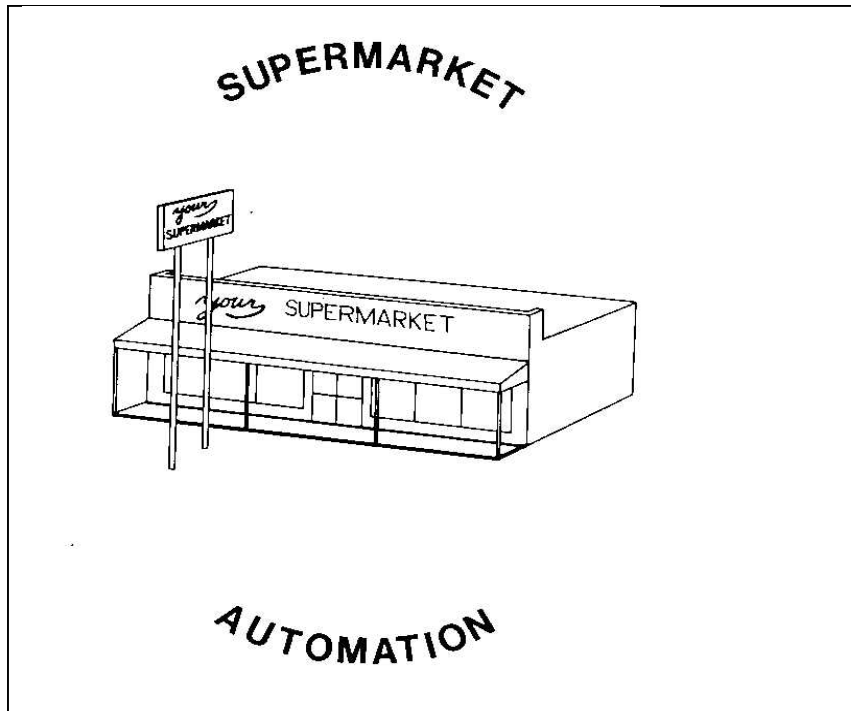


Chart 1

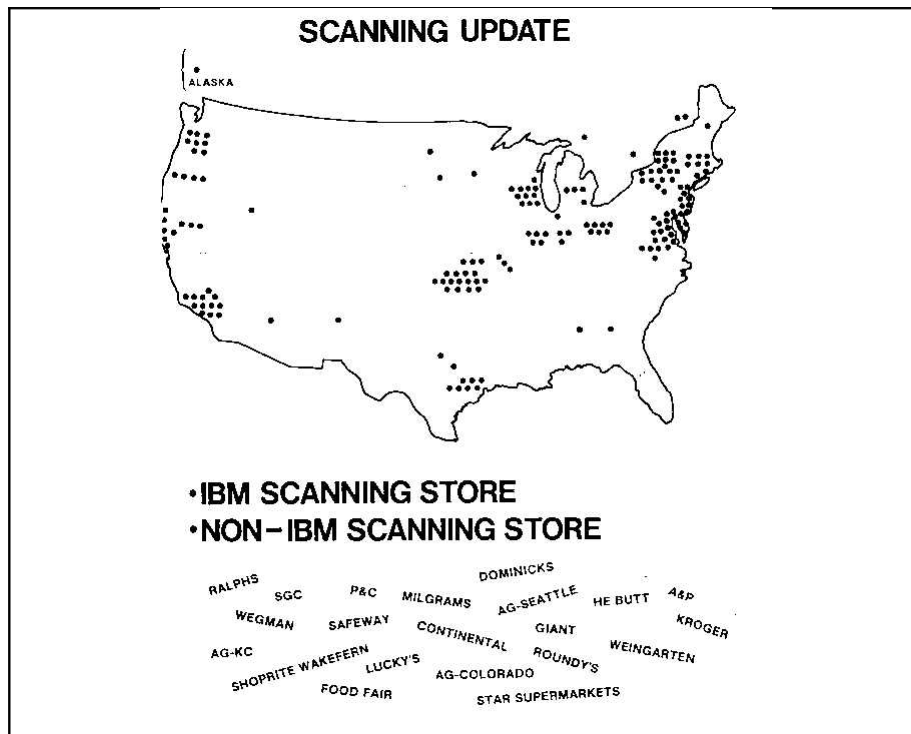


This is the Introduction title slide.

Presenter's comments:

This will be a review of the status of U.P.C. scanning in supermarkets with reference to the benefits being achieved. The data presented is a result of a survey of supermarkets of a variety of size and types that are using IBM equipment in 1977 from across the United States and Canada. No store was achieving all of the benefits included in this presentation, but every benefit is being achieved in some store.

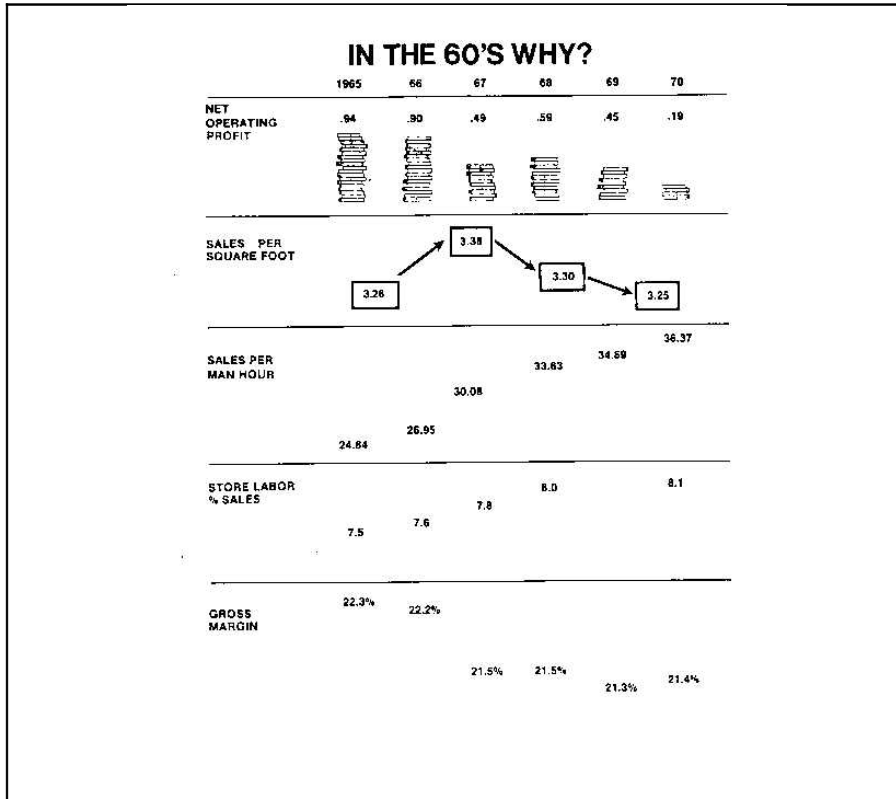
Chart 2



Presenter's comments:

Some of the names are listed here of stores currently scanning. IBM has surveyed its customers and summarized what we discovered. There are not many scanning. The chart above identifies the location of Grocery stores that had U.P.C. scanners in checkouts by the summer of 1977. FMI published a monthly listing that included every known installation. Vendors reported when a scanning store went live with U.P.C. scanning. The store's name and city was added to the list. Each dot on the image above identifies a store that had scanning checkouts in the summer of 1977. Not really very many stores for being three years since that first U.P.C. was scanned. Of the stores above 122 used IBM equipment.

Chart 3



Presenter's comments:

Current Grocery Industry Trends

During the 1960's Supermarkets experienced:

- Declining net operating profits

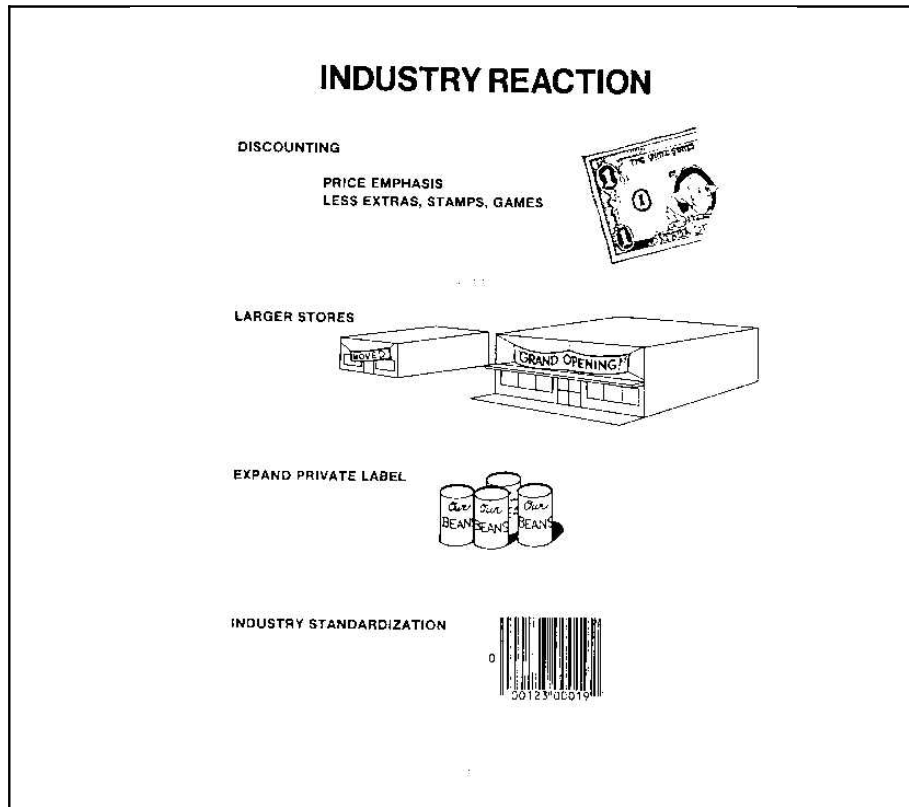
- Erosion of an initial increase in sales per square foot

- Although there were some increases in sales per man hour,

- Increasing wages actually resulted in a higher labor cost as a percentage of sales

The net result was a decline in Gross Margin for the Industry

Chart 4



Presenter's comments:

Industry Response

The industry attempted to combat these negative trends by:

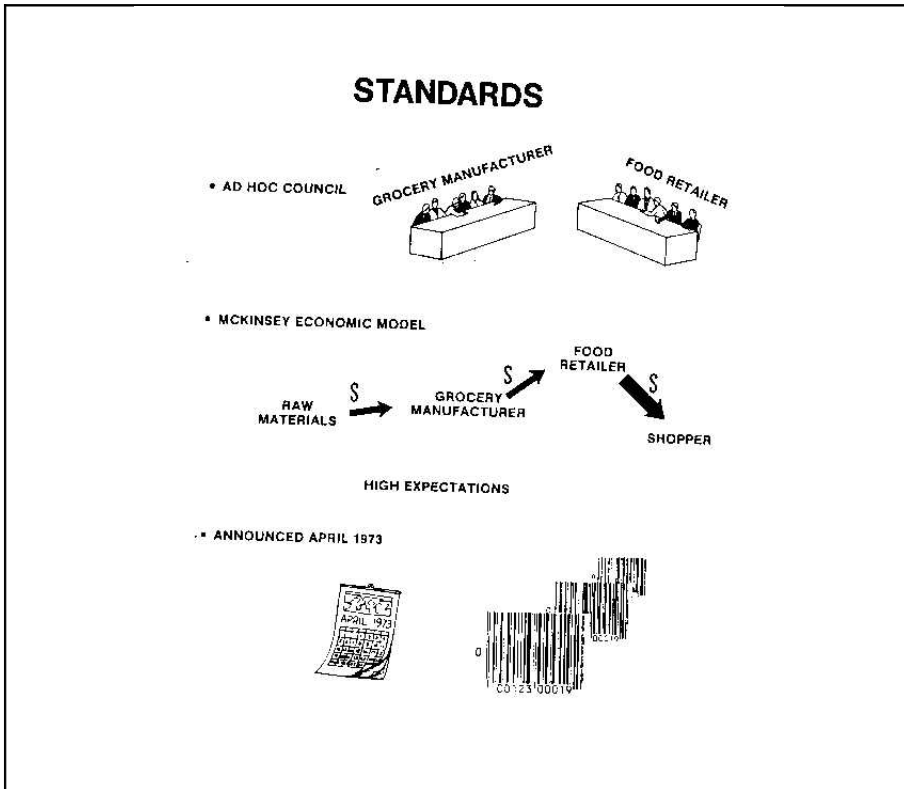
Discounting and removing previous games, gift trading stamps, and other customer service add-ons to create a "price" leading image.

Closing smaller stores and opening larger stores that supported more sales volume.

Introducing Private label product in most grocery categories that provided a larger manufacturing margin while priced below comparable national brands

and Standardization, finding a way to reduce distribution costs by standardizing the product-brand-size identification.

Chart 5



Presenter's comments::

Steps to Standardization

Standardization resulted when the industry

Formed an "Ad Hoc" Committee of 5 Grocery Manufacturers and 5 Grocery Retailers

Ad Hoc committee contracts with McKinsey & Company to form Study group. Prospective equipment suppliers participate in detailed cost analysis of entire distribution chain from farm to grocery manufacturer, to retailer to customer.

Result of study shows that standardization would raise the cost to manufacturers, but that would be more than offset by savings in the retail areas of the distribution chain resulting in a lower cost to the final consumer. Benefit expectations were high.

Prospective equipment suppliers make several proposals for specific symbol standards which are used by the symbol selection subcommittee to create a standard of their own that was announced in April of 1973.

Chart 6

HIGH EXPECTATIONS

\$60,000/WEEK SALES	ANNUAL <u>BENEFIT</u>	% <u>SALES</u>
FE PRODUCTIVITY	27600	.885
LABOR SCHEDULE	9360	.3
UNDERRING	7200	.231
PRODUCE SCALES	3120	.10
STORE ACCOUNTING	2608	.09
ROUTINE ORDERING	5280	.169
PRICE MARK/REMARK	9672	.31
REGISTER REPLACEMENT	2964	.095
ORDERING TERMINAL	660	.021
CHECKER TRAINING	780	.025
CHECK AUTHORIZATION	2600	.083
 TOTAL	 75 680	 2.426% SALES

Presenter's comments:

High Original Benefit Expectations

We started with high expectations

Front End Checkout Labor Reduction – the largest benefit

Improved Store Labor Scheduling

Less cashier under ring

More accurate produce scale weighing

More automated Store Accounting

Automated routine ordering

No Price Marking/Remarking for changes

No purchasing mechanical registers

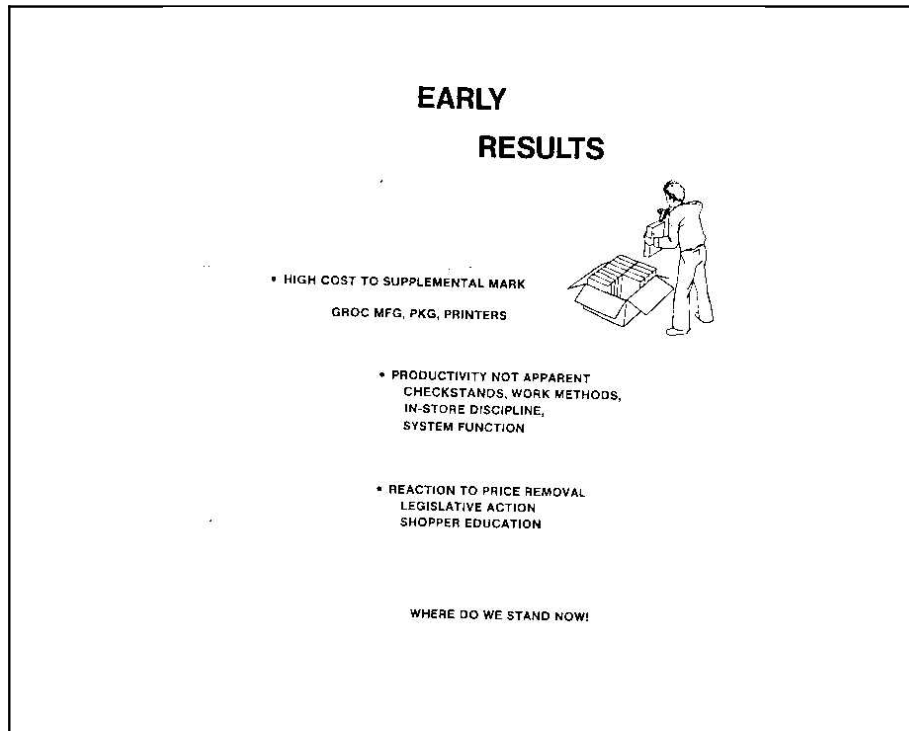
No Ordering Terminal

Simpler Checker Training

in-lane Check Authorization and more accurate

The total pro-forma benefit amount was projected to exceed 1.5% of sales. This is exceptional when the fact that the before tax profit the previous year was less than that at about 1.3% of sales. But, over half the benefit was derived from a projected reduction in check out labor, which we know didn't occur to anywhere near that projection.

Chart 7



Presenter's comments:

Early Results

Getting benefit results projected in the initial scanning installations was very difficult. First, there were very few items that had the symbol included in their brand packaging, forcing the scanning stores to apply expensive supplemental symbol labels to most packages or to key codes or prices. The industry had to rethink its checkstand design, and it took several iterations before productive designs emerged, Store management was unprepared to instill necessary discipline in scanning techniques, and elements in the scanning checkout equipment did not operate at the speed required for the task.

Price removal benefits became questionable as retail clerks encouraged consumers to fight price removal and some legislatures proposed laws mandating continued item pricing in grocery stores. A lot of shopper education was required.

But that was 3 years ago, where do things stand now?

Chart 8

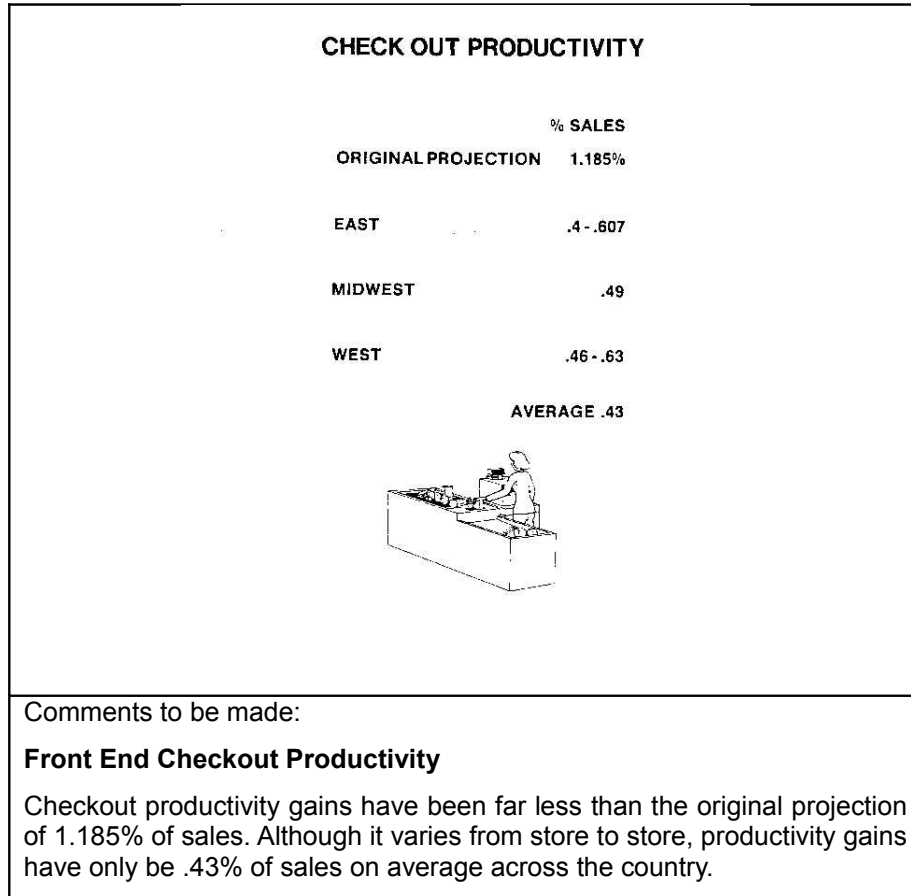


Chart 9

CHECK OUT PRODUCTIVITY

- SCAN & BAG
 - MORE PRODUCTIVE METHODS

- KEY ELECTRONIC
 - 5-10% INCREASE IN \$/HR.

- LABOR SCHEDULE
 - GREATER IMPACT THAN ORIGINAL ESTIMATE
 - ALLOWS ACHIEVEMENT OF PRODUCTIVITY BENEFIT

Presenter's comments:

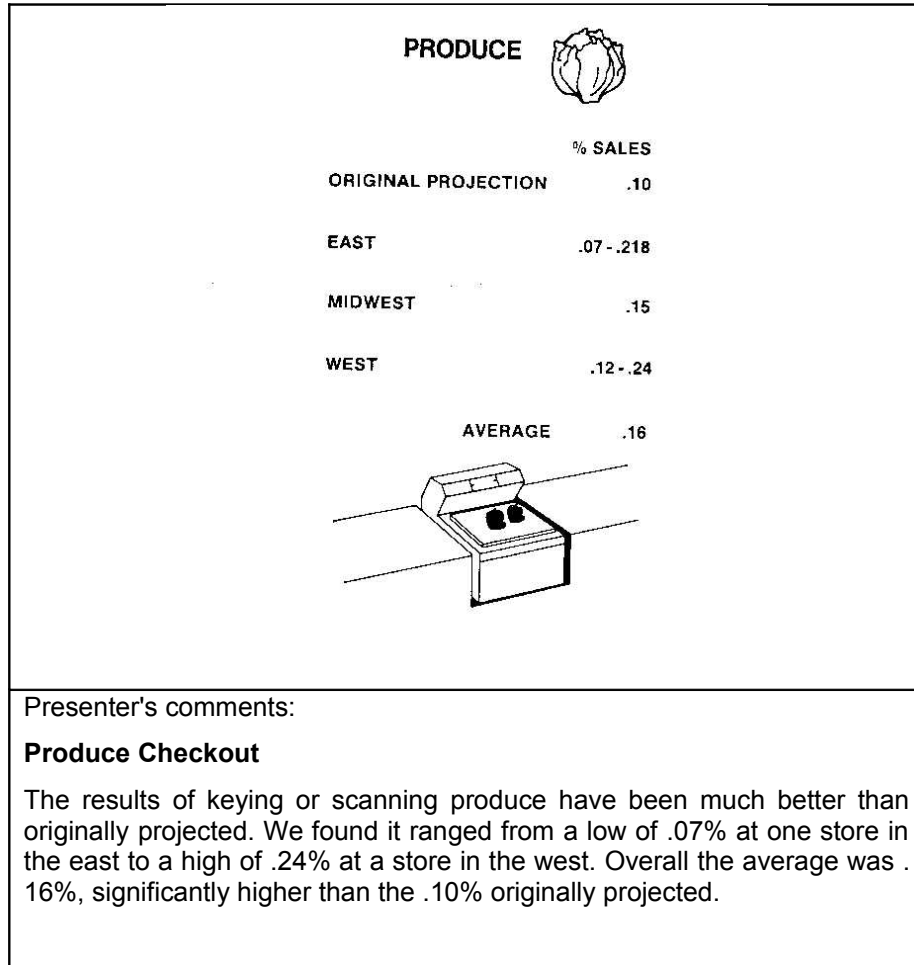
Checkout Productivity

Several things contribute to the current state of productivity: It is necessary to scan "and" bag to achieve higher productivity. Scan "then" bag is only marginally faster.

Impressive productivity gains with electronic keying systems have been attained through well-disciplined and enforced checkout training.

But significantly, all checkout activity is time-stamped in checkout systems which lets any electronic system level store achieve store wide improvements scheduling people in for work, resulting in improved productivity results.

Chart 10

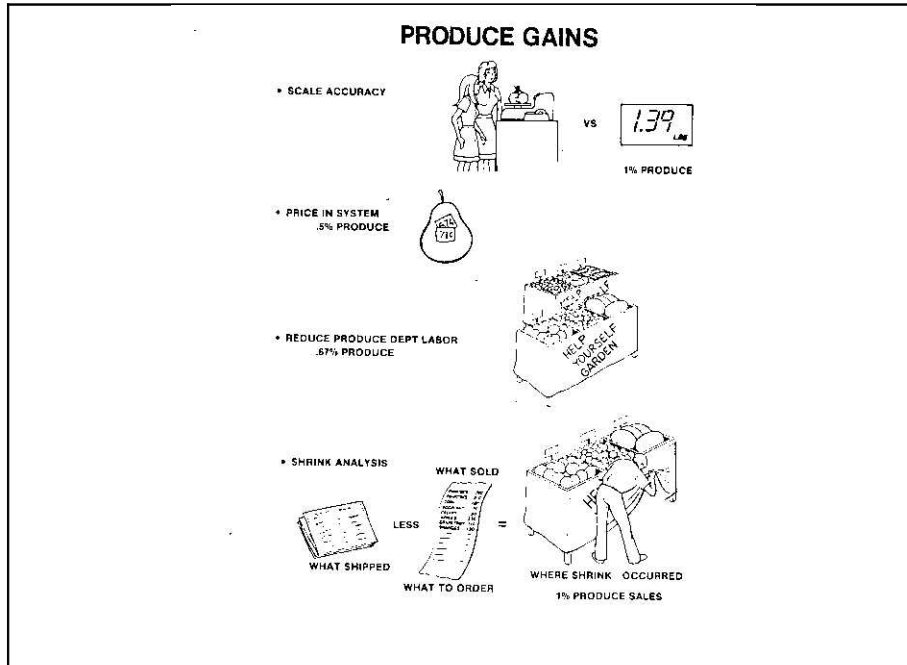


Presenter's comments:

Produce Checkout

The results of keying or scanning produce have been much better than originally projected. We found it ranged from a low of .07% at one store in the east to a high of .24% at a store in the west. Overall the average was .16%, significantly higher than the .10% originally projected.

Chart 11



Presenter's comments:

Produce Gains

Produce gains arise from several affects:

Scale weight accuracy has resulted in a 1% of produce sales increase in revenue, using a product code look-up instead of price marking catches miss keys resulting in an additional .3% of produce sales gain,

Better labor management possible with more detail on timing of produce sales results in an additional .67% of produce sales gain and

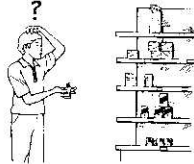
the ability to target specific products helps improve high spoilage items resulting in a .7% of gain

The impact of this at your whole store is naturally affected by the amount produce sales contribute to total store sales.

Chart 12

NON-PERISHABLE SHRINK

	ORIGINAL PROJECTION	.231
EAST		.25 - .39
MIDWEST		.25 (1 - 1.6%)
WEST		.1 - .21
	AVERAGE	.232 (1 - 1.6%)

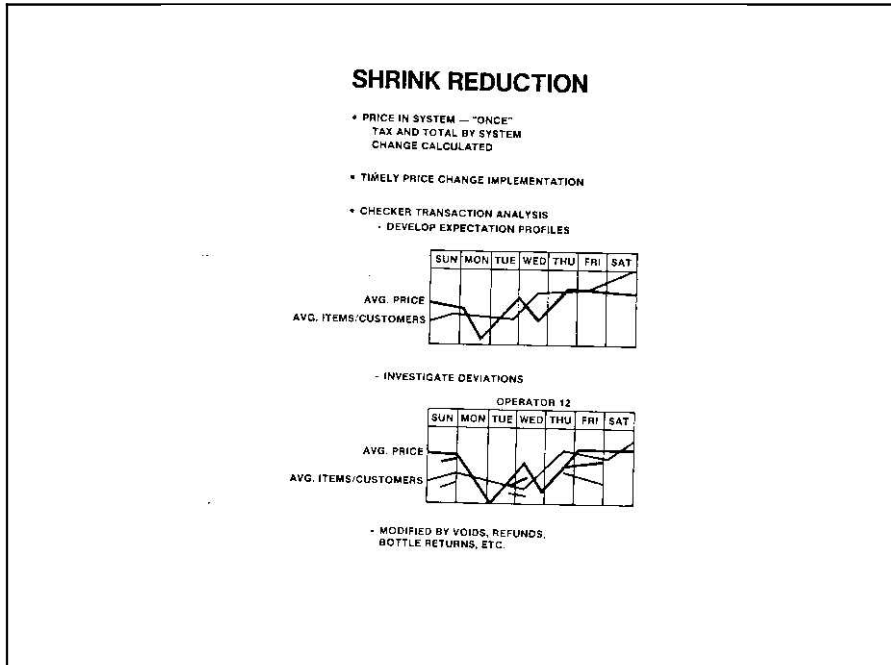


Presenter's comments:

Non Perishable Shrink

Non-perishable shrink came in just about where it was projected, although there were wide store to store differences

Chart 13



Presenter's comments:

Shrink Reduction

Shrink reduction results from:

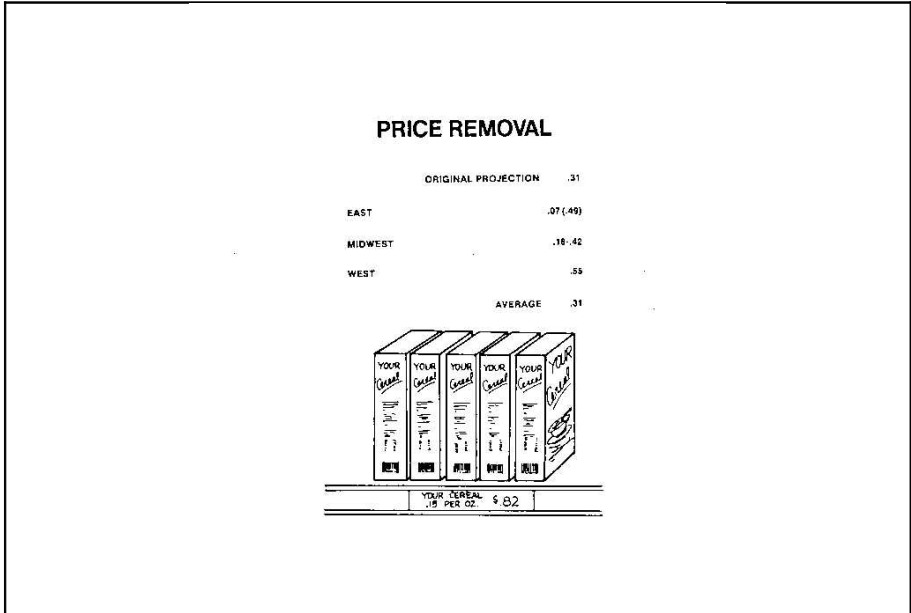
The prices are in the system, removing problems of miss marking and misreading prices on individual items. The change due each customer is calculated automatically

Price changes are implemented in a timely fashion from centralized schedules.

Detail checker average price expectation profiles can be developed, then actual average price profiles can be compared to find training problems or worse a checker under charging for their friends (sweethearting).

Bottle refunds, over rings and other corrections are specifically identified

Chart 14

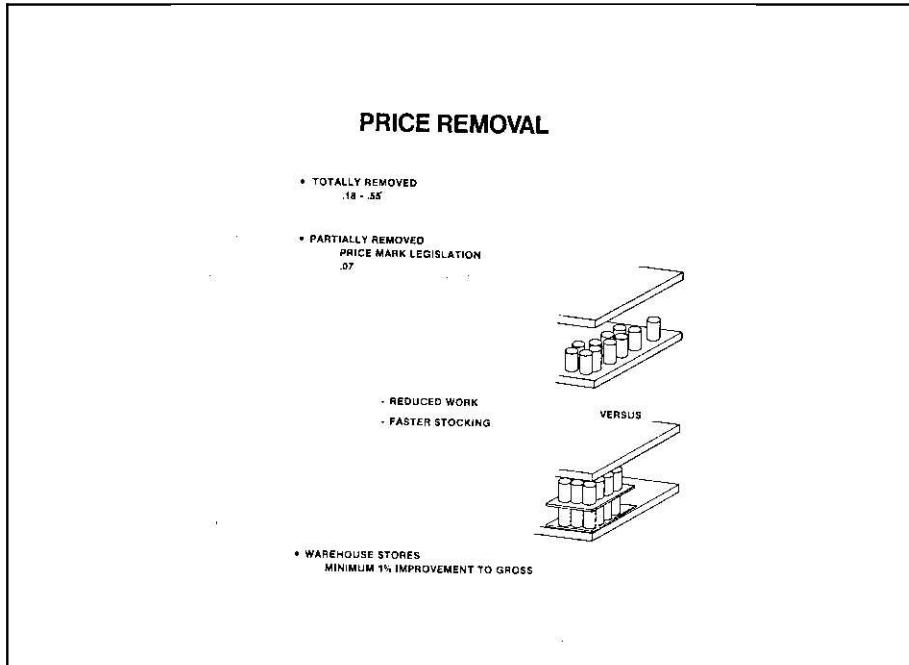


Presenter's comments:

Price Removal

Price Removal has been a benefit most have found difficult to achieve due to consumer resistance. But for those stores that have successfully removed prices, the benefit has been almost double what was originally anticipated.

Chart 15



Presenter's comments:

Price Removal

The price removal benefit includes the cost of price labels and the labor to apply price labels

It allows for faster stocking of shelves. The cases unload more uniformly, so they can be restocked quicker.

Warehouse stores claim a 1% total savings from price removal since they do not remove product from the shipping cases.

Chart 16

IN-LANE CHECK AUTHORIZATION


	% SALES
ORIGINAL PROJECTION	.083
EAST	.011-.022
MIDWEST	.012
WEST	.015
AVERAGE	.015

Presenter's comments:

In-Lane Check Authorization

System level products have check authorization data bases that speed up checkout settlement by avoiding having the customer going to an office window for check approval. Although a modest cost benefit, it greatly improves relations with the shoppers.

Chart 17



OFFICE

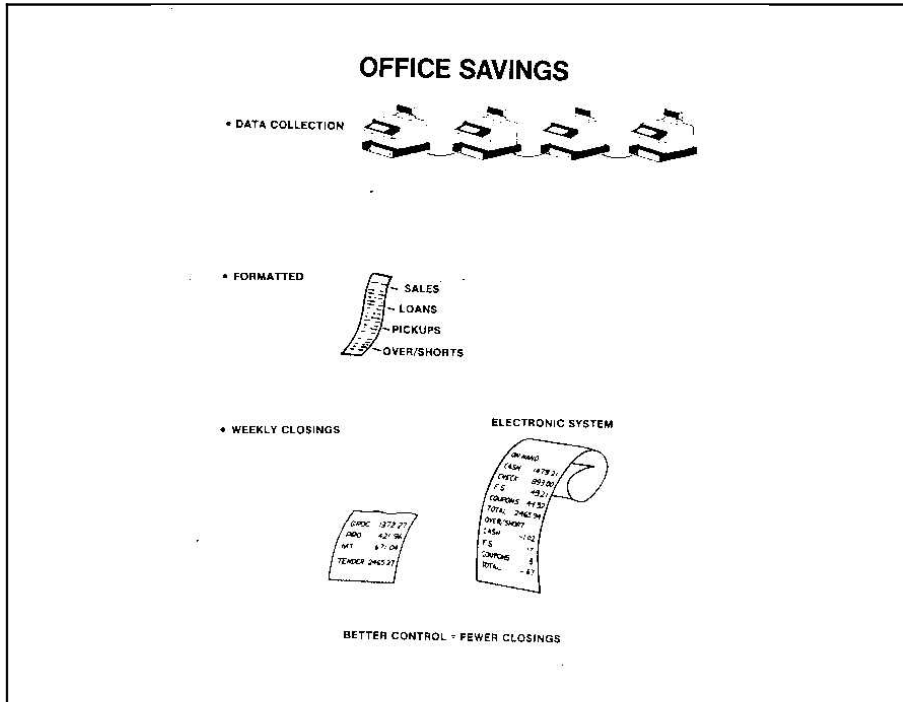
	% SALES
ORIGINAL PROJECTION	.09
EAST	.10-.30
MIDWEST	.14
WEST	.05
AVERAGE	.147

Presenter's comments::

Office Savings

We were surprised to find that office savings were about 150% higher than originally projected

Chart 18



Presenter's comments:

Office Savings

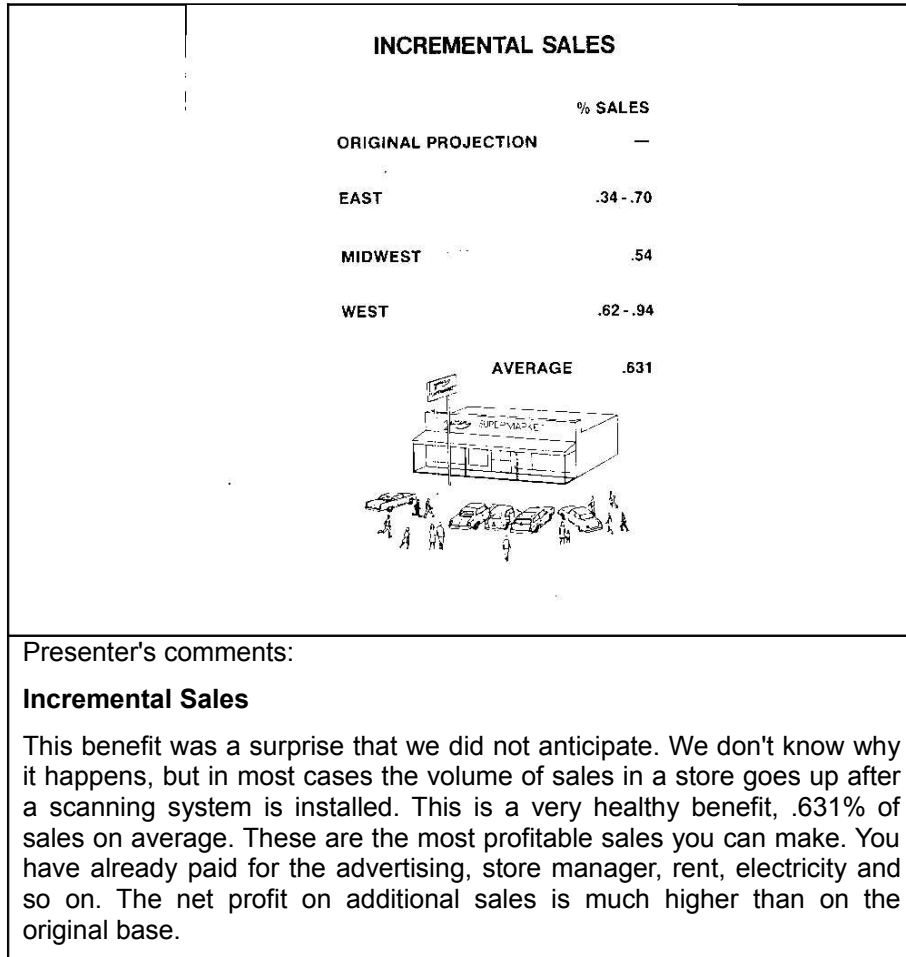
Office savings arise from savings through:

Automated data collection. The Head Checker no longer has to walk out to each checkout lane to read the register values

Clearly formatted reports allow the head cashier to find and reconcile numbers more easily

Data for weekly reports are generated automatically, removing the occasional arithmetic error

Chart 20

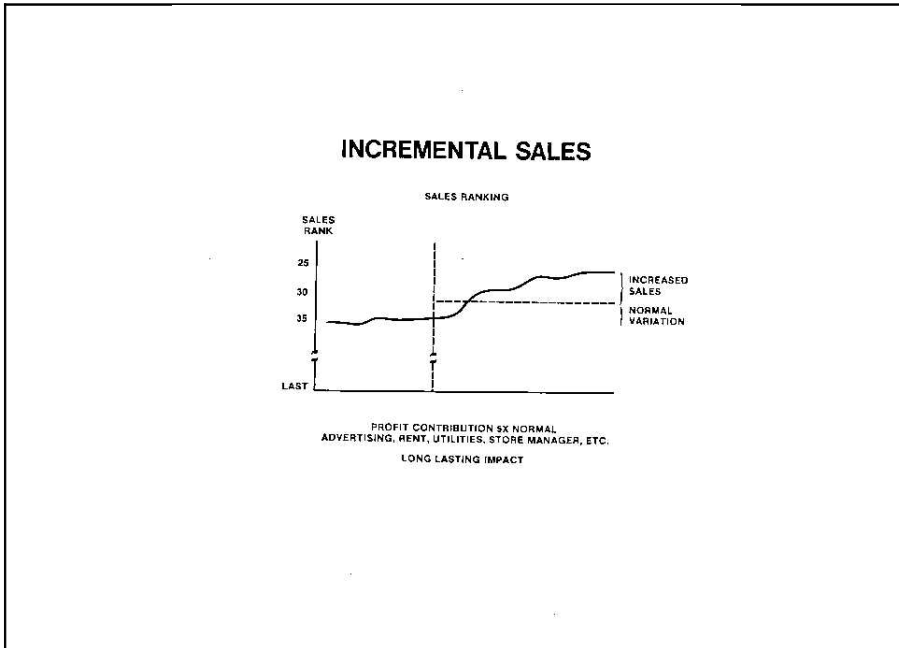


Presenter's comments:

Incremental Sales

This benefit was a surprise that we did not anticipate. We don't know why it happens, but in most cases the volume of sales in a store goes up after a scanning system is installed. This is a very healthy benefit, .631% of sales on average. These are the most profitable sales you can make. You have already paid for the advertising, store manager, rent, electricity and so on. The net profit on additional sales is much higher than on the original base.

Chart 21

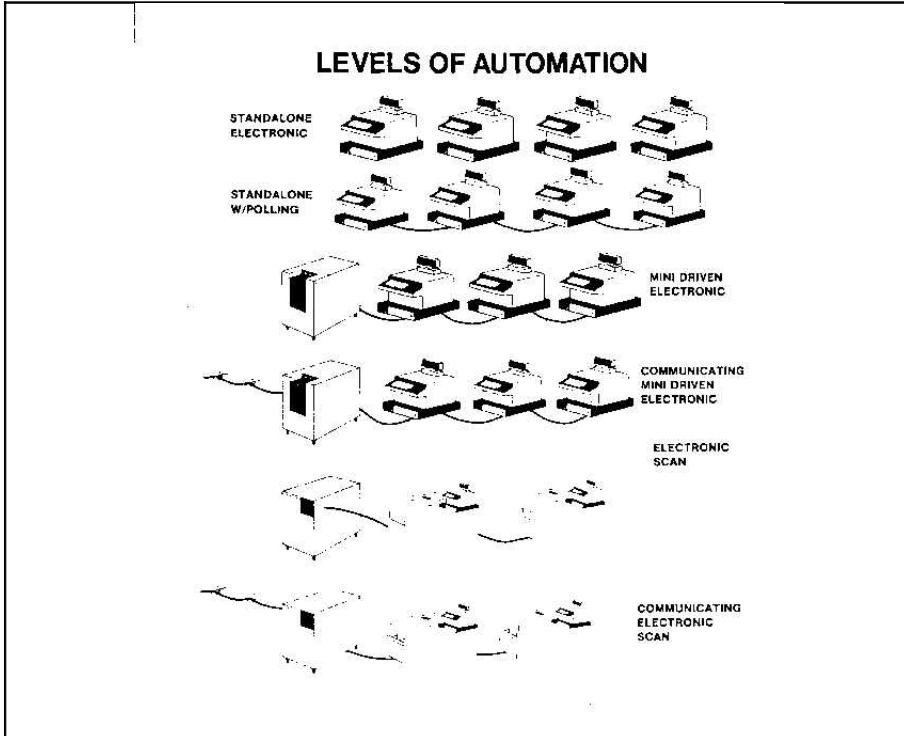


Presenter's comments:

Incremental Sales

Generally within about 5 weeks of starting to scan, store sales will start up and level off on average 10-12% above the pre-scanning level. We haven't had any drop off reported.

Chart 22



Presenter's comments:

Levels of Automation

Before we sum up the benefits, let's consider the many checkout alternatives open to grocery stores today. There is more than one type of automation.

At the simplest level there are stand alone ECRs, essentially an electronic equivalent of the electro-mechanical cash register.

Next we have the inter-connected ECR. These machines are able to share subtotals, but generally have limited data storage for price look-ups, etc.

The first system level is the minicomputer ECR. These can handle a large PLU file, check authorization files, etc. At this point I'd like to factor in another new technology that is now available, the ability to electronically transfer information from the store to a regional or headquarters location to assist them with their operations. So the next level is a communicating ECR

The next technology jump is to add scanning, which provides detailed item movement capability.

and at the highest level the communicating Scanning system such as the IBM scanning system.

Chart 23

	STAND ALONE ECR	COMMUNICATING MINI	COMMUNICATING MINI	COMMUNICATING SCAN	COMMUNICATING SCAN
READILY ACHIEVABLE					
PRODUCTIVITY	.12	.12	.12	.18	.18
NON-PERISHABLE SHRINK	—	.05	.003	.232	.232
PRODUCE	.10	.15	.15	.15	.15
PRICE REMOVAL		.05	.10	.10	.10
OFFICE		.05	.05	.05	.05
16% INCREMENTED SALES			.63	.63	.63
MANAGEMENT DIRECTED					
PRODUCTIVITY		.06	.06	.38	.38
PRICE REMOVAL		.45	.45	.45	.45
OFFICE		.09	.09	.097	.097
CHECK AUTHORIZATION		.04	.15	.015	.015
INFORMATION					
LABOR SCHEDULE		.00	.00	.00	.00
NON PERISHABLE SHRINK*		.09	.09	.94	.94
PRODUCE		.09	.09	.10	.10
PRICE STRATEGY*		.00	.00	.15	.15
GROSS POTENTIAL	.22	.495	1.525	2.284	3.564
FACTORED POTENTIAL	.22	.443	.895	2.001	2.513
			ORIGINAL PROJECTION	2.426	2.426
*UNDER DEVELOPMENT					
WHAT DOES IT MEAN					

Presenter's comments:

Benefits Summary

This is a summary of the previous listed benefits. Each of the benefits in the summary is achieved today at some scanning store. There is no store that is achieving all the benefits, but every benefit included is being achieved by some store somewhere.

Since we collected details about how the benefits occur, we can and have appropriately assigned partial benefits to stores with less than a full communicating scanning system capability. For example the electronic scale accuracy benefit occurs for all systems, the benefit from better pricing and PLU lookup depends on having an adequate PLU capability, etc. So partial benefits are awarded.

It is also true that some benefits are more easily achieved. Some benefits require coordination between different parts of the chain to achieve, Price Strategy for example; Store Managers do not generally set the item prices. This benefit requires communication of in-store information to regional or headquarters personnel responsible for pricing. To reflect this, we have applied a factor to benefits in the summary: Easily attained in-store benefits are 100%. Benefits that might require a higher level of discipline, manager sophistication, etc but are still principally contained within a store are factored at 70%. If the benefit requires coordination with personnel beyond the store to attain, it is factored to 40%.

If you can follow along at the bottom, you see reported the Gross Benefit summation for each level of automation and the factored level. Note that because of all the additional significant benefit areas that have been achieved, the factored level scanning benefits is greater than the original projection even though achievement on the specific benefit areas has generally been much less than what was originally projected. What does this mean?

Chart 24

NETTING EXPENSES

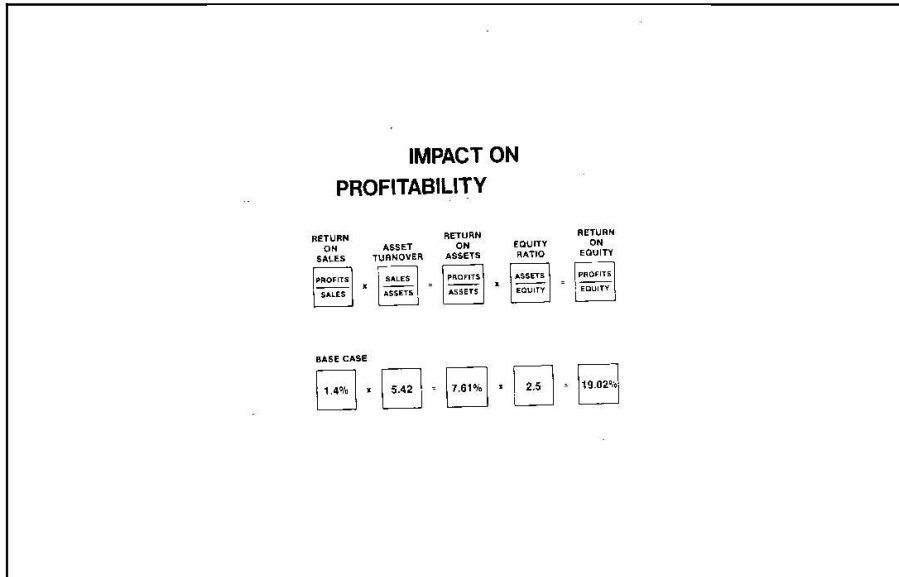
	STAND	COMMUNICATING		COMMUNICATING	
	ALONE	MINI	MINI	SCAN	SCAN
	ECR				
DEPRECIATION	.054	.100	.162	.161	.205
MAINTENANCE	.035	.169	.169	.109	.109
INSURANCE & TAX	.008	.015	.015	.091	.096
HOST DP PROCESSING			.035		.036
T.P. EXPENSE			.015		.023
TOTAL EXPENSE	.096	.285	.386	.361	.468
GROSS BENEFIT	.22	.443	.895	2.001	2.513
NET BENEFIT	.124	.158	.499	1.64	2.045

Presenter's comments:

Cost/Investments

Before we can know the true bottom line impact, we need to net out the expenses of each level of automation. In this we use Depreciation (covers the cost of acquisition), Regular Maintenance, Taxes and Insurance, Headquarters Application Programming expenses to use the data, and the telecommunications costs. Summing the costs and netting them against the Gross Factored Benefits, we get net benefit that range up to slightly over 2% of sales for a communicating Scanning System.

Chart 25



Presenter's comments:

Profitability Model

Now rather than just consider this in traditional payback or return on investment terms, let's look at how this impacts the financial operation of your business. To do this we're using this economic model: Return on Sales times Asset Turnover equals Return on Assets. That number times the Equity Ratio equals the Return on Equity. If we put industry average numbers in for each term it works out to slightly under 20% Return on Equity for the Supermarket Industry. Of course you can substitute the numbers for your company.

Chart 26

IMPACT ON PROFITABILITY

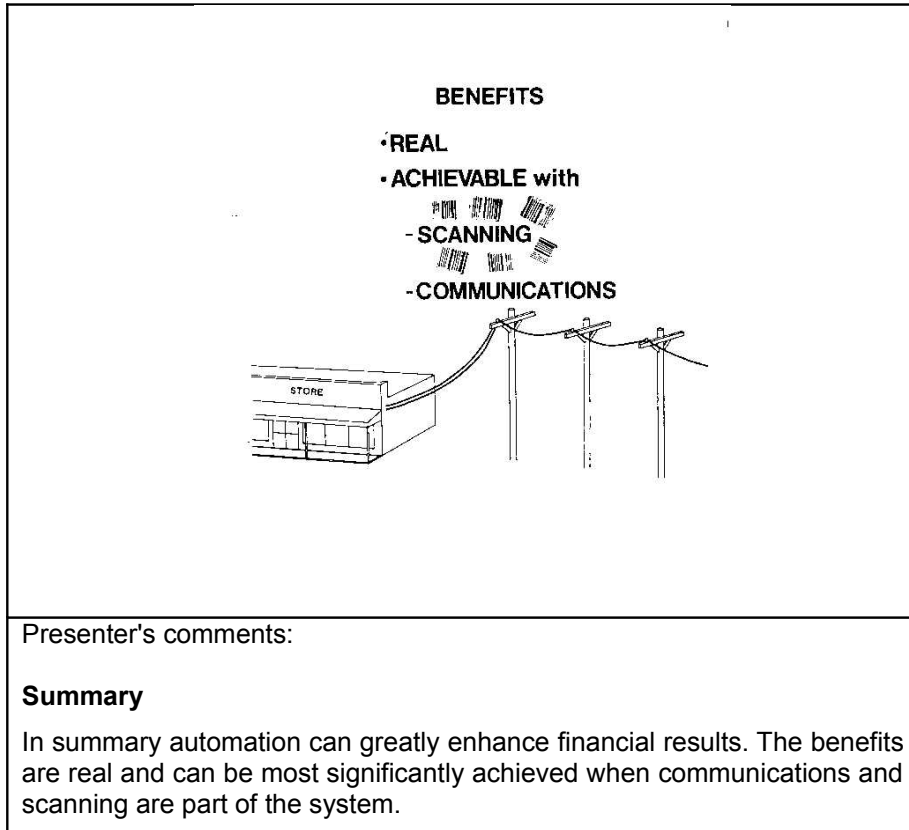
BASE	RETURN ON SALES	ASSET TURNOVER	RETURN ON ASSETS	EQUITY RATIO	RETURN ON EQUITY
	1.4%	5.42	7.16%	2.5	19.02%
STAND ALONE ECR	1.47%	5.25	7.73%	2.58	19.84%
MINI	1.46%	5.13	7.49%	2.64	19.82%
MINI WITH COMMUNICATIONS	1.76%	5.0	8.8%	2.71	23.86%
SCAN	2.26%	5.88	12.82%	2.77	35.49%
SCAN WITH COMMUNICATIONS	2.64%	5.50	14.79%	2.81	41.51%

Presenter's comments:

Impact on Profitability

Applying the net benefits from the levels of automation to the model, it shows us that benefits don't really start to jump until there is communication of information out of the store and used for staffing, pricing, merchandising. When scanning is added there is another significant jump so that communicating scanning stores can potentially more than double the industry average return on equity. The return to shareholders stays in the 19 -20% range until communications takes it to almost 24%. But U.P.C. scanning makes it jump to more than 35% and adding communications can raise that to 41.5%.

Chart 27



Presenter's comments:

Summary

In summary automation can greatly enhance financial results. The benefits are real and can be most significantly achieved when communications and scanning are part of the system.