A history of Information Technology at Woodward Stores 1963-1981

In the early 1960's Woodward's decided it was time to use Information Technology. Jack Barnwell, who had returned from Montreal, where he had been Controller of the Woodward-Steinberg venture, was appointed to manage the introduction of computing technology. Ian Loudon was appointed to assist Jack. With the help of IBM a successful trial application was programmed for the credit billing application of the Victoria store, using the IBM datacenter in Vancouver. A decision was then made to establish a Datacenter on the 7th floor of the downtown Vancouver store. As an interim measure an IBM 1440 computer system was installed and the Victoria credit billing system was reprogrammed for it. The application was then expanded to include the Vancouver Credit office billing. A Sales Audit system, and a Bargain floor merchandise sales application were added. The department staff grew to include computer and unit record operators, key punch operators, and data control persons.

Ian Loudon with Woodward's first computer
IBM 1440 – 1964-1966

Since the IBM 1440 was operating at capacity, an IBM 360 computer was ordered and it was decided to acquire a manager with more experience for the datacenter. Don Roberts. a senior systems consultant with DCF systems, who was co-managing the datacenter for the Ontario department store division of the T. Eaton company in Toronto, was hired and started with Woodwards in June of 1965. Senior management approved a plan to develop several major applications each year over the following five years. The IBM 360 was received in February of 1966, the first to be installed in Western Canada and the IBM 1440 was retired.

The IBM Central Processing Unit
Installed in February 1966

In the period from 1965 to 1972 the following applications were designed, programmed, and operated by Woodward's staff. The datacenter staff rose to approximately one hundred personnel.

Credit billing – Long before Visa and Mastercard, Woodward's had its own credit operation, with over 700,000 customers. This required monthly billing, the production of over 350,000 statement mailings each month, close to 4 per second each working day. The credit purchases, which were recorded on IBM compatible punch cards, were keypunched by a staff which numbered over 40 persons. The IBM 360 was programmed to print 200 card statements per minute. The statements, sales bills, return envelopes, and advertising material were stuffed by a mailing machine that was capable of processing 10 per second. This application, as implemented, was the major one for the IT Division.

The Pitney Bowes Mailing Machine

Data Entry System

Sales – Information from over 2000 cashiers was entered each day to produce the audited departmental sales figures for the company.

Grocery orders – Orders from Woodward's food floors were processed and directed to five warehouses, some equipped with remote printers, where over 18,000 cases of groceries were shipped each day. Initially, the stores ordered using the IBM Card Order Plan, which used mark sensed cards which were sent to the datacenter. Later a key entry, recording terminal was introduced, which could send the orders to the datacenter by telephone.

Payroll – Woodward's had the second largest payroll operation in Vancouver. 60,000 pays per month were processed on the computer and at year end 45,000 T4's were printed. The program took over a year to program and two years to implement. The BC stores were done the first year and the Alberta stores the next. Ian Loudon coordinated this work which required visiting all the stores. The program included integration with the Sick Benefit Society and the Actuarial Evaluation for pensions.

Shareholder Registry – The shareholder registry was programmed for the computer to provide record of certificates held and dividend payments for 5000 shareholders.

Accounts Payable – 11,000 invoices each month were processed and paid. Woodward's had 14,000 suppliers.

Department Statements - This application benefitted from data acquired from the Sales Audit, Payroll, and Accounts payable systems.

Computers:
	A second IBM 360 was added as the workload grew and in 1980 an IBM 390-4041 was added. The computers operated 24 hours per day, 6 days a week. Production was done on the afternoon and night shifts with the exception of the grocery order processing. Data entry was done on the day shift and was available for the operating shifts. The computers were mainly used for program development during the day.
	A 20 station key processing unit was acquired for data entry of documents which were not punch cards (such as sales bills and time cards). The data was written to a disk equipped computer which wrote the data to magnetic tape for entry to the computers.

Point of Sale:
	For many years Woodward Stores used Sweda mechanical registers, for which they at one time had the franchise for all of Canada. A version of the Sweda register that produced punched paper tape was introduced in the Bargain Floors along with a merchandise classification system. With the aid of the datacenter, the punched paper tape was processed and a sales analysis was produced. This system was extended to a few other departments.
	Starting in 1973 an examination of electronic registers for use by Woodward Stores was done by datacenter and Merchandise office staff. The initial conversion to electronics was done for the five lower mainland stores using funds from new store openings, who received the mechanical registers. The merchandise classification system was extended to encompass all merchandise departments. In conjunction with the electronic registers this enabled the Vancouver area to have Descriptive Billing and retire the IBM compatible card sales bills used by the County Club system. The electronic registers and the classification system gave the potential for inter departmental selling.

Department store:
	In the late seventies Sweda introduced electronic registers which were capable of being programmed to provide data recording, credit authorization, and data communication to the datacenter. These registers were programmed by Sweda to Woodward's specifications. This was the first application that was not programmed by Woodward's staff, or operated by the datacenter.

Food floors:

The food floors were supplied with systems from NCR which were capable of scanning UPC (Universal Product Code, a bar code that was adopted by the food industry in April of 1973.) with in store pricing and communication for price updates from the Vancouver food office. Woodward's and NCR installed the first UPC scanning system in Western Canada with the opening of Woodward's Coquitlam center in 1979. The first item with the UPC code found on a Woodward's food floor was Green Giant, canned green beans in June of 1976.

IBM Keypunch section

Data receiving and control

The first IBM 360 Computing System

IBM Card reader Punch and Printer

Microfilming Salesbills

Microfilm Development

Systems and Programming Manager Jack Barnwell   Programmers Winston Wai and Neil Brill

In October of 2018 Don Roberts donated the Name Plate of the IBM 360 computer to MOV (Museum of Vancouver). Wendy Nichols ,Curator of Collections, accepted the artifact for the Woodwards Collection.

The picture on the right was taken by a photographer from Woodward's Advertising Department for the Beacon. The picture shows the artifact as placed on the Computer.