Probably what is most notable about end-user computing at Carter Hawley Hale is the easy access to information it provides users and its quick acceptance throughout the company.

In the spring of 1985, the company concluded its planning to implement end-user computing. By November of that year, after a series of 25 one-week training sessions, 650 buyers were improving their productivity as end users. The company's end-user computing system, called InfoNow, got off to such a quick start that it returned installation costs in the form of hard savings within six months.

Corporate Strategy

Carter Hawley Hale Chairman and Chief Executive Officer Philip M. Hawley is known in the retailing community to be a strategic thinker. Having guided the company through a decade of growth through expansion in the 1970s, he is determined to make it more profitable in the 1980s through integrated policy direction, increased market responsiveness, and improved customer satisfaction.

To accomplish these goals, he implemented a series of actions designed in part to increase the amount of merchandise in the stores while improving its freshness and enhancing its presentation. Hawley also developed a strategy of centralizing service functions within the corporation creating an Information Services Division in Anaheim, California, and a Market Services Division in New York City.

Information Services is charged with supporting the information requirements of CHH associates as they carry out the objective of maximizing profits through effective merchandising and superior customer satisfaction. Carter Hawley Hale has created one centralized information facility for use by the store divisions throughout the country.

The Information Services Division has corporate responsibility to optimize individual contributions through leveraging the collective information resources of the corporation. Since its inception in 1976, the division has consolidated the various stores' unique systems

into common systems that run at one data center.

In addition, the division has established a data communications network and has developed a retail model made up of 31 common interrelated systems. By the end of 1985, 23 of the common systems had been implemented, serving six of the nine store divisions. The systems include credit authorization, sales audit, collections, merchandise accounts payable, ticketing, price change, receiving, gift registry, the financial information system, and InfoNow.

The Market Services Division, which was started in 1981, is responsible for centralized buying and for developing exclusive private label merchandise for the company.

End User Computing: Initial Efforts

In 1980 management found that the company was spending large amounts on time-sharing services in outside service bureaus. Information services then began providing users with

The full support of CEO Philip
M. Hawley was a key to the
success of end-user computing at
CHH.

fourth-generation languages, graphics and analytical tools, and the ability to access the central computer via an expanded data communications network. This resulted in savings of several million dollars. User acceptance and self-sufficiency were rapid. After three years the stage was set for a formal end-user program.

InfoNow

President and Chief Executive Officer of the Information Services Division, R. Vincent Conant, credits Hawley with setting the stage and providing the support that has made the division's accomplishments possible. "Phil Hawley has championed everything we've done to date, from development of our common systems to implementation of end-user computing as a strategic information system," says Conant.

Executive Vice President of Information Services, Robert M. Menar, says of Hawley's strategic systems planning, "Our mission was to support decision making at all levels within the company, and our approach has been to take a number of tasks and make them easier in an effort to improve productivity and reduce expenses. End-user computing allows for better use of information by our users.

"To make good decisions, our buyers, merchandise managers, store managers, and other executives need information, and they need it 'now.' We named our end-user computing system InfoNow because it provides instant access to information, and tools for analyzing that information quickly."

InfoNow is an end-user computing system that includes the IBM Professional Office System (PROFS) to provide electronic mail and personal services, a host-based program to provide spreadsheet facilities, and the IBM Query Management Facility (QMF) to provide data access. Extensive online help facilities are also provided. Word processing capability is currently being tested and will be added in the near future. The system will be enhanced with additional software as needs are established.

Loyd Ellis, executive vice president of the corporation, talks about the morale boost gained upon implementation of InfoNow. "End-user computing has saved the buyers so much time and given them so much flexibility that morale has improved. We have even attracted new buyers because they heard we had these tools. Further, we expect InfoNow to lower our attrition figure. With the high turnover in the retail field, the enhanced ability to attract and keep good buyers and executives is one of the key benefits CHH is experiencing."

"A multifaceted educational program was critical to the successful implementation of end-user computing," says Conant.

"We installed end-user computing with a modest investment in additional hardware," says Menar.

Benefit Analysis

When Hawley and the executive management committee gave the go-ahead for the development of end-user computing at CHH in May 1985, the major challenge was to measure the benefits that the system would provide.

Divisional Vice President, InfoNow Systems, Paul Lemerise, talks about this challenge. "Although our analysis and instincts told us that the benefits could be significant, it was management's belief in the system's potential that led them to authorize implementation. To facilitate the collection of information for cost justification once the system was installed, we developed a set of benefit analysis screens that enable users to send usage reports to their divisional Merchandise Information Officer (MIO), who in turn sends summary reports to us."

MIOs are vice presidential level positions at CHH divisions responsible for facilitating the use of systems within their organization. Serving as the link between Information Services and its divisional customers, they direct the Merchandise Information Office in each division. The first user group for InfoNow consisted of merchants, so MIOs were focal in assisting with implementation.

"The benefits analysis showed that we brake even on installation costs within six months," says Lemerise.

Keys To Success

Asked to summarize the factors he feels were critical to the successful implementation of end-user computing at CHH Conant cites:

- Unqualified support of executive management
- Definition of specific goals
- Establishment of a support organization to help set priorities, refine objectives, and foster application development
- Careful planning of a manageable implementation and operation
- A multi-faceted educational program
- An equitable chargeback method
- Formalized analysis of benefits and measurement of return on investment

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           INFONOW END USER COMPUTING BENEFITS ANALYSIS

THIS ELECTRONIC INPUT DOCUMENT IS INTENDED TO ASSIST YOU IN DEFINING THE
BENEFITS THAT YOU ARE ENJOYING FROM THE USE OF INFONOW.  YOUR INPUT IS
VERY IMPORTANT TO US AND WILL HELP ESTABLISH A STANDARD FOR MEASURING
BENEFITS.  AS A RESULT OF INFONOW, I HAVE REDUCED COSTS FOR THE FOLLOWING
(BE SPECIFIC, STATE DOLLAR AMOUNTS AND OVER WHAT PERIOD):

I.   RESPONDENT -
        NAME:                    TITLE:
        DATE:          CHH DIVISION:          DEPARTMENT:

II.  IMPROVED PRODUCTIVITY/PROFITS -              ANNUAL $




PF1 TOP      PF2 BOTTOM      PF3 ERASE LINE      PF4 ADD LINE      PF5 NULLS
PF6 NEW BLANK FORM   PF7 SEND TO INFORMATION SERVICES    PF8 CLEAR BENEFITS ONLY
PF9 CREATE AIMS FILE FOR PRINTING  PF10 PAGE DOWN  PF11 PAGE UP  PF12 END/SAVE
```

Benefits analysis screen (1 of 3)

```
IV. AVOIDED EXPENSE -                        ANNUAL $

     HEADCOUNT:

     EQUIPMENT:

     EQUIPMENT PURCHASED:

     TRAVEL:

     OTHER:

V. COMMENTS -




PF1 TOP      PF2 BOTTOM      PF3 ERASE LINE      PF4 ADD LINE      PF5 NULLS
PF6 NEW BLANK FORM   PF7 SEND TO INFORMATION SERVICES    PF8 CLEAR BENEFITS ONLY
PF9 CREATE AIMS FILE FOR PRINTING  PF10 PAGE DOWN  PF11 PAGE UP  PF12 END/SAVE
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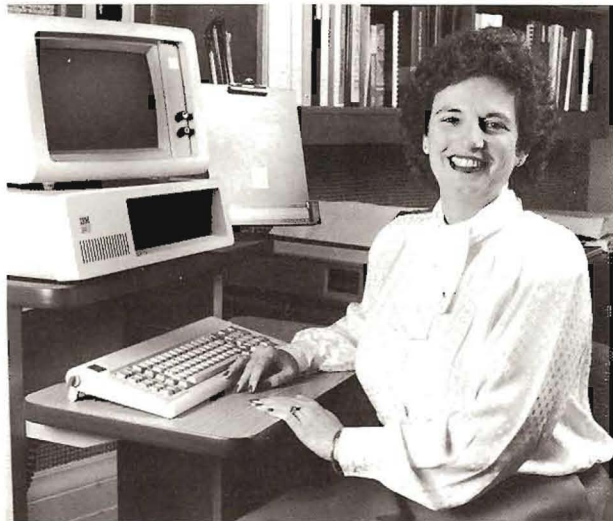
Benefits analysis screen (3 of 3) — screen 2 not shown

Carter Hawley Hale already had common production systems and databases in place for ten years when it began development of InfoNow. CHH saw end-user computing as a way of enabling people to utilize common systems data at their own workstations.

The company divides its InfoNow applications into two categories: (1) communications applications and (2) spreadsheet, QMF, and print applications.

Communications Applications

"Electronic messages and notes are usually briefer and more to the point than printed communication," says Serena S. Kokjer, vice president merchandise information (MIO) for Emporium Capwell. "We still use the telephone to exchange ideas but we often use InfoNow to arrange a mutually convenient time for such calls and to indicate the subject of the call so that we can gather information beforehand. We MIOs do a lot of groundwork in setting guidelines and procedures for the corporation. Before we had electronic mail, we were always sending packets of draft procedures, notes, and comments back and forth. Time is always of the essence, so we had to make copies of all the material and send these packets of information by air express, and that was expensive. Now I draft a procedure on my terminal, press a button, and it is on its way to the other MIOs."

"I also make heavy use of electronic mail" adds Marianne Bitterbaum, crystal buyer for The Broadway-Southern California. "It enables me to keep in close communication with other buyers and with our Market Services Division in New York City. The staff members at Market Services contact us frequently for information needed in developing private label merchandise and making centralized purchases that give us a competitive advantage. We still call them on the phone occasionally, but we generally contact them by electronic mail first and alert them that we will be calling at a particular time.

"Additionally, if I develop some information on a spreadsheet and want to send it to another buyer or InfoNow user in the company, I just transmit it electronically. It saves the time of reading numbers over the phone."

Lynne D. Curren, divisional vice president merchandise information (MIO) for The Broadway-Southern California, has tracked hard dollar savings achieved through InfoNow. She has been able to prove that InfoNow communications facilities have saved the store money in telephone bills and copier costs. She says, "Electronic communication has also fostered communication between the East and West Coasts, since the window of time for telephone communication between the two areas is so small."

"Electronic messages and notes are usually briefer and more to the point than printed communication," says Kokjer.

"The use of PROFS communication facilities has enabled us to reduce telephone bills and copier costs," says Curren.

Brian R. Schroeder, divisional vice president merchandise office (MIO) for The Broadway-Southwest says that because his division has stores in four states, improved communication was his primary objective with InfoNow. "Using the document preparation feature, we developed forms to transmit statistical information between stores."

Spreadsheet, QMF, and Print Applications

Open-to-Buy Calculations

One of the most important end-user computing applications for buyers is open-to-buy calculation. To arrive at a current open-to-buy position, each buyer uses the electronic spreadsheet function to maintain a spreadsheet showing dollars spent for each commodity, sales to date, markdowns taken or planned, and any returns made or contemplated. That is, they extract this information from a common system data base to format it in different ways. When they enter the information, the spreadsheet program projects stock positions as of the end of the period. It also compares these projections to stock plans and displays and prints the open-to-buy spreadsheet.

Says Bitterbaum, "It usually takes about two hours to do these calculations manually. Last night I used the new electronic spreadsheet to do them. I put in all the numbers, played all the what-if variations I wanted, and finished the job in 20 minutes. I buy for three departments. The spreadsheet program totaled up all the departments for me so I could see projections for my entire complex.

"When we finish our individual analyses, we send our spreadsheets to our divisional merchandise manager (DMM). She uses end-user computing to summarize them into a division-level open-to-buy, which she sends to her general merchandise manager, who in turn does a similar summary, and so on until we get a company-wide figure.

"At each level there is discussion and we get requests to make changes. That is where the end-user computing spreadsheet facilities particularly save time and eliminate arithmetic errors. If we are asked to change something, my DMM calls in the buyers and we sit in her office and play a number of what-if games on her terminal."

Gross Margin Analysis

Sandy Schindler is an instructor for merchants at the company's Center for Education in downtown Los Angeles. Formerly, she was a buyer for The Broadway-Southwest division. She believes the most important spreadsheet applications for buyers are those used for gross margin analysis.

"For example," she says, "buyers of related merchandise in a merchandising division sometimes decide that offering one commodity at a low price for a given period should result in increased sales for the total group. In that case, they agree to allocate markdown dollars to the buyer of that commodity for that time period. The electronic spreadsheet enables them to run what-if projections on gross margin within their departments, testing out many variations of the theme with a far greater probability of achieving results consistent with their objectives."

"One of the most important end-user-computing applications for buyers is OTB calculation," says Bitterbaum.

Vendor Analysis

John S. Simon is divisional vice president and store manager for The Broadway-Southern California's Topanga Plaza store. Formerly he was a buyer for the same division and, after that, an instructor for the buyer's group with the Center for Education. He says that one of the end-user computing applications most used by buyers at his division is vendor analysis. "This analysis has enabled buyers to show vendors exact sales figures on merchandise, losses sustained from markdowns, and gross margin on each product from purchase to final disposition. Projections of performance for new purchases, based on the performance of similar products in the past, also help our buyers negotiate better prices, markdown and return allowances or, in some cases, guaranteed gross margins on new merchandise."

Resource Allocation

One of the applications developed at the store manager level is a spreadsheet for analyzing gross margin per square foot. Results of this application help store managers allocate more space to the most profitable departments and commodities.

The InfoNow spreadsheet facilities are also used to compare actual sales by hour with store standards for hourly sales. This helps managers determine where staffing changes should be made. For example, if a salesperson is selling $200 per hour in a department with a standard of $100 per hour, that department is probably understaffed and may be losing business because of inadequate customer service.

"One of a store manager's key functions is to allocate resources, particularly space and people in such a way as to maximize return on investment," says Simon. "That is where the what-if capability of end-user computing vastly improves our chances to achieve profitability.

"We analyze sales, gross margin, and operating profit per square foot, per hour, and by department. We use the results to project the impact of various combinations of space and people. This kind of analysis quickly indicates those areas that are overspaced and/or overstaffed. It also shows us areas that represent a higher potential for profit from allocation of more space and more salespeople."

Simon estimates that using the end-user spreadsheet for storewide sales planning enables him to do in one hour what used to take 20 to 30 hours.

Sales Incentives

Enhancing customer satisfaction is a prime objective of Carter Hawley Hale. As part of this effort, the company is implementing sales incentives to improve service to its customers. Lynne Curren talks about the application of end-user computing in the stores to develop and maintain an incentive program for sales personnel. "Store managers develop sales goals for each salesperson by day and by week, then compare actual performance against these goals. Our common systems are already capturing performance information, but end-user computing is being used to develop the goals and make comparisons."

Brian Schroeder talks about the same challenge at The Broadway-Southwest. "We too are implementing individual incentives in place of group commissions. This is complicated because it means setting a goal for each salesperson. That's where the electronic spreadsheet function within InfoNow comes into play – we use it to help calculate these goals."

"End-user computing helps me allocate resources more effectively," says Simon.

"In the spring of 1985, we developed details of how we would actually implement end-user computing," Menar recalls. "The IBM Management of End-User Computing series of publications was very helpful in planning and implementing the system, particularly in regard to structuring and accessing data and cutting across the traditional boundaries between development and end-user computing. Additionally, IBM publications and marketing support helped us educate prospective users on how they could use the system."

Paul Lemerise was charged with the responsibility for end-user computing at Carter Hawley Hale. His first step was to conduct a survey within the corporation to determine user needs.
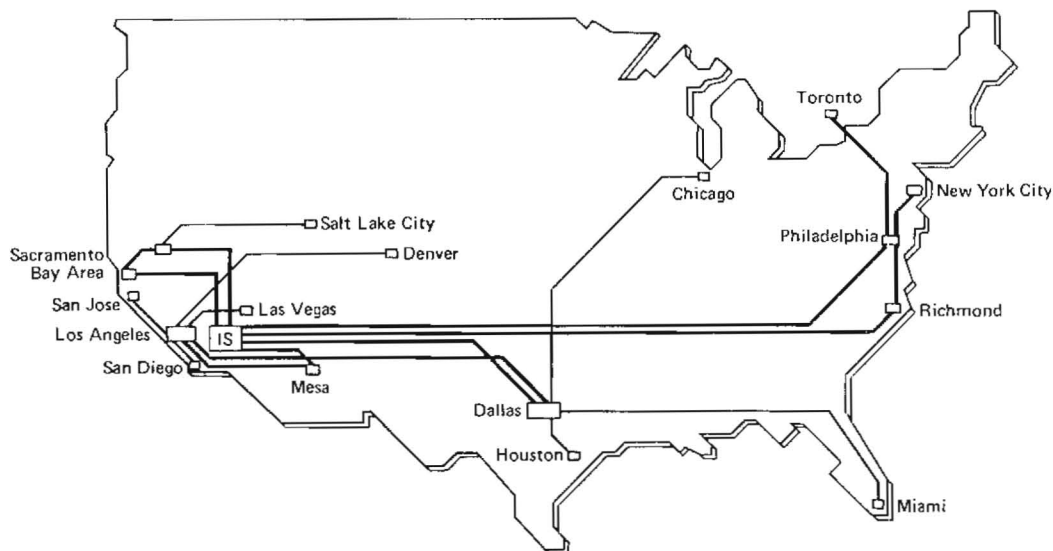
The studies revealed that buyers could use end-user technology in a number of ways. Management reviewed buyers' and others' needs and established the following goals: (1) improve communication across all divisions through the use of electronic mail, (2) enhance the effectiveness of our decision makers by providing them with electronic spreadsheet and other decision support tools, and (3) provide users with an easy way to access existing information.

Hardware

Carter Hawley Hale Information Services was strategically positioned to support the new tools and technologies end-user computing introduced. The division had already placed 4,000 terminals, connected by the company's data communications network, to support common production systems. By the end of 1984, the teamwork between Information Services and the company's divisions resulted in 1,700 individuals — mostly buyers — being assigned InfoNow IDs. These decision makers were able to use equipment already in place; therefore the company installed end-user computing with a modest investment in additional hardware.

"We began by setting up a separate environment for our InfoNow users," says Lemerise. "We dedicated a processor — an IBM 3083 — to serve as host, operating in a VM environment. Most of our prospective users already had IBM 3278 Display Stations, and some had IBM Personal Computers with the 3270 Emulation feature."

At CHH each user is allocated 2 megabytes of direct access storage. This factor is very important to company merchandisers because of the extremely large spreadsheets they develop, and it is over and above the common library storage.
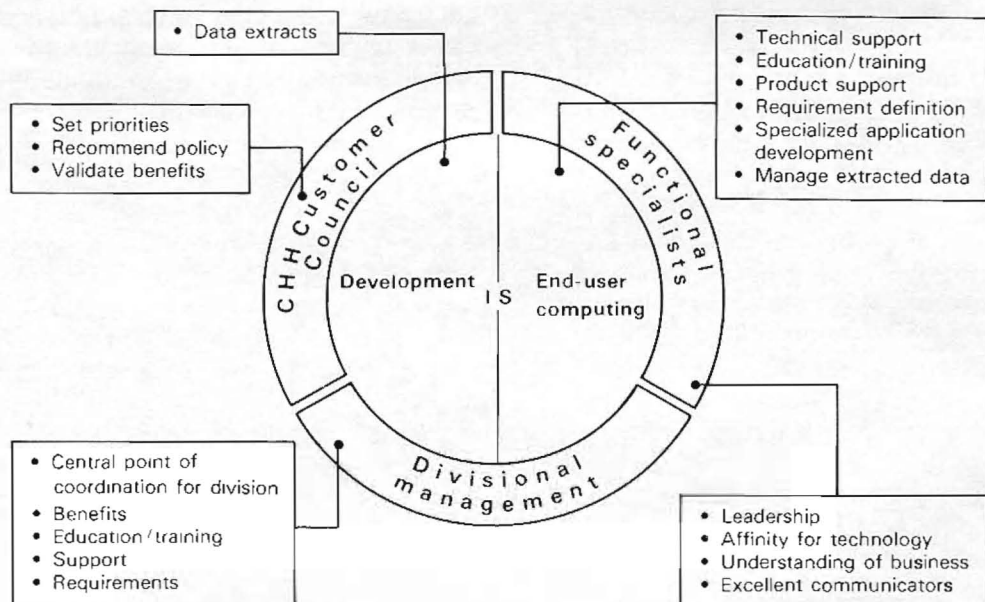
As in all end-user networks, only one copy of each software package resides in permanent storage on the host system, available for use by everyone on the network. In addition to the basic software, every user-developed application determined to be usable by others is stored in libraries maintained on the host system.

The company has found that a by-product of this approach is a widespread sharing of spreadsheet application ideas and a curb on excessive reinventing of the wheel. Says Lemerise, "A buyer browsing the common library might see a gross margin analysis and say, 'I need something like that. Let me go in and see how it works.' " Documentation that explains what it is all about, written by the user who developed it, and instructions on how to use it are available. Buyers can also go to their MIO department if they need help. If they wish to modify a spreadsheet, they may keep the modified version in their allocated storage, or the new version may be accepted into the common library.

Support Organization

Lemerise and his staff put together a set of charts for corporate management to show how the staff visualized an end-user computing organization and to indicate how the various elements should work together to ensure the success of the undertaking. A key chart identified three groups to play a vital role in the process: a Customer Council to set priorities, recommend policy, and validate benefits; divisional management to provide central coordination for each division, review benefits, ensure training, provide top-down support, and review requirements; and functional specialists to serve as division leaders who understand technology, the business, and the dynamics of communication within their division.

At CHH, functional specialists are exceptional users who understand and have an affinity for technology. They volunteer to help other users in their areas maximize the tools they have been given. For example, buyers help other buyers develop unique merchandising applications.

- Data extracts

- Set priorities
- Recommend policy
- Validate benefits

- Technical support
- Education/training
- Product support
- Requirement definition
- Specialized application development
- Manage extracted data

CHH Customer Council

Functional specialists

Development | I S | End-user computing

Divisional management

- Central point of coordination for division
- Benefits
- Education/training
- Support
- Requirements

- Leadership
- Affinity for technology
- Understanding of business
- Excellent communicators

In many cases the Merchandise Information Office staffs at each division also perform the role of functional specialists. Serena Kokjer says of her department's role at Emporium Capwell, "The entire Merchandise Information Office provides leadership for the functional specialist. There are MIOs for each store division served by Information Services (IS). About half of us report to the president or the chairman of our division. We each have different responsibilities — strategic planning, research, and so forth — but we all serve as an interface between our respective divisions and IS. We define system requirements for IS and train our division personnel in the use of IS services. We were doing this before end-user computing was installed, thus our divisions were already positioned for the role of functional specialist for end-user computing."

In addition to their functional specialist responsibilities, Kokjer, Curren, and Schroeder were chosen to form the nucleus of the Customer Council. "As a group," Schroeder says, "we recognized the need for training our users and helping them integrate the tools into their jobs to take advantage of the opportunities for increased productivity."

Pilot Operation

Before implementing end-user computing at CHH, the end-user computing staff analyzed the company's knowledge worker base and found that it consisted of more than 7,500 individuals in general management, store management, control and accounting, credit management, operations, personnel, sales support, and merchandising. The analysis revealed that merchandising and store management account for over half of the company's knowledge worker population. The merchandising category includes all of the company's buyers and merchandise managers, and according to Lemerise, the analysis showed that their need for ready access to the information in the centralized data base was probably greater than that of any other knowledge worker group.

"Buyers are a critical asset for every retail organization," Ellis says. "They decide what products to buy, what quantities, sizes, colors, and so forth. They also manage inventory, deciding what to advertise and when to take

markdowns, arranging for returns to vendors, etc. That is why we selected them for our pilot implementation. It turned out that this gave us a high return on our investment as well as a good insight into the potential for other users."

Education

The enthusiastic acceptance of the system by the pilot group of buyers and merchandise managers produced a payout of end-user computing installation costs in six months, but not without a multi-faceted approach to systems education.

Executive Conferences
The education process began with four conferences, each lasting two and one-half days. The first was held in October 1984, and the last was completed in February 1985. The audience was the company's top 100 executives and the objective was to heighten their awareness of CHH's systems strategy. These conferences set the stage for the InfoNow system. "For the first time in the company's history," Menar recalls, "all of our general merchandise managers and executives met to discuss exclusively the information area and its impact on the business. We left with a good focus on user needs and and an increased understanding of the importance of ongoing systems education conducted through a variety of media and circumstances."

Education Center
"Phil Hawley's belief in the importance of education helped to further the educational goals of Information Services," Menar continues. "He had long recognized that a corporate center for education would be an excellent vehicle to bring people together from each division for the purpose of education in management development."

Adds Ellis, "With the quantum leaps being made in systems development, Hawley felt that such a facility would be of even greater value to the company by enabling us to get extra mileage out of our systems investment."

CHH opened its Center for Education in March 1985 with classes that taught buyers how to manage end-user computing to improve their

productivity. During 1986, store managers are convening for similar systems and management development education. "We started with three of the top store managers," says Ellis, "showing them what tools are available and having them develop ways to use these tools in managing their stores. Now we are bringing in store managers and assistant store managers from each of our stores, along with our general and departmental merchandising managers, and having them exchange ideas and learn from each other, just as our buyers did last year."

Computer Based Training

A second means of education utilized by CHH for systems training is computer-based training (CBT). The InfoNow Education Effectiveness group at Information Services develops documentation and CBT materials for use by the divisions to train new employees on the common systems and the InfoNow system.

Divisional Training

Finally, much of the systems education takes place at the divisions through the office of the MIO. "At The Broadway-Southern California," says Lynne Curren, "we originally organized one-day workshops to teach our buyers to use the end-user software in our InfoNow system.

"We said, in effect, 'Come see how one of your peers has used the system and what the results have been.' We always had at least 15 buyers in attendance. In later sessions, the division merchandise managers began dropping by. They started developing applications and making presentations. Then the general merchandise managers came, and so it went."

In January of this year, The Broadway-Southern California put its 42 store managers through division training for education on InfoNow and the Integrated Merchandise Information System (IMIS). Adds Curren, "We had been working with our store managers for a few months on applications. These people were less experienced with computer systems than our buying group, which had worked with our common systems before InfoNow was installed, so the enthusiasm displayed by our merchants stimulated a great deal of curiosity and interest."

Brian Schroeder describes this training at his division, The Broadway-Southwest: "One key to success in end-user computing is getting people to believe in it, giving them live, workable examples, exposing them to success stories, and ultimately convincing them that they should use it themselves. We do our InfoNow training in three stages. In stage 1 we teach buyers to use the PROFS functions and to use a simple spreadsheet working with the spreadsheet function.

"In stage 2 we teach them to develop their own spreadsheets so they can be creative in adapting the system to their individual needs. We also teach them to use InfoNow enhancements released by the end-user computing department in Anaheim. In addition, we introduce the buyers to the glossary and library of applications developed at our division and at other divisions.

"In stage 3 we teach buyers to use the Query Management Facility (QMF) within InfoNow to retrieve data from the end-user files and enter it directly into a spreadsheet."

Data Access

Information in the end-user files is updated periodically. On-order information is updated nightly, unit control data every other day, and financial data weekly. Tom Ell, divisional vice president, information management, talks about the prototype for the end-user files. "We wanted to be sure the buyers would have all the detail data they might need. So we did not summarize it, but gave them all the discrete elements necessary to analyze and recap the information anyway they wished — by vendor, commodity, etc.
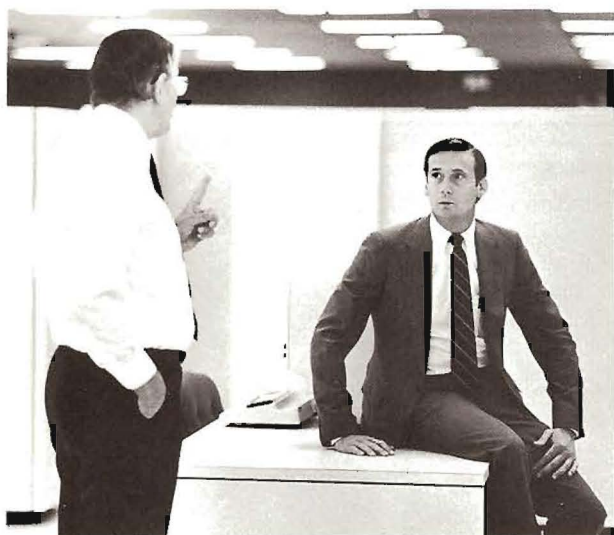
"The module of the IBM Management of End User Computer Series, *Access to Data*, gave us the idea. We didn't follow the recommendation exactly, but adapted the basic premises to our specific situation. Our prototype proved successful, so where practical we will follow the same pattern for adding more data from the common systems to the end-user files, which we will continue to structure in a relational format.

"The users tell us what data they need and the Center for Education channels feedback that guides us in our planning. Also, the MIOs provide us with direction regarding requirements for the buyers and merchandise managers. These sources, coupled with a little investigative work here at Information Services, give us a good grasp of priorities."

Application Libraries

While Carter Hawley Hale's divisions vary in many respects, the buyers all perform essentially the same functions, which makes common application libraries valuable. To date, company buyers have developed over 100 different spreadsheet applications that are shared through a common library maintained on the host system.

Initially, Information Services controlled what went into the common library, but after the system was up and running the MIOs volunteered to assume the responsibility. "We were happy to have them do it," says Ell, "as they are better equipped than we to evaluate the relative merits of the applications under their jurisdiction. We showed them what they needed in the way of documentation and now they handle it for us."

The first applications entered in the common library were spreadsheet applications. Users can scroll through an index and call up any application along with instructions for its use. This sharing of user-developed applications is one of the factors that contributed to the fast payout achieved at CHH.

"After we had been on InfoNow for about six months, we had a major modification to one of our gross margin applications, making it easier to use. We gave it to a group of buyers to test, and they found it saved them considerable time. The next day 28 buyers were in my office asking for the new version so they could use it before going to market," says Schroeder.

Incentive Programs

When end-user training was launched, a contest was announced to encourage buyers to create applications and share them with other buyers throughout the corporation. The divisions slated to go on the InfoNow System in 1985 were asked to submit any applications they felt had significant merit. The contest created considerable excitement, and about ten buyers were awarded a personal computer in recognition of the applications they submitted for calculating open-to-buy, markdown recovery, and plan assortments.

Individual divisions also set up programs to give recognition to those who share application ideas. In 1985, The Broadway-Southern California held bimonthly luncheons hosted by its Chairman, H. Michael Hecht, to honor buyers who submitted winning applications. Lynne Curren describes the competition: "Entrants brought their application programs — mostly spreadsheets — to the MIO office. We helped them put documentation together and write an outline for presentation at a bimonthly buyers forum and workshop."

Paying for InfoNow

The divisions are charged a flat fee for each user. That fee covers use of computer time, storage of data on disks, and support. "By charging users a flat fee," says Conant, "we encourage increased usage. We want to remove any possible impediment to use of the system."

Carter Hawley Hale Stores, Inc., is a major retailer with nearly 300 department and specialty stores across the United States. Sales for the fiscal year ended February 1, 1986, were nearly $4 billion.

The company's department stores are The Broadway-Southern California, The Broadway-Southwest, Emporium Capwell, Thalhimers, John Wanamaker, and Weinstock's. Its specialty stores are Bergdorf Goodman, Contempo Casuals, and Neiman-Marcus. The company is well represented in many of the country's most important and dynamic cities.

Carter Hawley Hale customers, principally in the middle and upper income segments, find wide selections of fashionable merchandise priced competitively in all of the company's stores. These merchandise offerings are supported by a strong commitment to provide superior customer service.