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Developing and Automating an Accounts Recievable System for the Business Office of the University of North Dakota

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DEVELOPING AND AUTOMATING AN ACCOUNTS RECEIVABLE SYSTEM FOR THE BUSINESS OFFICE OF THE UNIVERSITY OF NORTH DAKOTA

by

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Mr. L. D. Kulas, Committee Member

Mr. Thomas J. Clifford, Vice President for Finance, University of North Dakota

Mr. Gerald Skogley, Comptroller, University of North Dakota

Mr. William Crow, Accountant, University of North Dakota

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ABSTRACT

The growth of enrollments, greater demands by financial administrators for current information, recommendations of the American Council on Education, and the ever-increasing number of accounts receivable transactions have shown that the present system of recording cash receipts and cash revenues is not adequate.

This thesis is intended to show how the above-listed needs can be fulfilled as well as to provide the forms and necessary automated equipment for adopting a system of recording accounts receivable transactions.

The need for automated equipment led to a comprehensive examination of optical scanning and direct typewriting equipment. The conclusion was that optical scanning is too expensive for both the present and future needs of the Business Office.

By adopting the proposed system of recording accounts receivable transactions and acquiring a direct typewriting installation, the Business Office will be able to handle current and future transactions, supply much-needed information to management, and comply with the American Council on Education's request for a full accrual system of accounting.

CHAPTER I

INTRODUCTION

This feasibility study has been completed at the request of Thomas J. Clifford, Vice President for Finance of the University of North Dakota.

Finance officers of the University have long recognized the need for a formal accounts receivable system; this paper will set forth suitable accounting procedures and machine capabilities to accomplish this need.

The system now used to record cash revenues and cash receipts will be examined, with much of this system being incorporated into the proposed system of recording accounts receivable and cash receipts.

Several different pieces of equipment will be considered to automate the proposed accounts receivable system. The advantages, disadvantages, and cost of these machines will be discussed to assist in making the correct decision on which machine to acquire.

Information relating to costs of labor and machines was supplied by the Comptroller of the University of North Dakota, Control Data Corporation, and International Business Machines.

CHAPTER II

CURRENT SYSTEM OF RECORDING CASH REVENUES AND CASH RECEIPTS

The University of North Dakota does not maintain an accounts receivable system within its Business Office. All transactions of this nature are handled on a cash basis, which simply means that the income is recognized when the cash is received.

There are serious shortcomings in a system of this type because the Comptroller's Department cannot tell how much is due the University from the students and its faculty members without going to considerable work in totaling the unpaid invoices. The only time this information becomes readily available is at year end when the audit is conducted. There is no formal system of reconciling amounts due with the general ledger maintained by the Comptroller's Department; and, if a mistake is made in the general ledger or the detail, it may take some time to uncover this error, or it may go undiscovered forever.

The several departments of the University of North Dakota, including Residence Services, Registrar's Office, Extension Division, and the eight degree-granting colleges generate billings for such things as housing and board fees, trailer rental, married-student housing, telephone charges, traffic tickets, and interdepartmental use of University of North Dakota automobiles.

These billings are prepared on a three-part invoice form. The original (labeled "1" on the flow chart) goes to the individual incurring the charge; the second and third copies are sent to the Business Office

of the University where the billings are filed until paid. The department initiating the billing is not required to keep a record of the charge and relies on the Business Office to do the collection work.

When the cash for the billing is received at the Business Office, the two copies of the billing that have been filed are removed from the file; and these, along with the original in the hands of the debtor, are marked "Paid." Concurrently, the person receiving the cash prepares a separate receipt of the cash by issuing a cash receipt ticket. This receipt is prepared in duplicate--the first copy going to the person paying the cash, and the second copy being maintained by the Business Office where it serves as the cash receipts record. The two copies of the billing that have been maked "Paid" are now sent to the department generating the billing, where one copy is kept to serve as notice that the amount has been paid and the other copy is destroyed.

Those interdepartmental billings that are satisfied by journal entry transfer of funds will not be considered in this study.

A flow chart of the preceding description can be found in the Appendix on page 27.

The accounting entries made by the Business Office at the time the money is received are shown below.

1. The accounting entry that is made when the cash is received at the Business Office consists of these debits and credits:

Debit----------Cash
Credit----------Trust Fund or Income

This entry to the Trust Fund or Income account in effect gives the department initiating the billing the use of the funds received.

2. When the yearly audit is conducted as of each June 30, adding machine tapes are run of the invoices that are unpaid at the Business Office; and these amounts are entered on the financial statements only.

CHAPTER III

PROPOSED SYSTEM OF RECORDING ACCOUNTS RECEIVABLE

The establishment of an accounts receivable system is imperative for the Business Office of the University of North Dakota. It is imperative because of the Comptroller's need to know exactly what is owed to the University by its students and faculty members. It is essential to have this information on a current basis rather than a fiscal-year basis.

A suitable system for the recording of accounts receivable transactions at the University of North Dakota will be discussed in the remainder of this chapter.

All departments generating charges for various items will notify the Business Office by memorandum exactly what type of charge is involved, to whom the charge should be billed, the amount of the charge, the period or location covered, and other particulars about the specific transaction.

Billing will be done by the Business Office on a three-part invoice form. The Office of the Assistant Comptroller will be responsible for the procedure. The billing will be coded by the specific type of receivable; and, at the time the invoice is cut, it will be directly recorded on the computer by means of the input machine. The invoice form will be prenumbered. The computer will recognize this number and use it to identify the particular transaction.

The first copy of the invoice will go to the person incurring the charge, while the second and third copies will go to the Business Office where payment will be made.

When cash for the billing is received at the Business Office, the two copies of the billing that have been filed will be pulled; and these, along with the original in the hands of the debtor, will be marked "Paid." Concurrently, the person receiving the cash will prepare a separate receipt by issuing a cash receipt ticket with the number of the billing invoice clearly indicated. This receipt will be prepared in duplicate, with the first copy going to the person paying the cash and the second copy being maintained by the Business Office where it will serve as the cash receipts record. Information concerning cash received, together with the respective invoice number, will be forwarded to the Assistant Comptroller's Office where it will become input for the computer to credit the receipt to the proper account, thus indicating that the bill is no longer outstanding.

The flow chart in the Appendix on page 28 shows the flow of paperwork involved under the proposed system.

In its current manual on suggested accounting procedures, the American Council on Education is calling for all institutions to go to a modified accrual system of accounting and to take all material receivables into income at the time the invoice is billed to the debtor.[1] The Council is printing a revised edition, which should be available in January, 1968. In this revision it calls for a full

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[1]American Council on Education, College and University Business Administration (Vol. 1; Washington: American Council on Education, 1952) p. 21.

accrual system of accounting, thus taking all receivables into income at the time the invoice is billed.

The Council recognizes that this new method will put all institutions on a comparable basis and will also avoid the situation in which independent auditors examining the records of institutions must qualify their audit reports because of non-recognition of receivables.

The big difference between the present system and the proposed system will be in the accounting entries produced by the machine which will feed input into the computer. The entries under the new system will incorporate the suggestion of the American Council on Education in putting the accounts receivable on a full accrual basis.

Entries to account for the transactions will be as follows:

1. At the time the invoice is cut by the machine, this entry will put the charge on the file of the computer:

Debit----------Accounts Receivable
Credit----------Trust Fund or Income

2. At the time the cash receipt information is fed into the computer, this entry will be generated:

Debit----------Cash
Credit----------Accounts Receivable

New forms to be used in connection with the proposed system are included in the Appendix. The first form on page 29 of the Appendix is a new invoice which will replace the three statements currently in use. All necessary information has been deleted from those now in use and has been incorporated in the proposed form which should be simpler and more economical to use. The second form on page 30 of the Appendix is a daily transaction register which will show all the transactions that have taken place during a particular day. This will enable those interested in knowing about the receivable transactions to go to one

form and see all the particulars about any one certain day. The third form in the Appendix on page 31 is a monthly trial balance and aging of all accounts due. This trial balance and aging will show all amounts due and the age of these respective amounts. From this form, the Business Office and the Internal Auditor of the University can proceed with collection if some of the amounts remain uncollected for a long period of time.

The general ledger balance of accounts receivable should be reconciled with detail on the tenth of each month except at June 30, which is the year end of the University, when all amounts due will be so shown. The reason for reconciling on the tenth is very simple: a majority of the billings are generated at each month end, and a great amount of cash is received the first ten days of the month, thus many amounts due at month end are not due on the tenth because they have been paid. This ten-day waiting period will eliminate about 90 percent of the receivables that would be shown at month end.

CHAPTER IV

OPTICAL CHARACTER RECOGNITION EQUIPMENT

Description

Optical character recognition equipment, more commonly referred to as optical scanning equipment, is a relatively new development. The first piece of optical scanning equipment was developed by Intelligent Machines Research Corporation in 1952. Developments in this field in the past two years have superseded all prior equipment.

This type of equipment is a means of getting required information into the computer so that certain work can be performed.

Input for optical scanning equipment must be typed to insure correct results. A typing font has been developed by International Business Machines in connection with the Optical Character Recognition Division of the National Bureau of Standards' Center for Computer Sciences and Technology for use in typing information on forms of all sorts. The font consists entirely of capital letters thus making it easier for the machine to read the information more correctly. As the information is fed into the machine, the symbols on the form are read by special light and heat devices included as part of the machine. Once the symbols are read, a reading card punch automatically produces a punched card for future input into the computer where additional work can be performed.

Advantages

Optical scanning equipment is much faster than keypunching equipment. In a recent installation at First National City Bank in New York City, it was estimated that it takes seven hours of reading on optical scanning equipment to do the equivalent of a hundred hours of keypunching.[1]

The Benjamin C. Willis Educational Services Company of Chicago, Illinois, presented these interesting statistics regarding the economical use of their optical scanning equipment. These statistics are based on a test of some three hundred thousand records of various lengths.

> On complicated data, typists averaged thirty words per minute and were fifteen percent more accurate than keypunchers.
> Keypunching costs were $482 per 1,000 records while typing and reading cost $195.
> Typists were paid 75% of a keypuncher's salary and were 33% more productive.
> The error rate was 25 to 50% less in the typing operation.
> Proofreaders were paid 62% of a key verifier's salary and were 100% more productive.[2]

The Billy Graham Evangelistic Association found these same facts to be true in their operation. They hire home typists who pick up the forms at the Association's headquarters and return them after the typing has been completed.

> Less training is required for the typist than for a keypunch operator.
> Typists are generally more productive with less errors than keypunch operators because mechanically the typewriter is faster and quieter than a keypunch, allowing operators to develop an efficient production rhythm.
> Paper is less expensive than cards both to purchase and to handle.[3]

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[1] J. H. Bauch, A Fresh Look at Optical Character Recognition. A Report to Control Data Corporation, Minneapolis, Minnesota: American Management Association Conference, Washington, D.C., 1967, p. 6.

[2] Ibid., p. 13.

[3] J. H. Bauch, 915 Page Reader Application Note #6. Billy Graham Evangelistic Association, Minneapolis, 1966, p. 4.

Comparing keypunching input to typewriting input, it can be readily seen that typing is less expensive. The Model 29 International Business Machines keypunch costs the University of North Dakota $60 per month to rent, while the International Business Machines Selectric typewriter costs $350 with an estimated life of about three years or about $10 per month.

The United States Government is a user of optical scanning equipment and has found it to be profitable for the massive amounts of data that it must process. The United States Department of Agriculture in its Cotton Loan Program was using 300 keypunches for computer input until they leased an optical scanning installation. Thirty-four electric typewriters now provide the input on the same amounts of data. Proofreading is done only for the newly hired typists, and the error rate is low. G. Kent Godwin, Management Analyst for the United States Department of Agriculture, has this to say about optical scanning input: "Typing was found to be as accurate or slightly better without verification than keypunching with verification."[4]

Disadvantages

Error detection is more difficult with optical scanning equipment. The keypunching operation is generally followed by a verification operation in an attempt to correct any errors that have occurred. Optical scanning input is typed and generally is not verified. Verification is accomplished by completely retyping the same information. This is not the general rule, however; and the chance of an error occurring is good.

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[4]Bauch, A Fresh Look at Optical Character Recognition, p. 10.

The biggest disadvantage to the University of North Dakota is the high cost of optical scanning equipment in comparison to the small size of the keypunching staff of the Data Processing Center. Authorities in the field believe that an optical scanning installation should replace at least thirty keypunchers. In an interview with J. H. Bauch of the Optical Character Recognition Division of Control Data Corporation, he stated that an installation of this type should replace at least twenty keypunching operations before any economical advantage can be obtained over keypunching.[5] If the University used the installation for all accounting operations, only eight keypunchers could be replaced.

In discussion with Mr. Carl Long, Assistant Comptroller of the University of North Dakota, and Mr. Ev Richardson of International Business Machines, it also appeared that it would not be feasible because of the limited size of the University's data processing staff.[6]

Fingerhut Manufacturing Company of St. Cloud, Minnesota, recently acquired an optical scanning installation and replaced seventy keypunchers and seventy keyverifiers, thus making the conversion profitable for them.[7]

Another disadvantage that can become costly with an optical scanning installation is error correction. To correct an error after a form has been read by the machine costs about $15 because the

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[5]Interview with J. H. Bauch, Optical Character Recognition Marketing Division, Control Data Corporation, March 31, 1967.

[6]Interview with Ev Richardson, International Business Machines, March 28, 1967.

[7]Interview with Bauch, loc. cit.

information has been put on cards and subsequently into the computer, and the correction must be made within the computer.[8]

Cost

This cost study is based only on the accounts receivable transactions and not on any other accounting procedures.

No verification labor has been included under either system because the Data Processing Center of the University of North Dakota is presently absorbing the cost involved. If verification labor was to be included, it would be less under optical scanning equipment because of fewer errors made while typing the input.

A cost study follows in Table 1 on page 14.

It can be seen from the cost figures that optical scanning equipment would be quite expensive for the University of North Dakota; and, unless it could be applied to other areas, the cost would be prohibitive.

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[8] Interview with Bauch, loc. cit.

TABLE 1

COST STUDY COMPARING KEYPUNCHING EQUIPMENT TO OPTICAL SCANNING EQUIPMENT

	Keypunch Equipment	Optical Scanning Equipment
Salary Costs:		
One full-time girl	$4,200.00	
Machine Costs:		
International Business Machines Model 29 Keypunch at $69 per month	828.00	
International Business Machines Model 60 Keypunch Verifier (computed at one-half month; this is the amount of machine time involved)	360.00	
Control Data Corporation Optical Scanner Model 915 at $3,715 per month		$44,580.00
Total Costs Per Year	$5,388.00	$44,580.00

CHAPTER V

DIRECT TYPEWRITER INPUT EQUIPMENT

Description

Direct typewriter input equipment is also a relative newcomer to the field of automated machines. International Business Machines Corporation has been the leader in developing this new type of equipment.

There is a definite need for input devices of this type. Organizations find themselves faced with a tremendous problem in dealing with present input which is generally in the form of punched cards. Punched cards are expensive with the cost at about $1 per 1,000 cards, but there is a greater expense involved in handling these bulky cards and eventually storing them for a period of time. Cards are usually stored for several years; take this and multiply it by several hundred thousand or several million cards being used to process accounting transactions during a year, and you see what type of storage problem is encountered. Because of the high cost of punched cards, some new equipment had to be developed to input the necessary information into the computer and yet do away with the punched card.

Direct typewriter input equipment serves as a means of producing the printed copy at the typewriter console, be it an invoice, check, or other similar document; but, more important than this, it serves as a means to input the needed variable data typed on the form

from the form itself into the computer where it is stored or additional work is performed.

The proposed operation is as follows. A full-time girl will be used to cut all invoices for the University of North Dakota Business Office. She will operate the machine; and, as she types the invoice, the variable data typed by her will be recorded at a specific storage location for later transmission into the computer. At present the computer in use at the University does not have sufficient storage to handle the accounts receivable transactions, but arrangements have already been made to remove this obstacle by mid-September when additional storage will be put into use.

In considering direct typewriter input equipment, the International Business Machines Model 1050 and the Model 2740, which have the same basic characteristics, will be examined.

Advantages

As has been previously stated, typing input is much faster and more accurate that the keypunching of input data. This is true because people are better able to use both hands on the keyboard whereas most people use only one hand to operate a keypunch. Typing is faster because the typewriter is a faster-operating machine than is the keypunch.

Training an individual to use a typewriter takes less time than training someone to use a keypunch. Specialized training is often required for a person to become efficient on the keypunch, while in learning to type all one need do is learn the basic keyboard and do a considerable amount of practicing to become highly efficient.

The International Business Machines Model 1050 and Model 2740 take up considerably less space than an optical scanning installation. Space requirements for the 1050 and 2740 are the same as those for a regular typewriter, while an optical scanning installation is much larger and consequently requires more space.

An operator for an optical scanning installation would be more costly than a typist because it requires someone with a knowledge of electronics, programming, and computer operations. The typist at the console need not have any specialized training in these or any other areas because she need not concern herself with these detailed matters, and all that is required of the typist is that she be able to process the input as it is given to her.

The greatest single advantage of the Model 1050 and Model 2740 is in its "on line" capabilities. The term "on line" simply refers to the immediate processing of data as it is fed into the computer. As the variable information is being typed on the invoice it is immediately being recorded in storage by the computer for future transmission into the computer for processing. Corporations and institutions alike are going to "on line" systems because of the need for "real-time" information. Real-time information is that information which is required by management to aid in making proper business decisions before it is too late to make a choice between several alternatives. This definition of real-time information can be applied to the Comptroller's Office and the Business Office at the University. A student or faculty member owing money to the University wishes to have additional credit extended to him; by the use of either of these machines it is possible to determine the amount owing from him and his paying habits.

The decision can then be made as to whether or not the additional credit should be granted.

In connection with "real-time" information, these two machines have direct-inquiry capabilities. This means that by depressing a certain code number and the invoice number on the console of the keyboard, a printout can be produced by the computer of whatever information has been called for at the time the inquiry was made.

Finance administrators of the University of North Dakota have long recognized the need for having required information "on time," which might be at times other than month end or year end because of their inability to make a good decision. With either the 1050 or 2740, this need can be met and overcome.

Model 1050 has various pieces of equipment that can be attached to it to produce a punched tape or punched cards if it is evident that the computer is temporarily loaded with other work or during a temporary breakdown. If tape or cards are punched as a by-product of cutting the invoice, they are later processed by the computer; and the same data results as if the typing had been done directly into the computer. The Model 2740 does not have these adaptations. The cost study in Table II on page 19 shows the additional cost involved in using these adaptations.

Cost

This cost study is also based only on the accounts receivable transactions and not on any other accounting procedures.

No verification labor has been included under the current system or under the proposed system because the Data Processing Center of the University of North Dakota is presently absorbing the cost

TABLE 2

COST STUDY COMPARING KEYPUNCHING EQUIPMENT TO DIRECT TYPEWRITING EQUIPMENT

	Keypunch Equipment	International Business Machines Model 1050	International Business Machines Model 2740
Salary Costs:			
One full-time girl	$4,200.00	$4,200.00	$4,200.00
Machine Costs:			
International Business Machines Model 29 Keypunch at $69 per month	828.00		
International Business Machines Model 60 Keypunch Verifier (computed at one-half month; this is the amount of machine time involved)	360.00		
International Business Machines:			
1052 Printer Keyboard		780.00*	
Data Set-Computer Hookup		180.00*	
1054 Paper Tape Reader		360.00	
1055 Paper Tape Punch		480.00	
1056 Card Reader		840.00	
1058 Printing Card Punch		1,140.00	
International Business Machines:			
2741 Basic Keyboard			984.00*
2741 Line Adapter			36.00
2741 Record Checker			198.00
Total Costs Per Year	$5,388.00	$7,980.00	$5,418.00
Basic Machine and Labor Costs	$5,388.00	$5,160.00	$5,184.00

involved. If verification labor was to be included, it would be less under the direct typewriter input equipment because of the greater accuracy achieved by the use of the typewriter.

The items marked with an asterisk in the cost study are basic machine components and are the only items that must be acquired to put the machine in operable condition. The other items are machine accessories and are presented for information only.

If the basic machine costs are considered, the International Business Machines Model 1050 could be leased for $960 per year. Added to this would be the labor cost of $4,200 per year or a total cost of $5,160. The expense of the International Business Machines Model 2740 would be somewhat more with the basic parts costing $984 per year in addition to the labor cost of $4,200 or a total cost of $5,184.

Both of these direct typewriter input machines are less expensive than the present keypunching system; and, as the accounts receivable transactions grow in number, the machine accessories shown could be added to the basic machine, and additional accounting procedures could be handled on these machines.

Disadvantages

There are not many disadvantages to an installation of this type; however, there are several which are discussed in the following paragraphs.

Arrangement of the keyboard on the Model 1050 is more complex because of the additional dials and switches that are necessary when the accessories such as the paper tape punch and printing card punch are attached to the basic keyboard printer. The proposed system does not include these accessories originally, but they will be leased as

additional accounting procedures are put on this machine. To someone learning the fundamentals of the 1050, it might seem difficult at first; but the task will not be impossible to someone now experienced on a typewriter. At first appearance, the Model 1050 appears to be a giant collection of dials and switches; but, here again, it is not as difficult as it looks to operate the machine.

Error correction is more difficult because the installation will be on line, thus the information will be recorded in the computer immediately upon being typed on the printed hard copy. It is not easy to correct this problem because to insure that any and all errors have been corrected, all information will have to be retyped exactly as it was typed the first time except for the errors. If complete verification is not used as described in the preceding paragraph, error verification would become even more expensive because the error would have to be corrected at the addressable storage location where the information is stored awaiting transmission into the computer. Companies using a typewriter as an input device do not generally retype all variable information because of the added cost involved. They require that only competent personnel be hired to type the input.

The Model 1050 presents an additional disadvantage of setting idle at times when it is not being used for processing accounts receivable transactions or for direct inquiry, while the Model 2740 can be used as a regular typewriter for other operations should there not be a full load of accounts receivable work or should there be other work that is more pressing.

CHAPTER VI

CONCLUSIONS AND RECOMMENDATIONS

The current system of recording cash receipts and cash revenues was thoroughly examined and several recommendations made on how this system might be revised and developed into a workable system of recording accounts receivable transactions.

In addition to developing a suitable accounts receivable system, a comprehensive study of several of the leading pieces of automated equipment was conducted. The advantages, disadvantages, and costs of optical scanning equipment and direct typewriter equipment were a prime consideration in deciding which type of machine to choose for automating the accounts receivable procedure.

The proposed system of recording receivable transactions is not difficult and does not require complex machine installations. It will not vary a great deal from the present arrangement in the Business Office; and, for this reason, the machine chosen must be simple to understand and to operate.

Current procedures are not extremely expensive; as a result, cost of the machine acquired cannot be unreasonable when compared to the operation now in use.

In the preceding chapters individual costs were considered against the present keypunching system. A cost study follows in Table III on page 23 presenting the basic machine costs for optical

TABLE 3

COST STUDY COMPARING KEYPUNCHING EQUIPMENT TO OPTICAL SCANNING EQUIPMENT AND DIRECT TYPEWRITING EQUIPMENT

	Keypunch Equipment	Optical Scanning Equipment	Typewriter Input Model 1050	Typewriter Input Model 2740
Salary Costs	$4,200.00		$4,200.00	$4,200.00
Machine Costs:				
Keypunch	828.00			
Verifier	360.00			
Optical Scanner		$44,580.00		
Printer Keyboard			780.00	
Data Set-Computer Hookup			180.00	
Basic Keyboard				984.00
Total Costs Per Year	$5,388.00	$44,580.00	$5,160.00	$5,184.00

scanning equipment, and the two methods of direct typewriter input comparing these with the present keypunching arrangement.

It is evident after the figures have been examined that optical scanning equipment is not feasible because of its extremely high cost. There are several alternatives in terms of cost and these are to use the present keypunching system or to acquire the International Business Machines Model 1050 or the Model 2740.

Optical scanning equipment was eliminated after considering its high cost. This installation would work if the Data Processing Center employed a keypunching staff of twenty to thirty people who could be eliminated by use of this equipment. A larger transaction volume is also needed to justify a machine of this cost.

In examining the cost statistics on page 23, the Model 1050 is $24 less expensive than the Model 2740. This is not a material amount and did not enter into the decision regarding the choice of machine.

The great flexibility of hooking up additional pieces of equipment to the 1050 to handle all the transactions as the accounts receivable increase over a period of years was the prime consideration.

Keyboard complexity of the 1050 was considered; but, because none of the accessory pieces of equipment will be acquired now, this difficulty was not considered to be insurmountable.

The proposed system of recording accounts receivable transactions should be adopted to aid management's decision-making power, promote good accounting practice, and to keep in line with the proposed recommendations of the American Council on Education in calling for all institutions to adopt a full accrual system of accounting.

It is also recommended that after considering all the advantages and disadvantages the International Business Machines Model 1050 direct

typewriter equipment be leased from International Business Machines Corporation for use in automating the accounts receivable procedure at the Business Office of the University of North Dakota.

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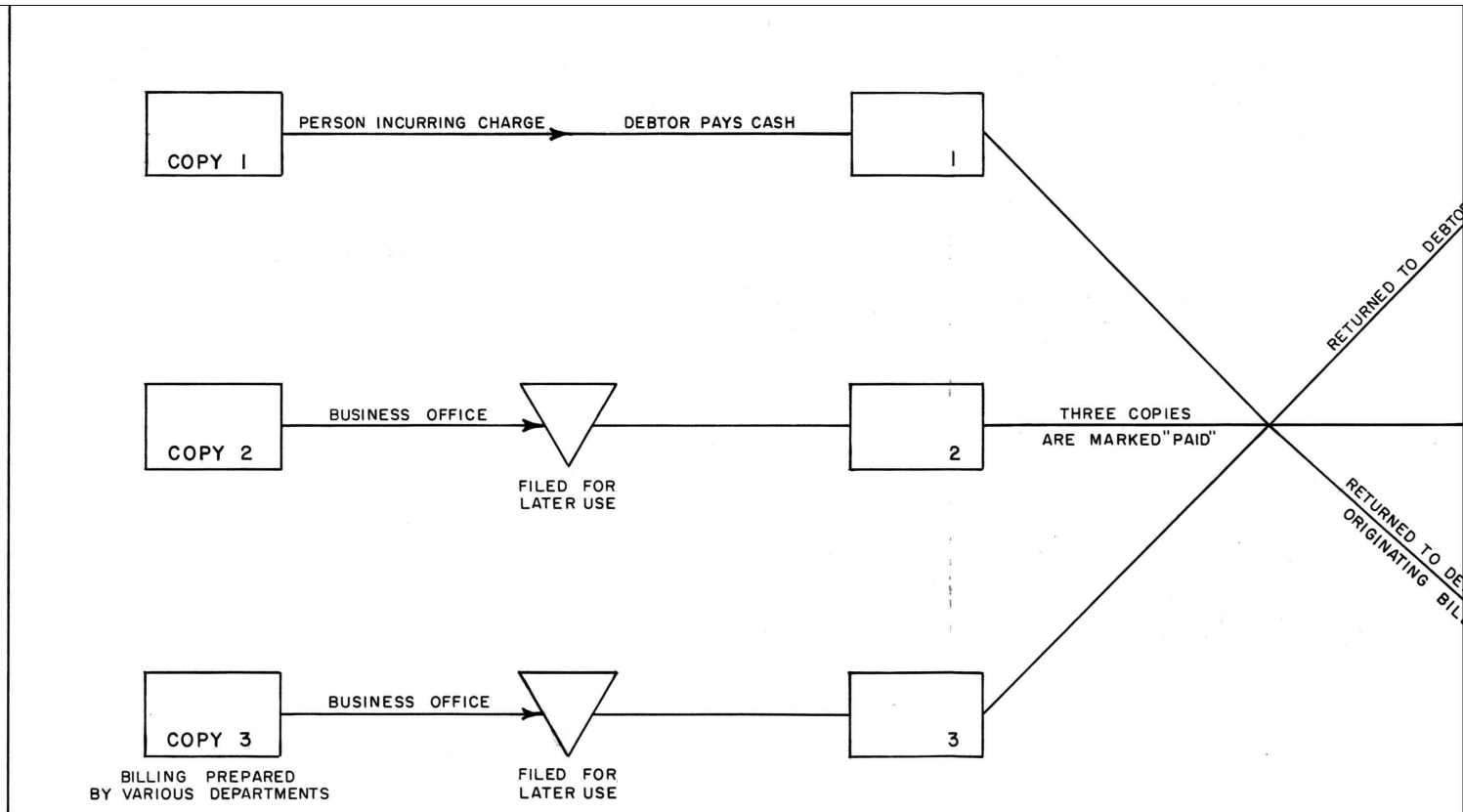
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PERSON INCURRING CHARGE
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THREE COPIES
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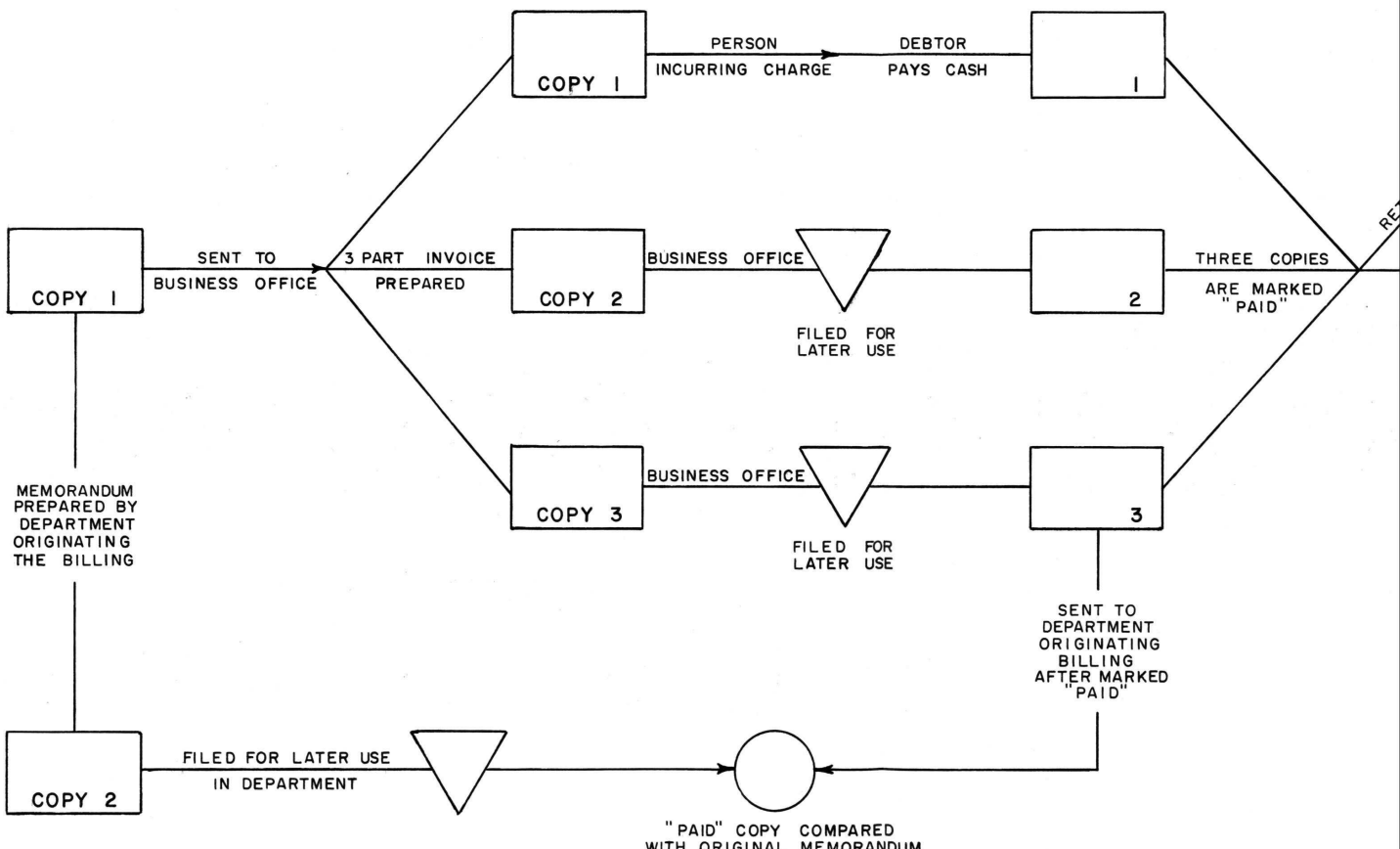
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PRESENT TO BUSINESS OFFICE
TWAMLEY HALL

DATE	DUE

TO:

ALL BILL DUE I
DATE OF BILL OR O
IF INDICATED.

ACCOUNT NUMBER_____

LOCATION OR PERIOD	DESCRIPTION	CODE	AMOUNT DUE	CREDITS

0001 - ROOM & BOARD - 7 DAY
0002 - " " - 5 DAY
0003 - " " - CREDIT
0004 -
0005 - RENT - TRAILER
0006 - RENT - HOUSING
0007 - ELECTRICITY
0008 - GAS

PLEASE PAY LAST AMOU
THIS COLUM

DATE	NAME	TYPE OF RECEIVABLE AND CODE NUMBER	INVOICE NUMBER	INVOICES BILLED DEBIT	CASH RECEIVED CREDIT	DEBIT MEMOS DEBIT	CREDIT MEMOS CREDIT	(
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NAME	INVOICE NUMBER	TYPE OF RECEIVABLE AND CODE NUMBER	TOTAL AM'T DUE	1-30 DAYS	31-60 DAYS	61-90 DAYS	91 DAYS AND OVER	AN