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Relationships among CPAs, banks and service bureaus; Computer research studies, 4

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*Relationships Among
CPAs, Banks and
Service Bureaus*

PREPARED BY THE SYSTEM DEVELOPMENT CORPORATION
FOR THE AMERICAN INSTITUTE OF CPAs

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Foreword

In June 1965, the American Institute of Certified Public Accountants engaged the System Development Corporation, Santa Monica, California to undertake a six-month research program on the impact of computers on the public accounting profession.

Part of the program included the preparation of research studies. This booklet is the fourth in a series presenting the results of such studies.

The research studies were prepared by, and represent the findings and conclusions of, the System Development Corporation. Accordingly, they do not present the views or an official position of the American Institute of Certified Public Accountants. They are being published only for the information of the Institute membership.

JOHN L. CAREY
Executive Director

March 1966

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I.

Purposes of the Study

A. *General*

This study has been accomplished in order to gather the information and do the exploration which is necessary for, but preliminary to, systematic applied research. This study has collected useful data, but this information, in the main, indicates where applied research should be conducted in a careful and systematic fashion. It was not intended that this study should expend the time and effort required to obtain scientifically reliable results.

B. *Specific Purposes*

There were two specific purposes for this study. One was to examine the data processing services offered by banks, service bureaus and consulting or contracting agencies that are being or may also be offered by CPA firms. The second specific purpose was to examine and assess the relationships among banks, service bureaus, EDP consulting firms and CPA firms. This study has provided information which is useful in answering the following questions:

1. What data processing services are offered to customers by banks and service bureaus?

2. To whom are the data processing services offered or sold?
3. What equipment supports these data processing services?
4. What procedures are used to develop packaged data processing services?
5. What are the banks and service bureaus planning to do in the future with regard to services offered and equipment support of these services?

II.

Procedures for the Study

A. *General*

The general procedures used in this study involved gathering data through personal interviews, review of published information and use of the AICPA 1965 EDP Survey results. The personal interviews were conducted at banks, service bureaus and with an EDP consulting agency. The banks and service bureaus were selected on the basis of leadership in the data processing field, lengthy experience with EDP and accessibility from the interviewing standpoint.

III.

Results

Two types of information were obtained. The first type consists of information on "packaged" data processing services and the proce-

dures for the development of the "packages." This information is of such a nature that it can be presented in charts, and some comparisons among agencies can be made.

The second type of information consists of observations dealing with the relationships among the various agencies involved and CPAs. This information is presented in a section by itself.

A. *Data Processing Service Packages*

Charts I and II (pp. 4-6) contain listings of the various package services offered by banks and service bureaus to their data processing customers. These are external services and in some cases banks are subscribers or customers of the bank offering the services. The items under the heading Data Processing in Chart I are the package titles given by banks or service bureaus. These titles are used more to differentiate packages (or computer programs) than to describe users of the service. Thus, the small business service offered by Bank 3 means that the service has certain defined limits and not necessarily that it is offered to certain types of businesses only.

Chart I also lists services other than data processing which may be offered to customers. For example, some banks sell computer programs. Service bureaus, of course, offer additional services that are related to or associated with data processing, i.e., training programs and consulting services.

1. *Packaged Service Characteristics*

The packaged services listed in Charts I and II have features that are common and significant. Among these features are the following:

a. *Large Bulk or High Volume Data Processing Operation*

Frequently, most of the data for a particular business or industry within a geographical region or community will be processed by one bank or service bureau. For example, an insurance billing service will handle all subscriber insurance agencies within a market area. A real estate management service will handle all real estate firms purchasing the service within a given area.

CHART I
 INTERVIEW DATA
 SERVICES OFFERED TO CUSTOMERS
 PART A—BANKS

BANK 1	BANK 2	BANK 3	BANK 4
<u>Data Processing</u>	<u>Data Processing</u>	<u>Data Processing</u>	<u>Data Processing</u>
Payroll	Payroll	Bank: Payroll	Payroll
Billing	Billing	Demand Deposit	Billing
Accounts Receivable	Real Estate	General Ledger	Professional
Mortgage	Professional	Installment Loan	Customer
Installment Loans	Bank-Demand Deposit	Mortgage	Lock Box
		Interest Report	Bank: Mortgage
		Billing	Loan
		Utility	Savings
		Professional	Credit Union
		Payroll—Small Business	Freight Payments
		Accounts Payable	
		School Districts	
		Small Business	
		Brokerage	
		Rent Receipt	
		Mortgage	
		Class Scheduling	
		Training	
<u>Training</u>	<u>Training</u>	<u>Not Marketed</u>	
<u>Not Marketed</u>	<u>Not Marketed</u>	<u>Consulting</u>	
<u>Consulting</u>	<u>Consulting</u>	<u>Not Marketed</u>	
<u>Not Marketed</u>	<u>Not Marketed</u>	<u>Computer Programs</u>	
<u>Computer Programs</u>	<u>Computer Programs</u>	<u>Marketed</u>	
<u>Not Marketed</u>	<u>Not Marketed</u>		

CHART I
 INTERVIEW DATA
 SERVICES OFFERED TO CUSTOMERS
 PART B—SERVICE BUREAUS AND CONSULTING AGENCIES

CONSULTING AGENCY	SERVICE BUREAU 1	SERVICE BUREAU 2	SERVICE BUREAU 3
<u>Data Processing</u>	<u>Data Processing</u>	<u>Data Processing</u>	<u>Data Processing</u>
Accounting Programs Under Development	Payroll	Real Estate Management (Specialty)	Basic Accounting Receipts
Block Time Sale—Planned	Small Client Accounting (Similar to Basic Accounting Offered by Service Bureau 3)	Payroll—Small	Disbursements
	Automobile Dealer	Accounts Receivable—Limited	Payroll Branch
	Credit Union		Department
	Insurance Agency		Job Cost
			Sales Analysis
<u>Training & Personnel Evaluation</u>			Financial Statement
<u>Marketed</u>			Comparative Study
Contract Computer Programming			Budget
Systems Definition			General Ledger
Programming Standards			Tax—Year End
Programming			Small Client
Documentation			Financial Statement—Ledger
Orientation			Journals
Testing & Conversion			Payroll Summary
Installation Audit			
Software Evaluation			
	<u>Training</u>	<u>Training</u>	<u>Training</u>
	<u>Marketed</u>	<u>On Demand</u>	<u>Not Marketed</u>
	<u>Consulting</u>	<u>Consulting</u>	<u>Consulting</u>
	<u>Marketed</u>	<u>On Demand</u>	<u>Not Marketed</u>
	<u>Computer Programs</u>	<u>Computer Programs</u>	<u>Computer Programs</u>
	<u>Marketed</u>	<u>On Demand</u>	<u>Not Marketed</u>

CHART II
PUBLISHED DATA
BANK SERVICES OFFERED TO CUSTOMERS

1963 AVAILABLE SERVICES ¹	1963 AVAILABLE SERVICES WATERBURY NATIONAL BANK ²	1964 AVAILABLE SERVICES GEOGRAPHIC DISTRIBUTION ³	POTENTIAL SERVICES ⁴
Payroll	Payroll	California	Accounts Reconciliation
Account Reconciliation	Accounts Receivable	Payroll	Lock Box Plans
Correspondent Bank	Inventory Forecast	Billing	Bill Collection—Utilities, Insurance, Other
Sales Analysis	Sales Analysis	Transportation	Payroll
Accounts Receivable	Educational Statistics	Credit Union	General Accounting—Small Business
Inventory Control	Multiple Listing—Real Estate	Inventory	Accounts Receivable
	Property Assessment/Tax Collection	Georgia	Accounts Payable
	Engineering Calculations	Golf Handicapping	Sales Analysis
	Cost Distribution	Illinois	Expense Analysis
	General Ledger	Accounts Receivable	Inventory Controls
		New York	Small Business Accounting
		Real Estate	Integrated Systems—Particular Industry
		Ohio	Billing Service—Professional Firms
		Sales Expense	County and City Government Applications
		Inventory Control	
		Pennsylvania	
		Payroll	
		Billing	
		Accounts Receivable and Payable	
		Texas	
		Royalty Payment	
		Accounts Receivable	

¹American Banking Association, *National Automation Conference Proceedings, 1963, page 12.*

²Ibid, page 151.

³Business Week, *October 17, 1964.*

⁴American Banking Association, *National Automation Conference Proceedings, 1964, page 81.*

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b. *Use of Standardized Source Data and Output Reports*

Basic business transactions and common accounting functions make up the categories of information handled by the systems. For example, payroll services are the most common data processing package found among banks and service bureaus. Accounts receivable and accounts payable services are also offered to customers with some frequency. Standard, common reports are obtained from the services offered. Again, payroll systems and accounts receivable or accounts payable illustrate this feature.

c. *Patterned Packaged Service Development Procedures*

The interviews and the literature review revealed that banks, service bureaus and EDP consulting agencies use definite and similar procedures for the development of the EDP system that is the packaged service. The features of package development include system and operational analysis, system design, system production and system operation as well as some additional features peculiar to banks or service bureaus. The latter include marketing activities along with the planning and control activities necessary to obtain profit from data processing service sales.

The various sequential steps that result in the development of package data processing services for the various agency types are listed in Chart III (p. 8).

B. *Observation*

During the interviews at banks and service bureaus, certain points of information were obtained which seemed to be of a useful nature. This information is reported here so that it is available for use as occasion demands. The data is arranged according to its source: banks and service bureaus.

1. *Banks*

a. *The CPA's Role in the Purchase of Packaged Service*

CPAs often are expected, both by banks and clients, to play a role in the contract negotiations for customer services. Banks report that customers usually require their CPA to be present when a data processing service

CHART III
PACKAGED SERVICE DEVELOPMENT PROCEDURES

BANK	SERVICE BUREAU
Market Research	Definition
Operational Analysis	Planning:
Cost Analysis	Equipment
System Design	Results
System Production	Controls
Sales	Cost Estimation
Installation/Training	Detailed Planning
Service Operation	Coding
	Testing
	Documentation and Training
	Processing/Operation

is purchased. The customer expects the CPA to aid in making an effective decision with regard to the purchase of service. The banks appear to have accepted and even desire a CPA to perform this role. However, the banks describe CPAs as being either one of two fairly distinct types.

One type of CPA can be considered progressive and knowledgeable as far as data processing is concerned. This accountant is quite likely to accept the reports and services to be provided by the prospective package data processing and has upon occasion suggested additional reports that could be provided by the service.

The second type of accountant does not appear to be well acquainted with EDP and sometimes offers resistance to the proposed service without having a sound reason for so doing. Banks feel that all CPAs should be adequately acquainted with data processing technology and capable of giving guidance to the customer. The banks are willing to meet the CPA part way and have provided means of explaining data processing technology to CPA firms. Some banks have developed regular briefings and slide presentations that are given at any opportunity.

The voluntary comments from the 1965 EDP Survey also give some indication of the two CPA types mentioned above. These comments indicate that many CPA firms are well acquainted with packaged services and use them successfully. Other accounting firms are not well acquainted with data processing and are not ready to recommend or use packaged services.

b. *Bank Customer Service Policy*

A certain strategy of data processing operation emerged during the interviews. In some instances a pattern of data processing operation appeared to have become a definite policy on the part of the bank. Among the significant features of this pattern are the following:

- (1) Packaged services offered to bank customers involve both a data processing service and a money or banking function. That is, these services will bring banking business to the bank from the customer. Real

estate billing, professional billing, payroll and accounts receivable are examples of these services.

- (2) Banks tend to avoid the development of services specially tailored for one customer only. Unless the service requested by a customer meets the qualifications mentioned in Section (1) above, banks may refuse to produce and sell the service. This is due mainly to the considerable cost of computer program development.
- (3) Free data processing service generally will not be provided to bank customers. In early bank experience, there seems to have been some tendency to use data processing services as a means of bringing in new banking business. The trend now is toward making the data processing service into a profit center for the bank. Each customer service must bring in fees and in the proper time must become a source of profit.

c. *The Economics of Customer Service*

Banks carefully study the economics of providing EDP service to customers. Before developing and selling a packaged service to clients, banks carefully study the outlay for and returns from the proposed service. These factors, among others, will be considered:

- (1) Volume of customer business operation and transactions
- (2) Repetitiveness and standardization of customer's transactions
- (3) Data processing development cost factors
- (4) Cost outlay and profit returns—these are analyzed and scheduled
- (5) Commitment risks in system development. Decision points are scheduled prior to a final commitment to system production and operation. For example, after conducting a market research study, a bank may make a decision to invest further in a packaged service. After operational analysis and cost studies, the bank may decide not to proceed further with this particular packaged service. By the time the decision is made to proceed with system production and operation, the bank knows what the market for the service is, what the development costs

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are, what the service charges must be and when a profit return can be expected.

d. *Possible Bank and Service Bureau Cooperation*

In one instance it has been reported that the largest bank data processing center in a city is the largest customer of the larger service bureau. The bank has found it more economical to take its peak loads and special jobs to the service bureau.

e. *Package Service and Enlarged Customer Operations*

Bank experience indicates enlarged customer operations can follow EDP service installation. There is evidence that subscriber banks and other customers make larger profits after installation of EDP service. This was explained as a phenomenon that is not specifically due to use of a computer service. As part of the installation of an EDP service, an operational analysis of the customer's business is required. Such an operational analysis frequently reveals the existence of an untapped market or operational area. As a result of such discovery, the customer frequently enlarges his operations accordingly and obtains new and additional profits. Sometimes he attributes these profits to the computer. However, it is likely that these new profits could have been obtained regardless of the computer service installation.

f. *Hardware Used by the Banks*

Banks are using a fairly extensive range of computer sizes. The banks interviewed were employing various computers such as the Univac 60, IBM 1401s, and IBM 7074s. Also, banks with larger data processing service centers are employing combinations of computers and in some instances data transmission networks.

g. *Expanded Bank EDP Services Will Be Offered to Customers*

Published literature indicates that customer service expansion will go on for several years in the banking field. Those banks that have been in the field for several years are considering new and larger data processing facilities. Various factors such as those mentioned above will determine the nature of the customer services offered and the speed with which changes will appear.

2. *Service Bureaus*

The service bureaus were chosen for interview on the basis of the following factors: size (both large and small) of organization, range of services offered, length of data processing experience, service offered to CPAs and types of equipment used.

a. *The CPA's Role*

The service bureau interviews revealed that CPAs similarly participate in the customer purchase of the service bureau packages. The customer looks to the CPA for assurance that required reports will be provided and that the service is worth the cost. This is the same situation that was found in connection with bank customer EDP services. For a description of these conditions, see Section III, B. 1. a.—The CPA's Role in the Purchase of Packaged Service.

b. *Services Offered*

Service bureaus attempt to provide the service demanded by a profitable market: They are prepared to design and produce any service that is feasible, economical and marketable. Chart I, Part B illustrates the varying types of packaged service offered by the service bureaus. Service Bureau 1 represents the list of packages offered a larger, national organization. Service Bureau 2 represents a smaller, local organization and is notable in that it specializes in one extensively developed and marketed package, while also offering limited versions of the more common packages. Service Bureau 3 has concentrated on accounting data processing and markets its services to CPA firms with only a sharply limited exception.

Most service bureaus will develop an EDP service to meet a customer's requirements providing the customer can and will pay the costs of developing the tailored service. However, packaged services are more likely to be economical for the customer and, therefore, they are marketed extensively by the service bureaus.

The history of service bureau operation shows that many of these organizations have had problems in both technical and personnel areas. This has meant that quality results were lacking during certain early periods. How-

ever, these service bureaus have learned from their early experiences and have now become quite sophisticated in their system development procedures. Given proper equipment and experienced personnel, service bureaus generally are now able to provide satisfactory service.

There is variation in the equipment and quality of the personnel from service bureau to service bureau at the present time. It can be expected that there will be variation in the quality of results provided. Comments accompanying the EDP Survey responses indicate that CPAs have found variation in the quality of service bureau work. However, it is apparent that service bureaus are here to stay and they are planning to offer more and better service in the future. Results from the EDP Survey indicate that CPAs now make extensive use of service bureau facilities. Roughly one-third of the respondent accounting firms are now availing themselves of service bureau opportunities in some degree.

IV.

Discussion and Recommendations

A. Competition and/or Cooperation

1. Discussion

There are areas of possible data processing competition among banks, service bureaus and CPAs. The competition will center on the data processing that can be done by any organization that has the equipment and skill to do the work and that will also strive to reduce its fees for data processing. Examples of data processing that can be performed by various agencies are: payroll processing, accounts payable and receivable and customer billing operations.

However, competition may not be the only outcome. There are factors leading to cooperation as well as factors leading to competition. Banks, service bureaus and CPAs each have

some peculiar interest or function in connection with business data processing. Often, these functions are distinct and different. In this latter case, it becomes valuable for all of the mentioned agencies to cooperate so that each can carry out his function in the most effective and economical fashion. It may turn out that certain data processing, such as historical recording, can be done by one or another of the agencies more economically than by any of the others. And, it may turn out that each agency can do some part of the over-all data processing at less cost than any of the others. Here, the greatest economy will be achieved by having each agency do an assigned part of the data processing. It seems reasonable to expect that the CPA is the one who can most effectively analyze and assess the client's data processing needs and the accompanying costs. The CPA, then, will be the one who is in the position to recommend to the client which data processing agency, or combination of agencies, could do the most economical work.

2. *Recommendations*

The above discussion indicates that data processing competition or cooperation will be related to certain factors. Development of a sound understanding of these factors by CPAs should do much to make either competition or cooperation as beneficial as possible for the profession.

Among the areas that can be investigated and thus yield benefit are the content and organization of the basic information that flows through all business enterprises. The various users of this information should be identified and the particular information needs of each user should be defined and described. There are several factors that contribute to the cost of information processing. These should be identified and procedures for estimating and assessing data processing costs should be standardized.

B. *Service Bureau Role of the CPA*

1. *Discussion*

During the interviews at banks and service bureaus, it was observed that CPAs have a two-part role to carry out in

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connection with accounting data processing services. First, an accountant may act as the customer's aid, guide and adviser on the purchase and use of the service. Secondly, the CPA can be the user of the service himself. Results of the EDP Survey indicate that CPAs are already involved in this two-part role to a considerable extent. Some 32 per cent of the respondents, more than 1,000 firms, have one or more clients on service bureau data processing and nearly 10 per cent of the sample have clients on bank data processing service.

Both the service bureaus and the CPAs have indicated that there are problems in the ways that accountants relate to the area of data processing. There seems to be little doubt that clients have certain expectations with regard to CPAs as do the banks and the service bureaus. However, it is not entirely clear just what the CPA is expected to do nor how he is to accomplish his responsibilities. Accordingly, it will be profitable for the profession if this role is investigated and more clearly defined.

2. Recommendations

It is recommended that a systematic study and survey of the accountant's role in relation to bank and service bureau data processing be carried out. Such a study would establish in detail what is expected of the CPA by banks, service bureaus and the clients, what technology the CPA needs for guiding the use of packaged data processing service and the factors that are critical to the success of the CPA in this area.