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# INNOVATIVE APPLICATIONS OF COMPUTER TECHNOLOGY

## PERSONNEL AND CONSUMER REACTION TO SCANNING

by

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**In** order to fully appreciate the **impact** of installing scanning on the **people** involved at Publix it is necessary to examine the scope of the commitment.

As early as 1972, Publix was **looking** ahead at the possibility of **installing** scanning. On May 22, 1973, Publix installed its first electronic Point of Sale System. The decision **was** made, at that time, to install the N.C.R. 255 Electronic System that would be upgradable to scanning. **Between** 1973 and 1977, Publix installed electronic front ends in a total of 215 stores.

In the meantime, the first fully operational scanning system was installed in a Marsh's Supermarket in Troy, Ohio, by the N.C.R. Corporation. Publix was carefully monitoring the progress of scanning. It was aware of the successes and the failures that were being recorded by other members of the retail food industry.

At the FMI Convention (Dallas 1977) Publix officials were impressed with the Scanning Update Programs. Mr. Jenkins was so impressed with the possibilities presented by scanning that he listed it as the fourth major innovation in the retail food business in his book "Fifty Years of Pleasure." In July 1977, Publix made the

commitment to install scanning. Publix chose a new 57,000 square foot Food World being built in South Lakeland to be its first scanning store. Since this would be the first scanning installation for Publix, it asked IBM Corporation for help.

Publix's main frame computer at the Data Processing Center is IBM. The IBM people knew our operation, our people, and our needs. Of more importance, they knew scanning and had the confidence of Publix's Data Processing Personnel.

The entire late summer of 1977 was spent in preparing to install scanning. The **manager** for the new store was chosen in August. This is approximately two months before normal managerial selection is done. The manager was included in the installation from day one. The biggest problem was the actual building of a file from scratch. Many man hours were spent in stores writing down UPCs and matching them to the proper items in the order book.

When everything was finished, the store--Food World #0715--was opened on November 15, 1977, with scanning. This first unit was an IBM system. It had taken 144 days from the time the decision was made to prepare the store to open. The opening was a tremendous success. This was the first scanning

installation in the state of Florida and customer acceptance was fantastic.

With this success behind us, Publix management went to work on the next installation. Traditionally, the front end equipment for a new Publix store had been N.C.R. terminals. Publix decided to make the next installation an N.C.R. one. Publix purchased a communications program from AIMS, Inc. that would allow the host IBM main frame to communicate with the N.C.R. store processor. Publix was building another new Food World in Tampa, so the decision was made to have this be the first N.C.R. installation. This store was opened in March 1978, and was an immediate success. The week of this opening, Publix made the decision to convert an existing store to scanning. For this purpose, they selected a Food World in Melbourne. Several factors contributed to this decision:

1. The only price file still available was the Food World file. So time would not have to be spent building a new file.
2. The physical plant at Melbourne was one of the worst the company operated. The store had been purchased seven years before from a competitor and the layout was different from other Food World's and Publix's.
3. This store was located 120 miles from the warehouse. So it would be the first remote installation. This would test host (corporate and vendor N.C.R) support.

To install scanning in this store, required that we changed check-out stands and build a room for the processors. This was accomplished and everything was ready to go in early May. This being an existing store meant we had price problems with products that had been built into the

store over the years. We sent a schedule of actions for the store to do to insure price on product and file matched. Before the store opened, we selected one of each UPC and scanned it to insure the price was accurate. Once all the necessary corrections were made, the scanners were turned on and Publix had its third scanning installation by mid May 1978. The next challenge was to try to open more than one store at a time. The decision was made to install scanning in the two stores in Tallahassee plus open a new store in Tallahassee at the same time in August 1978. To accomplish this, would mean a Publix price file would have to be built.

Sixteen days before the new stores was to open we started work in Tallahassee. The first week we got the file itself completed and the largest store verify and correct the other existing store, and verify and train the personnel in the new store. We opened all three stores in Tallahassee with scanning the same day in August 1978 with N.C.R. equipment.

There was a degree of difficulty with maintaining two separate systems so after the Tallahassee installation, it was decided to remove the IBM system and replace it with N.C.R. system. Publix had found the IBM system an excellent tool, but selected N.C.R. as the vendor for several reasons. Among these:

1. Store managers and personnel were already familiar with N.C.R. 255 terminals and processors. Training in how to use these pieces of equipment was not necessary.
2. Publix already had 15 million dollars invested in N.C.R. electronic terminals and processors that were not adaptable to IBM systems.

3. The N.C.R. system fit more closely with the Publix philosophy of the store manager having a high degree of autonomy. The IBM system was host controlled.

To get stores ready for scanning, we prepared a schedule of proposed installations to do the Jacksonville Division first, plus all new stores in the Lakeland Division. When we sent this schedule to the stores, we used the following format:

1. Have the room built, checkstands installed, additional wiring completed and all physical arrangements made four weeks previous to starting scanning.
2. Have all equipment from the vendors, terminals, processors, scales, printer, etc., installed and operational two weeks before starting to scan. This gave the vendors (N.C.R., Toledo, etc.) two weeks to install and test each system. Load the price file from Data Processing two weeks before converting to scanning.
3. Have all personnel trained one week before starting to scan.
4. Have the store verified and all corrections made the week previous to starting to scan. During this period, we could continue to train cashiers plus store management had hands on time in using the equipment.
5. Open with scanning on the date scheduled with plenty of help to answer questions, and handle any problems.

Publix does its training in-house. We have a Training Department that handles most of the training. Originally, the decision was made to train seven people in all stores. The Training Department set up the meetings and conduct the training sessions. The

people trained in the operation of the processors and printers were the store manager, assistant store manager and third person. Additionally, in most stores, one other person delegated to handle the system was trained. They were provided with a detailed training manual.

Publix already had an excellent training program for cashiers with each store having its own cashier trainer. This person was trained in the mechanics of scanning and was provided with tools to train all the checkers in the store they were assigned to. These tools included a filmstrip, a handbook, a workbook, and test orders. This cashier trainer and the store manager were responsible for the cashier training in the stores to be converted to scanning.

The market manager, assistant market manager, and produce manager received training on the scales and UPC label equipment they were to use. This training was done by Toledo Scale Representatives and was supervised by the Training Department. In addition to this, they were given an elementary understanding of the system and how it operates.

To accomplish this training, Publix made several investments. First, we installed a training room at the Lakeland and Miami warehouses. In both these rooms, we had all the equipment that was in a store. This room was "on-line" communicating to Data Processing and was treated as if it were a store.

This worked fine for stores that the travel time was not too great. However, it presented a real problem to isolated installations. Publix bought a van and converted it to scanning. It has everything in it that a store does and could be driven to any location and set up for training. This van has also

been used as an educational tool at fairs and schools. Today it stands ready to be used as a portable training room for any training we need done. The system was removed and used in a new store this past spring.

These procedures resulted in the equipment necessary to convert to scanning. Also, the people that needed to be trained to support a scanning system were trained. The only problem left was getting the stores' merchandising program ready for scanning. To accomplish this, we sent some suggestions to each store to be converted at the same time they received their schedule for conversion. These suggestions were:

Approximately three weeks before store verification you should:

1. Bring all price changes up to date. If your price changes are up to date, keep them there.
2. Maintain a complete set of order books with all prices brought up to date.
3. Verify the shelf tags from these books. If the tag does not match, then find out which is in error. Use the latest possible information in this verification process. If the tag is in error, change it.
4. Rotate the merchandise. This action will help to solve most problems that will arise from a store having been open previous to introducing scanning.
5. Meet with the personnel that does price marking. Show them the UPC symbols and where they are usually located. Stress the importance of not marking, labeling, or in any way obscuring this symbol.

Two weeks prior to store verification they should:

1. Verify each vendor's prices **from** an up to date authorized list. If they did not have a complete up to date list, they were to contact the office.

2. Meet with each vendor that calls on the store. Stress to them the importance of an UPC symbol and that it is not to be defaced or obscured. Also stress to them the importance of correct pricing and management's need to know of any variation from the regular authorized price.

3. Remove all discontinued merchandise from the shelf. Cut the price on it and clean it up. In frozen food cases, cut the price, sign the item and clean it up. This will solve some "not in file" item problems. If one regularly carries an item on a special order, this action does not apply.

One week prior from store verification:

Any pre-marked merchandise that has had an increase in the regular price higher than the pre-marked price must have the UPC symbol **destroyed**. The best and neatest way to accomplish this is with a single vertical stroke across the symbol with a black marker. This was later changed to remarking with a Vidac Gun.

With these training programs and policies established, we continued to work. When we stopped for the Holiday Season in 1978, we had thirteen stores live scanning. They were all N.C.R. installations.

The year 1979 dawned with many challenges. In April of 1979, we finished the Jacksonville Division. At this time, we had 35 stores scanning. Thirty of these stores were in the Jacksonville Division and by finishing it we were able to concentrate in the division on maximizing benefits of the equipment. It was decided that the Lakeland Division would be installed

next. We started in Lakeland installing the stores in one area at a time. In midsummer 1979, we ran into a problem with scanner and processor delivery. For approximately two months there were no installations as N.C.R. changed its equipment. The end of 1979 saw Publix with 73 installations and now installing 8255 Processors and F-Model Scanners.

The Lakeland schedule was accelerated in 1980. By May, there were 26 stores left to do in the Lakeland Division, but it was felt that we needed to do the Miami Division during the summer, which is the off-season for the heavy tourist area. With this in mind, the first store was scheduled in May for the Miami Division. This required a new file. A Miami file was built with a file that Publix purchased from SAMI. Equipment was installed, the store was verified, the personnel was trained, and the store opened with scanning before the end of May.

The schedule for Miami was accelerated, and by October 1980, we had 67 stores in Miami installed. At this time, we started installing equipment in Lakeland again. This was climaxed by opening our 247 scanning store in Sarasota on November 13th. At this point, the company was 100 percent scanning, and we could move on to try and maximize benefits from the installations.

Today, one year later, we have 254 stores all scanning with our 255th scheduled Thursday, November 19th.

One can see that the number of people involved in an operation of this magnitude. For everyone, there were different reactions. Basically, there are four different levels of reactions to scanning.

The first reaction we will discuss will be the top management reaction to scanning. Initial reaction was that

scanning was the answer to all the problems of the Retail Food Industry. The original idea was that one could plug it in, and all the problems would be answered. Now the realization has arrived that while scanning is a tremendous tool that it asks as many questions as it can answer.

Top management now realizes that their commitment must be as strong as ever if the system is to work. The controls that are necessary to maximize the benefits from scanning are now being instituted. Top management now realizes that everything they foresaw as scanning benefits are available, but that it does not always come easy.

The second level of reaction to the installation of scanning was the store management. As one can imagine, if one were to install any system into operation run by 250 different individuals, one will have 250 different reactions. These reactions can be grouped into four main categories.

The first category and thankfully the smallest group of managers are those that resist the system. The unfortunate part of this group is while they are small they are normally vocal. They will try everything in their power to prove that the system does not work. This group did not want scanning to begin with. They felt that the controls necessary to support the system detracted from their authority as managers. The worst part about this group is that as a rule they did not learn enough about the system to support it. As a result, many times they do things that cause problems with the system, and then criticize the system for not working.

The second reaction, and lucky for Publix the next smallest category, were the ones who chose to totally ignore the system. When installing the system, I discovered that we have several managers that had never learned to use

even a calculator. This group has a fear of electronics. They have their minds set that they cannot understand or use anything this modern. The surprising factor is that these same individuals are successful managers of modern supermarkets, and yet, do not have enough confidence in their ability to even attempt to learn a relatively simple information system.

Publix recognized the existence of these managers; however, and has made sure that these operations have assistant managers that can operate the system. Most of these managers themselves recognize this trait of theirs, and in most cases, have assigned someone to do the activities necessary to maintain the system.

The largest category of managers we have are those that accept the system as a new management tool. They took the training well, and use the system as it is designed. These managers make sure that everyone in their management team is familiar, and comfortable with the system. They are pleased with each new advance in the system.

The last category of managers is smaller than the third group of managers, but is larger than the other two. This group considers the system a real challenge and attempts to use it for everything. It is a real joy to see this group and to work with them. Some of these managers were starting to get stale and scanning had been a lifesaver for them. The biggest drawback with this group is that when something goes wrong with their system one cannot be sure of what they may have done that could have caused the problem.

The next group of people that scanning has had the most impact on is the cashiers. In the earliest stages of the installation, many cashiers

resented the scanners. They felt that the company was trying to replace them with a machine. As they have gotten used to the equipment though, this feeling has changed. They now realize that the scanner just helps to make their job easier. Indeed, they feel that it allows them to spend more time with the customer. Now the cashier feels upset if the scanner does not work. We recently had a store that had disk problems. For approximately 90 minutes, the cashiers were unable to scan. The cashiers were begging to have their scanners back. They also like to look at the productivity figures available with scanning. Everyone likes to know when they are doing a good job and how they rate in comparison to the other employees.

The last group of people that we need to examine the effect of scanning on is the Publix Customer. One can imagine that any group that is as large and as diverse as this has had some unusual reactions.

At the store in Melbourne, we had a customer wanting to take the scanner apart to see if he had produced the laser. We have also had several customers stop shopping because of religious reasons.

Some people felt that the UPC Code represented the end of the Earth as predicted in the Book of Revelations. This has not been an organized protest, but in the Brooksville area we have had pamphlets distributed by one minister saying that the UPC is the sign of the Anti-Christ and the Armageddon is at hand.

The largest impact upon the customer has been very positive. Most customers express liking for the system. They trust the system, and they are really impressed with the receipt. The single largest negative reaction of our customers was to the attempt to remove

prices. We had more negative comments on this part of the program than on any other single issue Publix had ever tried. We discovered several things that we, as a company, were doing wrong. We corrected these deficiencies.

We did not do an adequate job, and it looked as if the Florida State Legislature might pass a law requiring

item pricing. Mr. Jenkins made the decision to return to pricing. At some time in the future, we will look at price removal again, but when we do we will be prepared to do it right next time.

This is a brief summary of the Publix installation of scanning, and the reaction to it.