

# INDUSTRIAL DATA PROCESSING APPLICATIONS REPORT

**Applications** Sales (Contract) Controls; Sales Reports, Statistics and Analysis

**Type of Industry** Women's Wear

**Name of User** Berkshire Frocks, Inc.  
Boston, Mass.

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**Equipment Used** IBM 1401 Data Processing System

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## Synopsis

Maximization of sales for the manufacturer and retailers alike is the object of the RUC (Retail Unit Control) system developed by Berkshire Frocks, Inc., Boston, Mass. Berkshire makes and distributes a staple "wardrobe" line of about 175 different styles of dresses in women's sizes whose sales remain essentially constant from year to year. Under the RUC system, this line is automatically shipped to individual retailers who agree to buy a mutually stated dollar value of Berkshire products over the next 12 months. These shipments are made in quantities which will keep current inventories up to predetermined monthly levels which may vary widely from month to month. The retailers thus always have the necessary stock on hand to meet customer demand. However, as the deliveries represent positive sales, not consignments, the figures which Berkshire forecasts for each store's RUC plan must always be thoroughly realistic.

To forecast a store's RUC plan, Berkshire analysts rely on the retailer's own historical sales data or, if it is insufficient, on Federal Reserve regional industry sales percentages. This information enables them to spot seasonal sales fluctuations and break down sales percentages for each month of the year. It also permits them to determine the store's stock-turn record. The data is keypunched into cards for processing by an IBM 1401 computer and production of a Master Retail Unit Control Plan form which contains full RUC program information for the store. It also enables Berkshire account executives to compare current and previous stock turn rates and to make prompt re-evaluations and possible adjustments when projected store sales are under or overfulfilled.

The RUC system's success has been borne out by the accelerated stock turn ratios reported by many retailers. Individual store programs have thus tended to be revised upwards when renewed, causing yet greater sales of Berkshire products. The company's EDP effort, however, is a broad one and most Berkshire internal procedures have not been put on the air. Besides the daily Cut and Sold report, a vital document for any garment manufacturer, the computer installation produces a wide range of weekly, monthly, quarterly and special reports which provide management with comprehensive controls over sales, production and salesmen's performance.

"The last frontier of U.S. industrial society" was how one major business magazine described some years ago, the ferociously competitive, boom-and-bust world of women's fashions, better known among its inhabitants as the "rag game." Today, however, this frontier is being tamed; as yesterday's undercapitalized dress manufacturers, who hoped for success from one or two models, give way to large, multi-plant corporations marketing full "wardrobe" lines. Among these rapidly growing enterprises is Boston's Berkshire Frocks, Inc., whose earnings have increased more than 75 percent in six years. And, as Berkshire grows, President A. Goodman and his management team are writing new rules for the industry designed to bring new financial stability and potential for producer and customers alike. Underlying many of these benefits is the company's Retail Unit Control system which speeds Berkshire products to customers' shelves, bypassing the traditional, time-consuming selection by store buyers of each item to be stocked. In this way, the system, which is supported by an IBM 1401 computer installation, provides almost instant availability of merchandise at the point of sales, minimizing inventories on hand and boosting stock turn ratios.

Berkshire Frocks, Inc., Boston, Mass., specializes in the manufacturing and sale of dresses, in women's sizes, retailing from \$12 to \$30. As this product line is relatively unaffected by the promotional factors which influence the marketing of Misses' and Junior dresses, it is referred to as a staple line, one whose sales remain essentially constant. The success of this policy is borne out by the fact that, ever since it was founded in 1939, the company has recorded an uninterrupted chain of sales and profit increases. Thus, company volume topped \$14.5 million in 1965, as against \$13.9 million for the preceding year, and \$5.8 million in 1959.

The company's products are produced in 12 New England plants and sold under the labels of its Berkshire and Parkshire divisions. To them has been added a third major product line through the acquisition of Pollak Bros., Inc., of Fort Wayne, Ind., for over 50 years, a leading manufacturer of moderately priced daytime dresses, smocks and dusters.

About 175 different styles are produced in all three Berkshire product lines for each of the year's six marketing seasons. National distribution of over 6,800 retail accounts is handled by a force of about 50 salesmen, working out of regional offices in New York, Los Angeles and Charlotte, N.C.

#### EDP at Berkshire Frocks

Automated data processing came to Berkshire in 1959, with the installation of an IBM 602 calculator and supporting tab equipment. At first, the machines were primarily used for order writing and billing, with the "Cut and Sold" report being run off as a by-product. Then, other bookkeeping applications, such as accounts receivable, were gradually added. Machine processing was also extended to preparation of all payrolls, save piecework, for the company's approximately 1,000 employees in its offices and production plants. Payroll routines also covered Blue Cross and credit union deductions.

At the time that the equipment was installed, Berkshire's yearly volume had just reached a high of \$5.8 million. This figure, however, was soon surpassed as the company's business continued to increase. With the increase, also came growing pressure on the machines' capabilities. To remedy this, management ordered successive upgradings of the installation which, at its peak, included three IBM 1402s as well as a considerable number of ancillary units. It became clear that, technically, electro-mechanical processing no longer represented the answer to Berkshire's needs. A computer could handle the company's current data processing requirements and provide capability for further expansion. Berkshire management accordingly began a study of EDP's economic feasibility and of available equipment.

It was determined that a yearly volume of \$10 million would provide the break-even point at which a computer would cost Berkshire no more than equivalent electro-mechanical capabilities. Above this figure, the company could expect a gradual reduction of EDP's share of total expenses. This led to the selection of the present IBM 1401 installation. In this system's initial configuration, the processor's memory had a capacity of 4,000 positions of alphanumeric core storage. Peripheral units included an IBM 1402 card read-punch, an IBM 1405 disc storage unit and an IBM 1403 printer.

Today, the 1401's configuration has been substantially upgraded. Thus, the processor's memory storage capacity has been expanded to 8K, while the 1405 has been replaced by three 1311 disc storage units. Thus equipped, Berkshire has the capability to handle the increased data processing requirements brought about by rising sales, the acquisition of Pollak Bros. and the new applications designed to bring yet further efficiency to company operations.



IBM 1401 COMPUTER SYSTEM provides Berkshire Frocks with capabilities for maintenance of its RUC (Retail Unit Control) system.

Computer input data is prepared by an IBM equipment installation which consists of seven keypunches, an interpreter, and an IBM 083 sorter. Individual keypunch operators handle only those source documents which fall within their assigned areas. Accordingly, the seven operators have been assigned the following functions:

Orders (two operators)

Payroll (one operator)

Billing (two operators)

Accounts Receivable (one operator)

General (one operator)

The EDP staff consists of a supervisor, a full-time programmer and a console operator who operate the 1401 nine hours a day, five days a week. These employees, who formerly worked in the tab room were retrained by the manufacturer. The entire Data Processing Dept. is headed by Donald Spund, comptroller.

### Retail Unit Control System

Sales, obviously, are of paramount importance to garment manufacturers and retailers alike. Yet, far too often, neither benefit from a dress style's full sales potential before its relatively brief marketing season is over. This comes about through the sometimes substantial delays that occur between the times that a new line is announced, retailers place their orders or reorders for it, and

deliveries are made. During these periods, much business goes unfulfilled as customers turn away from depleted racks and counters.

To meet this situation, Berkshire has evolved a new marketing technique, the RUC (Retail Unit Control) system. Its philosophy and aims, at first sight, seem deceptively simple. Berkshire manufactures staple lines whose sales pattern varies little from year to year. RUC, therefore, is designed to forecast and plan the year-round deliveries which individual retail outlets must have, to support a given volume of business.

RUC's implementation, however, is a complex business, for the system's prime requisite is that individual retailers agree to buy a mutually stated dollar value of Berkshire products over the next 12 months. On its part, the company commits itself to make deliveries which will keep current inventories up to predetermined monthly levels which may vary widely from month to month. These deliveries represent positive sales, not consignments, and the figures which Berkshire forecasts for each store's RUC plan must, therefore be thoroughly realistic.

Today, about 300 retail outlets (both principal and branch stores) fall under the RUC system. Together, they account for over 25 percent of the Berkshire Division's business. To meet its responsibility to these customers, Berkshire has developed sophisticated management techniques which are unique in the industry. These techniques, in turn, are dependent upon the processing speed and accuracy provided by computer control.

Whenever a new store comes into the system, its management first agrees to devote a certain portion of its procurement budget to the purchase of Berkshire products. These will be delivered according to the RUC plan drawn up for that particular outlet by Berkshire analysts. To do so, they rely on the retailer's own historical sales data, which enables them to spot seasonal sales fluctuations and the percentage of total business done during each month of the year. It also permits them to determine the store's "stock-turn-record," the number of times that the store's original inventory has been turned over during the course of the year. (To arrive at this figure, they divide total sales for the 12-month period by the average monthly inventory value.)

If the store's information is inadequate, the analysts then make use of Federal Reserve regional industry sales percentage figures upon which to base the store's plan. These figures, together with Berkshire's own regional history, however, are used only for the first year's plan as substantial differences may exist between the regional figures and the store's actual monthly sales.

The information thus collected is keypunched into individual cards which bear the following data:

1. Total store sales for year.
2. Historical store sales data, or Federal Reserve percentage figures.
3. Stock turn or equivalent volume information.
4. Name of company, address of store, and department number.

When the cards are entered into the computer system, their information is transferred to magnetic discs. The information is then processed to arrive at the complete store plan. The "open-to-buy" inventory level to be maintained each separate month to meet projected sales is determined. Similarly, figures are developed to express dollar and unit (single dress) values for the new plan.

For each store already in the system, a Master Retail Unit Control Plan form is computer-produced at the start of the year for distribution to the store's management and the Berkshire account executive. This form bears the following information across its top: the store's name, address and department number, forecasted and actual stock turns and dollar cost of sales, retail volume figures for the current and previous plans respectively.

**BERKSHIRE FROCKS, INC.**

<b>BERKSHIRE FROCKS, Inc.</b>		<b>UNIT CONTROL PROGRAM</b>											
FOR STORE		CITY/STATE						DEPT NO:					
CURRENT ANNUAL PLAN: COST \$		RETAIL \$				STOCK TURN			DATE				
PREVIOUS ANNUAL PLAN: COST \$		RETAIL \$				STOCK TURN			DATE				
<b>RETAIL DOLLARS</b>													
PLAN AS OF 1ST DAY		4	5	4	4	4	4	5	4	4	5	4	TOTAL
		FEB.	MARCH	APRIL	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.	JAN.
MONTHLY % FED. RES. DIST.													
MONTHLY % STORE													
LAST YEAR	ACTUAL ON HAND												
	ACTUAL SALES												
THIS YEAR	PLANNED ON HAND												
	ACTUAL ON HAND												
PLANNED SALES	PLANNED SALES												
	ACTUAL SALES												
PLANNED OPEN TO BUY	PLANNED OPEN TO BUY												
	ON ORDER												
ADJUSTED OPEN TO BUY													
<b>UNIT</b>													
LAST YEAR	ACTUAL ON HAND												
	ACTUAL SALES												
MONTHLY PLANNED ON HAND STOCK													
WEEKLY ACTUAL ON HAND STOCK													
		WK1											
		WK2											
		WK3											
		WK4											
		WK5											
MONTHLY PLANNED SALES													
MONTHLY ACTUAL SALES													
WEEKLY ACTUAL SALES													
		WK1											
		WK2											
		WK3											
		WK4											
		WK5											
PLANNED OPEN TO BUY													
ON ORDER													
ADJUSTED OPEN TO BUY													

MASTER RETAIL  
UNIT CONTROL  
PLAN FORM is  
computer-produced  
for each store in  
the RUC system.

Monthly information is shown on a February through January basis. Each monthly column (on a 4-5-4 week basis) shows the appropriate delivery and sales period, Federal Reserve and store percentage figures. Also shown are actual inventory on hand and sales for each month of the previous year. For each month of the current year, the following information is projected for each store:

1. Planned inventory and sales.
2. Actual inventory on hand and store sales (this information is filled in by the Berkshire account executive daily or weekly as information is received from the store).
3. Planned open to buy.
4. Actual on order.
5. Adjusted actual open to buy (the difference between items 3 and 4).

This information is repeated both in dollars and in single-dress units. For the unit listing, however, actual on hand inventory and sales figures are shown on a weekly basis, the information being filled in manually by the account executive. In this way, account executives can readily compare the current year's actual and planned figures with the previous year's data, and determine the

current stock turn rate. Similarly, they are able to make prompt plan reevaluations and possible adjustments when projected store sales are over or underfulfilled. Deliveries for that week and month are then adjusted to meet temporary conditions. However, unless the entire plan is changed, deliveries and inventory on hand at the start of the following month will conform to the levels programed in the store's RUC plan.

### Other Procedures

Today, all Berkshire internal procedures have been put on the air, with the exceptions of piecework payrolls and the general ledger. Computer processing has also been extended to cover all Pollak procedures, save payrolls and accounts payable. In this way, Berkshire can exert centralized control over its new subsidiary. With all significant company activities thus subject to computer control, management is being provided with the following detailed reports to aid executive decision-making:

#### DAILY

- Cut and Sold Report provides updated profile of the company's business for the previous day by style and division and, in addition, recapitulates sales for the preceding four weeks to show sales trends.

#### WEEKLY

- Shipment and On Order Report also includes a listing of orders whose fulfillment awaits approval of the customer's credit.
- Sales by Color Analysis lists sales of each dress style by color to govern cutting orders and highlight on-hand stock deficiencies in terms of units and percentages.
- Sales by Size Analysis has the same function within its area as the sales by color analysis.
- Production Report is used both to monitor current operations, also recapitulated monthly, and to provide a simulated model of the cost and profit factors which affect the production of a new line. In this way costs are programed and necessary adjustments made before actual production begins. The report which is run with both actual and estimated figures includes the following information:

- |                             |                             |
|-----------------------------|-----------------------------|
| 1. Number of units ordered  | 4. Materials cost breakdown |
| 2. Number of units finished | 5. Labor cost breakdown     |
| 3. Goods in Process         | 6. Gross profit             |

#### MONTHLY

- Piece Goods Inventory Report is based on matching of stock received with cutting tickets issued during the period.

#### QUARTERLY

- Salesmen's Performance by Area Report is run separately for each company division and then consolidated. It compares each salesman's performance during the quarter just elapsed and the corresponding period last year. It also shows the salesman's performance during the succeeding quarter of the previous year, as well as the percentage of the division's sales which he achieved during the quarter elapsed this year and last.

- Sales Performance by State Report analyzes current and historical sales performance for each division by state, rather than salesman. However, it includes a list of all salesmen covering each state.
- Quarterly Sales Report provides a detailed listing of all sales for the preceding period by division, area, salesman and account.

SPECIAL (on demand)

- Best Sellers Report is among the most important of the various special analyses which Berkshire executives can now receive on demand from the Data Processing Dept. This report lists top-selling styles in the current line showing quantities on order by customer within sales regions. It thus provides sensitive control of sales and salesmen's activities. The resulting consolidated listing of each salesman's performance shows both the exact percentage of the company's "Best-Seller" business which he writes up, and the percentage quota which has been assigned to him by the firm.

Results and Future Plans

"We now get a tremendous amount of information we never got before," says Abraham Goodman, president and chairman of Berkshire Frocks, when commenting on automation's impact on company operations. The firm's volume has nearly tripled since the first electro-mechanical data processing units were installed in the late fifties, and top Berkshire executives are unanimous in their views that without machine processing this increased business would have been extremely difficult to handle. In addition, they point out, EDP has not merely brought greater economy and efficiency, but has also pointed the way to new sources of profit. Prominent among them is the RUC system which relies almost entirely on EDP control. Its success is borne out by the accelerated stock turn ratios reported by many retailers. Individual store programs have consequently tended to be revised upwards when renewed causing yet greater sales of Berkshire products.

Berkshire's automation effort, however, is a continuing one, and to back it up management is planning to substantially extend EDP capabilities. This will come about through the replacement of the present 1401 by an IBM 360/30 system with 16K core storage. Its configuration will, besides a printer and card reader, include three IBM 2311 magnetic disc drives. The new system will provide vastly increased storage capacity, combined with on-line capabilities the 1401 does not possess, for handling of orders and reorders.

The new equipment, says Donald Spund, comptroller, will also make possible the development of procedures for preparation of new reports to support the company's sales efforts. Among them is a report which, for every division, indicates each salesman's sales quota for the year and adds the following information:

- Planned sales for the current year
- Planned sales for the current month
- Total orders to date for the preceding year
- Total orders written during the past week
- Total orders to date for the current year
- Balance of sales quota to be filled this year
- Balance of sales quota to be filled this month
- Percentage of year's quota achieved to date
- Percentage of month's quota achieved to date

The entry for each salesman ends with the following notice: "You rank as     (no.)     of     (number of salesmen in division)    ," a pressing reminder of the need to maintain the company's record of uninterrupted growth.

Another 360 procedure which Spund intends to implement will permit a comprehensive historical breakdown and analysis of sales trends to support future marketing decisions. Basis of the application will be the customer information cards into which seasonal sales detail are routinely encoded. The computer will be programed to select the cards for Berkshire's 500 top-volume accounts which amount to from 30% to 60% of the Berkshire Division's volume. Their current information, joined to records of relevant sales for the two preceding seasons will provide input for processing and computer analysis.

Other plans to meet various needs are also being considered. Among them is the use of data transmission facilities to transmit point of sales figures directly from stores to the company's data processing center. This application, when implemented, will join the others which are being developed to support the efforts of Berkshire's management and the salesmen in the field.