
INDUSTRIAL DATA PROCESSING APPLICATIONS REPORT

Applications Inventory Control
Type of Industry Pipe and Tubing Distributor
Name of User La Barge Pipe & Steel Co.
St. Louis, Mo.

Equipment Used IBM System/360 Model 20 Computer System

Synopsis

La Barge Pipe and Steel Co. of St. Louis, Mo., a distributor of pipe and tubing, is using an IBM System/360 Model 20 computer system to handle payroll accounting, billing and order entry, sales analysis, accounts payable and inventory control.

The main application is inventory control. The system produces a daily inventory status report which describes each item, an assigned stock number, weight and cost per foot, the amount on hand, on order, in transit, committed and available.

The computer system also aids in long range sales and management planning.

La Barge Pipe and Steel Co. is using an IBM System/360 Model 20 computer system to handle a variety of company operations including payroll accounting, billing and order entry, sales analysis, accounts payable and inventory control.

Neither the size of the company nor the business in which it is engaged would ordinarily suggest the use of a computer. Nevertheless, La Barge is using a computer and expects increased business and profits by doing so.

"Most of our competitors feel they should have a small quantity of representative sizes of pipes," according to Pierre L. La Barge, founder and president. "Our approach has been to maintain an inventory to meet emergency requirements, large or small. For instance, we stock pipeline quantities -- miles of it -- in some sizes."

La Barge Pipe and Steel Co. of St. Louis, Mo., is a distributor of pipe and tubing. Founded as a proprietorship in January, 1953, the company was incorporated in 1956 and later moved to its present site on the banks of the Mississippi, south of St. Louis.

Five years after its incorporation, with a sales force of four men, La Barge was doing a gross volume of about \$4 million. Today, with a sales force of 12 and a branch sales office in Chicago, the firm is grossing over \$10 million a year. A large inventory and fast shipment of orders has enabled La Barge to build a clientele which extends throughout North America and occasionally reaches as far as Europe and Southeast Asia.

In order to determine the best way to handle customers' orders, the firm asked its accountants, Elmer Fox & Co., to do a systems study. Out of that study came a recommendation by Fox & Co. that La Barge begin to use computers.

A key factor in this decision was that the company, as a part of its future expansion plans, was projecting a move into mechanical tubing.

According to Mr. La Barge, the company's mechanical tubing business is expected to equal and eventually outstrip the pipe volume. In full swing, the mechanical tubing business -- almost all handled on a special order basis -- will require an inventory of between two and four thousand non-standard sizes and wall thicknesses in varying quantities. Manual inventory of such a stock cannot be done with any degree of speed and accuracy.

With the project on the drawing boards and with the volume of business beginning to cause pressure, La Barge acted upon the recommendations of its accounting firm and placed an order for an IBM 1440 data processing system. This was done in the winter of 1963-64, but before the computer could be delivered, the manufacturer introduced a new, low-cost, punched card computer developed for the smaller user, the System/360 Model 20.

Since the new computer could meet La Barge's projected needs, the manufacturer's representatives who were working with the company in developing computer programs recommended that the Model 20 be ordered in place of the 1440. This was done and the third-generation, solid state computer was installed two months before the projected expansion into mechanical tubing.

Despite the fact that the company made a transition from what Treasurer Ed Nester calls, "almost a pencil and paper operation directly to an advanced form of electronic data processing," La Barge had few problems of adjustment.

LA BARGE PIPE & STEEL CO.

Once the computer was installed, the year and a half of preparation began to pay off. The time had been used not only to prepare programs but also to standardize ordering and other procedures to the point of compatibility with the machine. For instance, all sales order forms have been standardized so that information concerning an order is entered uniformly in a format that can be routinely processed into punched cards for use in the computer.

THE SYSTEM

The transfer to electronic data processing had been planned in five stages with about two weeks allowed between stages. The five stages are (1) payroll accounting, (2) billing and order entry, (3) inventory control, (4) sales analysis and (5) accounts payable.

Payroll accounting, as the simplest, was chosen as the first procedure to go on the equipment. The firm ordinarily employs between 75 and 80 people and, on the manual accounting equipment formerly used, the yard payroll had taken about four hours to complete. With the computer the job is performed in 10 minutes -- 30, if keypunch time is also included.

Billing and order entry was a necessary prelude to the key application -- inventory control. The company has tagged all invoices on which quick shipment is asked -- one tag requested same-day shipment, the other within 24 hours. Today 95% of all orders processed carry such tags. Such is the efficiency of the operation that on occasion an order is being loaded while the customer is still on the phone with the salesman.

The image shows three overlapping IBM Multiple-Card Layout Forms for La Barge Pipe & Steel Co. Each form is a punch card layout with various fields for data entry. The forms are filled with handwritten information.

Form 1 (Top): Company: La Barge Pipe & Steel Co., Application: ORDER CARDS, Date: 10/10/66, Job No. [blank], Sheet No. 3 of 3. It has a 'COMMENTS' section with a circled 'B'.

Form 2 (Middle): Company: La Barge Pipe & Steel Co., Application: ORDER CARDS, Date: 10/10/66, Job No. [blank], Sheet No. 2 of 3. It has a 'DESCRIPTION' section with columns for 'QUANTITY', 'UNIT PRICE', and 'TRADE DISCOUNT'. There is a circled 'B' in the 'TRADE DISCOUNT' column.

Form 3 (Bottom): Company: La Barge Pipe & Steel Co., Application: ORDER CARDS, Date: 10/10/66, Job No. [blank], Sheet No. 1 of 3. It has sections for 'CUSTOMER NAME', 'CUSTOMER ADDRESS', and 'SHIPPING NAME'. There are circled 'B's in the 'CUSTOMER NAME' and 'CUSTOMER ADDRESS' sections.

CARD LAYOUT FORMS FOR LA BARGE ORDER CARDS.

LA BARGE PIPE & STEEL CO.

 PIPE AND STEEL COMPANY 7400 South Broadway St. Louis, Mo. 63111 314 FL 1-0185												MASTER PAGE ____ OF ____		SALESMAN	WRITTEN BY	SALES EDIT	D.P. EDIT	
S O L D T O											CUST. NO.	SHIPPING NUMBER		TERMS	DATE PROMISED			
											CUSTOMER ORDER NUMBER	ITEM	P.O. NO.	VENDOR				
											DATE OF ENTRY							
											SHIP VIA							
S H I P T O											____ COLLECT ____ PREPAID	ROUTING TO YARD		DIRECT				
											F.O.B.	SHIPPING POINT		DELIVERED				
											WEIGHT	DATE SHIPPED	CAR NUMBER	EST. FRT. RATE	EST. FRT.			
O R D E R E D	FT	PIECES	NOM OR O.D.	WALL	STD	XH	XXH	SMLS	CW	BLK	STEEL	PIPE	UNIT PRICE	STOCK NO.				
	LB				SCH			ERW	EFW	GALV	LINE	P TGB	PER	O.D.	WALL	PRIME		
S H I P P E D	FT		AP15L	A120	GRADE	PE SQ	MACH CUT	SRL				CUT PER						
	LB		A53	STRUCT		BEV	SAW CUT	DRL				ORDER						
B O	NT		A106			T & C	FLAME CUT	CUT				TRADE DISC						
O R D E R E D	FT	PIECES	NOM OR O.D.	WALL	STD	XH	XXH	SMLS	CW	BLK	STEEL	PIPE	UNIT PRICE	STOCK NO.				
	LB				SCH			ERW	EFW	GALV	LINE	P TGB	PER	O.D.	WALL	PRIME		
S H I P P E D	FT		AP15L	A120	GRADE	PE SQ	MACH CUT	SRL				CUT PER						
	LB		A53	STRUCT		BEV	SAW CUT	DRL				ORDER						
B O	NT		A106			T & C	FLAME CUT	CUT				TRADE DISC						
O R D E R E D	FT	PIECES	NOM OR O.D.	WALL	STD	XH	XXH	SMLS	CW	BLK	STEEL	PIPE	UNIT PRICE	STOCK NO.				
	LB				SCH			ERW	EFW	GALV	LINE	P TGB	PER	O.D.	WALL	PRIME		
S H I P P E D	FT		AP15L	A120	GRADE	PE SQ	MACH CUT	SRL				CUT PER						
	LB		A53	STRUCT		BEV	SAW CUT	DRL				ORDER						
B O	NT		A106			T & C	FLAME CUT	CUT				TRADE DISC						
												USE SALES TAX	COMMENTS			PLUS PPD FRT. _____ CWT	ACTUAL	
												LESS COLL. FRT. _____ LOT						

THE ORIGINATING DOCUMENT IS A SHOP ORDER, FILLED OUT MANUALLY BY SALESMEN, AND, WITH APPROPRIATE FIGURES CIRCLED, SENT TO BE KEYPUNCHED THUS INITIATING THE SYSTEM.

But quick responsiveness must be based on the ability to anticipate and stock for demand, to match La Barge's current \$2 million inventory to needs, and to know just what is in stock and available for sale at any particular time.

The move to mechanical tubing, of course, means increase in inventory problems. Here is how La Barge's computerized inventory control system is set up to handle the need for fast, accurate information.

Status information is fed into the computer as each transaction occurs -- when a shipment is ordered from the factory, when notice is received that it is in transit, when it arrives at La Barge's yard, when it is committed to a customer and when it is shipped out.

LA BARGE PIPE & STEEL CO.

INTERNATIONAL BUSINESS MACHINES CORPORATION
 Form X24-6599-0
 Printed in U. S. A.

MULTIPLE-CARD LAYOUT FORM

Application La Barge Pipe & Steel Co. by _____ Date 10-11-66 Job No. _____ Sheet No. 1 of 1

VENDOR INVOICE NUMBER	TRANS NO	TRANS DATE	DISCOUNT DATE	VENDOR INVOICE DATE	VENDOR INVOICE # OR DESCRIPTION
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80	M Y A P M Y A P M Y A P M Y A P M Y A P	ACCOUNT NUMBER	SUB ACCT No.	AMOUNT	VENDOR SHORT NAME
VENDOR NAME					
1ST LINE OF ADDRESS		2ND LINE OF ADDRESS		3RD LINE OF ADDRESS	
CHECK NO.	CHECK DATE	NET AMOUNT	PAYEE		

LA BARGE PIPE & STEEL CO.
 PAYMENT DUE LISTING

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VENDOR NUMBER	VENDOR NAME	DESCRIPTION	TRANS NO	AMOUNT	DISCOUNT	VENDOR NET AMOUNT	ACCUMULATED NET AMOUNT
78	ABC FREIGHT FORWARDING CORP	964374	12891	6.43		6.43	6.43
2453	AFFTON FABR & WELDING CO		12892	1,852.50		1,852.50	1,858.93
3051	A G S MACHINE CO	4828	12428	240.00			
		4854	12430	17.00			
		4792	12431	4.00			
		4783	12432	35.00			
		4669	12433	245.00			
		4788	12434	120.00			
			12435	13.00			
			12436	588.00			
			12437	200.00			

LA BARGE PIPE & STEEL CO.
 ACCOUNTS PAYABLE REGISTER

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VENDOR NUMBER	TRANSACTION NO	DATE	DESCRIPTION	INVOICE DATE	AMOUNT	PAYMENT DATE	DISCOUNT	G/L AMOUNT	ACCT
18651	13025	11/67	67523		3,844.65	11/17/67	19.22		
33057	13026	11/67	731		397.71	11/17/67	7.95	3,844.65	511210 03
49956	13027	11/67			166.67	11/17/67		358.09 39.62	115110 531110 01
50458	13028	11/67	7676		228.90	11/17/67	4.58	124.90 41.77	711330 711420
80756	13029	11/67			6,646.58	11/17/67		228.90	511130 01
81850	13030	11/67	T-4174		7,006.34	11/17/67	140.13	6,646.58	111310
91855	13031	11/67	78666		76.80	11/17/67	.38	7,006.34	511210 01
98060	13032	11/67	7627		148.28	11/17/67	.74	76.80	511330 01
								148.28	511120 01

CARD LAYOUT FORM (TOP) FOR ACCOUNTS PAYABLE CARDS WHICH GENERATE THE ACCOUNTS PAYABLE DOCUMENTS (BOTTOM).

LA BARGE PIPE & STEEL CO.

IBM INTERNATIONAL BUSINESS MACHINES CORPORATION Form X24-6599-0
 Company La Barge Pipe & Steel MULTIPLE-CARD LAYOUT FORM Printed in U. S. A.
 Application INVENTORY by _____ Date 10/10/66 Job No. _____ Sheet No. 2 of 2

INVENTORY	STOCK NUMBER	QUANTITY SHIPPED	DATE SHIPPED	INVOICE NO.	SHIP NO.

IBM INTERNATIONAL BUSINESS MACHINES CORPORATION Form X24-6599-0
 Company La Barge Pipe & Steel MULTIPLE-CARD LAYOUT FORM Printed in U. S. A.
 Application INVENTORY by _____ Date 10/10/66 Job No. _____ Sheet No. 1 of 2

MASTER	STOCK NUMBER	WGT/FT	STANDARDS COST	DESCRIPTION

P.O.	QUANTITY ORDERED	DATE ORDERED	DATE RECEIVED	SHIP NO.

IN TRANSIT	QUANTITY IN TRANSIT	DATE SHIPPED	DATE RECEIVED	SHIP NO.

NOVEMBER 17, 1967 LA BARGE PIPE & STEEL CO. PAGE 1
 PURCHASE ORDER STATUS

DESCRIPTION	STOCK NUMBER	ON ORDER	EXPECTED SHIP DATE	IN TRANSIT	DATE SHIPPED	CAR NUMBER
1/2" 1.340 X 1.000						

LA BARGE PIPE & STEEL CO. PAGE 19
 DAILY INVENTORY STATUS

DESCRIPTION	STOCK NUMBER	WGT/FT	COST/CF	ON HAND	ON ORDER	IN TRANSIT	COMMITTED	AVAILABLE
NOVEMBER 16, 1967								
2-1/2"	3000035	.301		400	2000			400
2-1/2"	3000434	.384						886
1/2 X 1/2 X .049	3000033							786

CARD LAYOUT FORMS FOR INVENTORY CONTROL REPORTS. SHOWN AT BOTTOM: PURCHASE ORDER STATUS AND DAILY INVENTORY STATUS.

RESULTS AND FUTURE PLANS

The introduction of electronic data processing has enabled La Barge to standardize all order forms allowing information about an order to be punched into cards and processed by the computer. In addition, a considerable amount of time is now being saved on routine accounting and payroll functions. The inventory control portion of the system, with its daily inventory status report, allows the salesman to determine whether he can fill a customer's order from available stock.

The computer system also aids in long range sales and management planning. With the planned addition of the accounts payable function, La Barge management feels confident that they will have in their computerized operation a tool capable of supplying accurate and current information needed to control an expanding and increasingly complex operation.