unmet application requests must be dealt with. Shorter development cycles, the use of application software packages and outside services must be considered.

Exhibits I-2 and I-3 summarize the top issues and objectives in priority order for this sector.

EXHIBIT I-2

BANKING AND FINANCE ISSUES

- New Services or Product Requirements, particularly for new revenue opportunities, can not be met rapidly enough.
- Need for Integrated Information Architecture.
- Growing Demand for Electronic Information Delivery Systems.
- Merger and Acquisition Activity that favors Consolidation of Data Centers, Software, and IS Staff within the Affected Institutions.
- The creation of over-capacity in a desire to upgrade systems.
- Possible decrease of costs through a Shift of Work to External or Shared Processing Facilities.
- Growing Importance of Computer System Security.

EXHIBIT I-3

BANKING AND FINANCE OBJECTIVES

- Cost Containment.
- Handle expanding or changing system requirements for products more rapidly.
- Improve Information Delivery within institutions and to customers.
- Respond to Regulatory Requirements

C

Management Perception and Organizational Issues

Most banks view IS as a corporate asset. However, upper management is beginning to question the growth of expenses in relation to earnings.

- Senior management has a strategic view of IS as a key competitive tool and a major component of new services. Cost pressures have, however, forced senior management to review IS plans to a greater extent.

- Middle management may see IS as an expense that they cannot control if they have not realized increased revenue from IS-based services.

IS reporting to bank management has focused on two major factors.

- Meeting budget constraints and keeping spending levels comparable with key competitors.

- Having return on investment and cost benefit analysis for recommended activities. The use of post-implementation analysis is still rare. It appears that once a project is approved, it will be implemented and remain in operation until someone can convince management it should be replaced. This must change—the post-implementation analysis is vital to the success of the product and the profitability of new services.

Some financial institutions such as Security Pacific have concentrated on measuring results as well as obtaining agreements with users and management to achieve results while holding costs down (management by results).

Some institutions view IS as so essential to business that no measurement of total costs or benefits is made. This is a two-edged sword.

- It does not sufficiently encourage the IS department to evaluate opportunities to lower costs and improve productivity.

- It does not encourage IS to sell itself to management. Even if management does not require it, IS should convince users and management that its expenses are worthwhile.

IS' status has increased steadily in the last five years in responding institutions. The head of IS has a higher title such as senior or executive vice president, and reports to the president, vice chairperson, or executive vice president level. IS has moved away from reporting to the financial segment of the organization and is being viewed as an operating and, in some cases, a profit center of the organization. More IS executives have moved to the top levels of bank management as well.

IS is becoming an equal participant in the strategic process and has taken on an increasing role in product development. The role of IS in this period will be to improve information delivery in general.

Respondents believe information systems can become a competitive weapon in this sector by:

- Implementing systems that increase an institution's ability to gain market share of deposit, loan payment, investment, or their products.
- Reaching more customers in more effective ways through electronic delivery of information.
  - On treasury work stations.
  - Through ATMs and credit cards with new features.
  - Through EDI systems for transferring payments.
- Developing flexible systems that improve the institution's ability to react to outside influences (e.g., competition and deregulation).

D

Impact of Technology

End-user computing is having an increasing impact on this sector, although many respondents are marshalling resources to support personal computers rather than end-user computing in general.

Departmental processing is being implemented in larger banks to serve application needs as well as OA. Systems to plan customer strategies and contact schedules as well as to handle products are being implemented in user areas. The current focus of developing a central systems architecture is deferring action toward departmental systems in many mid-sized and smaller institutions.

Connectivity has become of great importance in this sector due to system integration needs of users. Diverse hardware and software need to be integrated to gain maximum use of installed equipment and to facilitate the exchange of information and ideas in the organization.

Relational data bases on mainframes have begun to be installed in the top fifty banks. DB2 use has grown rapidly.

Voice and data integration is believed to have medium impact on this sector. Electronic information delivery is vital to the success of banks and financial institutions. The cost of networks is a key concern, and respondents believe that merging voice and data networks is a means of reducing costs; however, recent trends indicate implementation has not been wide spread.

LANs have been used in the top fifty and some smaller banks to link functional areas or those concerned with certain processing systems. The lack of LAN standards has been a problem in this regard.

Optical storage (CD-ROM) has only been considered in an experimental way but its usage for information storage will begin to grow in 1988.

Exhibit I-4 summarizes the impact of the above technologies on the banking and finance sector.

EXHIBIT I-4

BANKING AND FINANCE
IMPACT OF TECHNOLOGY

	IMPACT	COMMENTS
End-User Computing	Medium	Growing in larger banks.
Departmental Processing	Medium	Applications and OA are now being done on departmental computing systems in large banks.
Connectivity	High	Connectivity required to serve marketing, contact, and planning needs.
Relational Data Bases	Low	Larger banks are interested.
Voice/Data Integration	Medium	While viewed as important, connectivity outranks voice/data integration needs.
LANs	Medium	Usage has grown.
CD ROM	Low	Will be introduced for storage of data for occassional retrieval.
Use of AI	Low	Will be introduced in Credit and Investment Evaluation and in ATM interaction.

In 1987, banking and finance users' interests in technology centered on means to achieve connectivity; and integrate existing systems providing data integrity, control and security, as shown in Exhibit I-5. The use of AI was also receiving interest as a new area of technology, particularly in credit, investment, and ATM applications. Although the use of smart cards was being discussed, this product did not appear to receive much attention, despite its potential for off-line card applications.

EXHIBIT I-5

BANKING AND FINANCE AREAS OF NEW TECHNOLOGY INTEREST

- Connectivity
  - Wide Area Networks
  - Medium Area Networks
  - Control of Shared Data
- End-User Computing

  Interaction with Corporate Data Base through Microcomputers and Distributed Minicomputers

  Data Integrity

  Data Security
- Use of AI in credit, investment, and ATM interfaces

II

New and Changing Applications

New or expanded requirements for international lending, foreign exchange trading and foreign debt monitoring and restructuring will continue to have an impact on vendor assignments and on internal development.

Application software packages and professional service software development work will also continue to show an emphasis upon integration of fundamental banking applications -retail and wholesale deposit, trust management, and international lending.

- The changing economics of delivery services have rendered systems obsolete. Many of these systems are over 20 years old. They have been heavily modified and do not interface with other systems.

- Improved customer information and profitability systems require that older systems be redesigned so that they can interface.

- Consolidation of multiple bank IS departments under a single system or compatible systems can service all banks within the holding company.

Information delivery within the organization is creating a high demand for query and customer information systems. External delivery of information is being driven through the ATM/POS networks. These networks are providing a vehicle for customer information and services that can provide a competitive advantage to financial institutions.

- More information will be gathered by these systems in the future. AI technologies will be used to help gather information and initiate new services.

- New types of ATM/POS units should be anticipated (e.g., touch screens in place of keyboards and the use of smart cards or their technology to handle ATM or POS transactions off-line).

About 50% of the major new systems are being developed by internal staff, 27% are developed by externally via packages and contract personnel, and 22% are developed by both internal and external resources. The use of both internal and external resources is caused by the rapidly changing competitive and regulatory environment and banks' views of information as an operational necessity.

Exhibits II-1, II-2, and II-3 summarize the major applications activity in the banking and finance sector. Note that new application development activities now represent more than 60% of typical software staffing.

EXHIBIT II-1

BANKING AND FINANCE APPLICATIONS EMPHASIS IN 1987

- International Lending, Foreign Exchange Trading and Foreign Debt Monitoring and Restructuring.
- Integrated Retail and Wholesale Deposit System.
- Securities Processing and Analysis for Trading Purposes and Portfolio Management.
- Converting Central Files to Data Base Management System.
- Electronic Data Interchange and Distribution.

EXHIBIT II-2

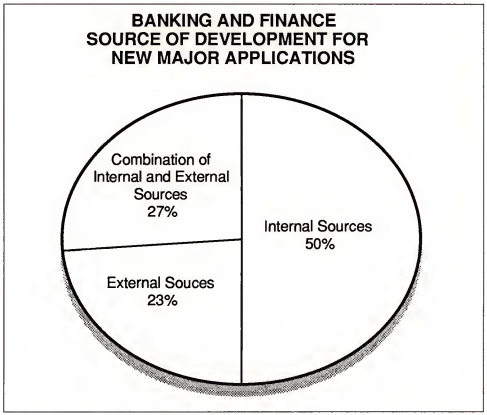
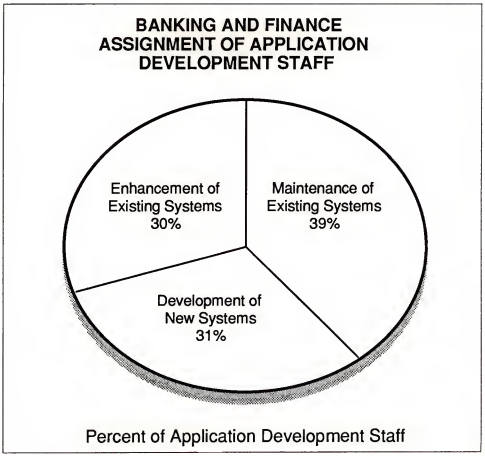


EXHIBIT II-3



III

Budget Analysis

III

Budget Analysis

Exhibit III-1 shows the 1987 budget distribution and the projected growth of budget categories in 1988. Expenditures for "other hardware" is the only budget category projected to decrease.

Data communications and microcomputers have the largest estimated growth rates in 1987. Both are projected at 8.1%.

Personnel expenses continue to grow and account for about 40% of total IS budgets.

An estimated 56% of the respondents in the banking sector will decrease budgets in 1988. Those increasing budgets will do so at a lower rate than in 1988.

Once again, personnel expense leads the list of reasons for increased 1987 budgets, followed by hardware and software purchases. New contributing factors (facility expansion, disaster recovery services, and supplies expense) validate a trend toward increasing importance of areas outside traditional hardware and software purchases (see Exhibit III-3).

Exhibit III-4 reveals that the "traditional" areas of personnel expense and new hardware purchases will propel expected 1988 MIS budget increases. Facility expansion or changes will continue to play a greater role in IS budgets as equipment is consolidated into new sites or end-user areas invest in computer sites.

EXHIBIT III-1

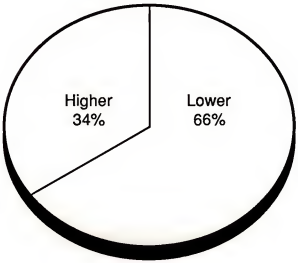
1987 BUDGET DISTRIBUTION AND 1987 AND 1988 CHANGES IN THE BANKING AND FINANCE SECTOR

BUDGET CATEGORY	ESTIMATED 1987 PERCENT OF I.S. BUDGET	1987-1988 ESTIMATED BUDGET GROWTH (Percent)
Personnel Salaries and Fringes	40.1	1.8
Mainframe Processors	8.2	6.1
Minicomputers	1.2	3.0
Microcomputers	5.0	8.1
Mass Storage Devices	5.4	6.2
Other Hardware	6.5	(2.0)
Total Hardware	26.3	1.4
Data Communications	10.2	8.1
External Software	2.8	4.8
Professional Services	1.7	1.5
Turnkey Systems	0.8	0.3
Software Maintenance	0.9	6.4
Hardware Maintenance	8.3	3.0
Outside Processing Services	1.1	1.4
Other	7.8	1.6
Total	100.0	2.6

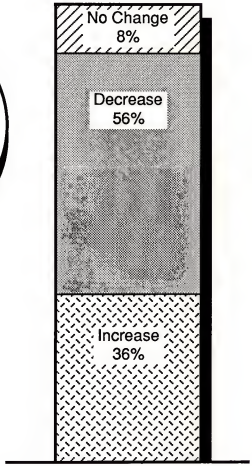
EXHIBIT III-2

BANKING AND FINANCE
MOST 1988 I.S. BUDGETS WILL DECREASE
COMPARED TO 1987

Percentage Growth in
1988 Budget Versus 1987
Where a Budget Increase is Likely



1988 Budget
Versus 1987



Percent of
Respondents

EXHIBIT III-3

BANKING AND FINANCE
FACTORS CONTRIBUTING TO INCREASED
1987 I.S. BUDGETS
(In Order of Frequency of Mentions)

- Personnel Expenses
- Hardware Purchases
- Software Purchases
- Hardware Maintenance
- Facility Expansion/Enhancement
- Disaster Recovery Services
- Supplies Expense

EXHIBIT III-4

BANKING AND FINANCE
FACTORS CONTRIBUTING TO INCREASED
1988 I.S. BUDGETS
(In Order of Frequency of Mentions)

- Personnel Expenses
- Hardware Purchases
- Facility Expansion or Change
- Hardware Maintenance
- Communications Costs

About INPUT

INPUT provides planning information, analysis and recommendations to managers and executives in the information processing industries. Through market research, technology forecasting, and competitive analysis, INPUT supports client management in making informed decisions. Continuing services are provided to users and vendors of computers, communications, and office products and services.

The company carries out continuous and in-depth research. Working closely with clients on important issues, INPUT's staff members analyze and interpret the research data, then develop recommendations and innovative ideas to meet clients' needs. Clients receive reports, presentations, access to data on which analyses are based, and continuous consulting.

Many of INPUT's professional staff members have nearly 20 years experience in their areas of specialization. Most have held senior management positions in operations, marketing, or planning, This expertise enables INPUT to supply practical solutions to complex business problems.

Formed in 1974, INPUT has become a leading international planning services firm. Clients include over 100 of the world's largest and most technically advanced companies.

Offices

NORTH AMERICA

Headquarters
1280 Villa Street
Mountain View, CA 94041
(415) 961-3300
Telex: 171407
Fax: (415) 961-3966

New York
Parsippany Place Corp. Center
Suite 201
959 Route 46 East
Parsippany, NJ 07054
(201) 299-6999
Telex: 134630
Fax: (201) 263-8341

Washington, D.C.
8298C, Old Courthouse Rd.
Vienna, VA 22180
(703) 847-6870
Fax (703) 847-6872

EUROPE

United Kingdom
INPUT
41 Dover Street
London W1X3RB
England
01-493-9335
Telex 27113
Fax 01-629-0179

ASIA

Japan
FKI
Future Knowledge Institute
Saida Building,
4-6, Kanda Sakuma-cho
Chiyoda-ku,
Tokyo 101,
Japan
03-864-4026
Fax: 011-03-864-4114

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Planning Services for Management