

# The Role of the Food Distribution Industry in Advanced Checkout Systems

*Some Socio-Economic Questions Related to Automatic Supermarket Checkout Operations*

*Food 70's*

Raises a series of questions relative to the "total environment" in which the automated checkout will operate.

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## INTRODUCTION

● This topic causes one to make sure brain is engaged before putting mouth into gear. With this cautious concern tempering the discussion, I will proceed to ask a series of questions related to the automation of the supermarket checkout operations.

I will not attempt to answer them because of the state of today's developments and the evolutionary character of the acceptance of automation in general. The possible implications and results of accepting the concept of an automated checkout still leave much to be desired in an attempt to develop answers to many of the questions raised.

The information to be available from research being conducted and the many industry contributions will continue to substantially increase the total information base related to automated checkout operations.

## ASSUMPTIONS

Before proceeding, one should be aware of several assumptions on which this discussion is based. These few basic assumptions will help to explain what might be construed as errors of omission.

First, it is assumed that the activities being automated are characteristic of the checkout operation of today and that the future "automated" checkout will occupy a role similar to the checkout of today. This assumption is made in the absence

of a concrete proposal for restructuring the total transaction facilitating function. This, it is generally held, will be developed in the near future.

Second, it is assumed that the future supermarket will remain generally as it is physically structured today. Many new design and merchandising breakthroughs will change this picture in the future.

Third, it is assumed that the solution of today's consumerism problems will not necessarily increase primary demand for goods and services now being sold in the supermarket. It is assumed that a significant direct and indirect influence on food distribution by this wave of activity will result, including an influence on automation adoption and man-machine problems.

Fourth, it is assumed that present and future developments in electronic data processing hardware and software will be cost and function compatible with the needs of food distribution.

Finally, it is assumed that a universal product code will be developed and applied by the manufacturer. As Stewart Alsop once said, "It is better to proceed on the basis of a recognition of what is, rather than what ought to be."

## BASIC QUESTIONS

The checkout operation represents a small segment of a total system with a

direct influence on the basic objectives of the retail food industry, namely, survival and growth. How will these two basic objectives be influenced by the "automated" checkout?

Will the Optical Character Recognition capability which assists in facilitating an automated checkout provide growth and assure survival?

Will these developments:

1. Attract new capital to the food industry?
2. Motivate management and employees to accept their responsibilities and carry out their authority more effectively?
3. Create real total economies?
4. Facilitate maturity in Food Distribution or lull it into senility?
5. Meet the industry's obligations to customers and employees and all people through increased integrity and understanding?
6. Provide security for owners and investors?

It is now and will continue to be important to evaluate the adaptation of Optical Character Recognition and its capabilities in the light of these goals. But why should anyone raise any questions about the economic implications of this ingenious innovation?

#### ASSOCIATED PROBLEMS

In order to attain the two basic objectives in survival and growth, retail management must solve a large number of daily operating problems. One most frequently mentioned alternative solution to many of these problems calls for the adaptation of automation. But first, some of the conditions which continually threaten the basic goals must be considered in order to determine the possible influence of automation. The translation of these general conditions into problems related to the automated checkout causes one to ask:

1. Will automation of the checkout permit management to function comfortably in today's business atmosphere which now has to view the profit motive from a new perspective?
2. Will automation permit a socially acceptable level of profit?
3. What positive and negative influences will this concept have on labor and management cost, productivity, quality and availability?
4. How will the automated checkout eventually influence the spirit of

competitive creativity?

5. Will this development move the food retailing industry more rapidly and dangerously toward oligopolistic or monopolistic competition?
6. How will this concept and its associated activities close the perceived integrity gap between management, employees and the consumer?
7. Will inventory be more effectively controlled or will excess strains be placed on transportation and outweigh the advantages of control?
8. Will management's information be goal oriented or will management simply have an increased problem with an inundation of data? Will management information development begin with desired "bottom lines?"

#### BASIC CONCEPTUAL SOLUTIONS

For every problem there is a solution. This applies to each of the above problem areas in food distribution. There are several major conceptual research approaches which incorporate automation as a possible means of solving the above types of problems. The research could be along the lines of:

1. System's Analysis
2. Value Engineering
3. Consumer Behavior Analysis
4. Cost Analysis or Budgeting
5. Motivation Research
6. Operations Research and Others

These represent theories, research procedures and methods employed in solving today's problems. These represent ways to provide solutions to problems. Each of these represent a concept into which automation and its assumed net benefits might fit and provide a valuable contribution. Automation represents at least one alternative means to the desired end.

#### ROLE AND SPECIFIC FUNCTIONS

The role of the automated checkout in the solution to the previous problems and its contribution to the major conceptual solutions raises some important socio-economic questions.

The implied purpose of automation is to solve problems more profitably than the next best alternative solution. Will the automated checkout solve more problems than it creates? Will it satisfy the necessary economic and social functions required for acceptance?

What are some of these?

1. How will the automated checkout fit into the ultimate total system of conveying food more efficiently from producer to consumer?

2. How will it fit the marketing concept and its requirement that the consumer be kept in perspective?

3. What is the value of information?

4. Will the problems of employee integrity that exist today simply be perpetuated or can they be solved?

5. Will the present developments in automated checkout systems facilitate:

a) More efficient marking and sensing of merchandise?

b) More efficient manual or keyboard entry of a destroyed mark's information?

c) An indication on the spot of price to consumer?

d) Provide a detailed receipt for the consumer?

e) Improve cashiering?

f) Improve merchandise handling?

g) Improve stock keeping unit inventory control,

h) Audit control and the

i) Weighing of bulk products?

j) Will reliability and redundancy out profit the costs of potential problems?

(1) Will failure of any component in the system cause total shut down of the store?

(2) Can a redundant emergency system be limited to off-line transaction functions?

(3) Will recovery procedures to up-date the system facilitate complete catch-up.

Should there be concern about the possible increase in human-machine problems as a result of increased automation?

Job enrichment involves the arrangement and expansion of work to give it greater significance to the person. Theoretically, job enrichment satisfies and motivates the person by adding responsibility.

What will happen to cashier and other personnel morale? What will happen to the feeling of satisfaction? Will there be a feeling of participation? What new man (or woman) - machine problems will be created? Will the store "hostess" - "meal planning consultant" activities provide a new role for the "cashier"? If so, how much more quickly will the line move? How much faster can one get out of the store?

Should there be increased concern about the perceived integrity gap between the

consumer and the businessman and the opportunities for it to be enlarged by an automated checkout? Who will keep the store manager from changing prices several times during the day and at times of special emergencies? Who will keep the manager from changing prices on pay days or in neighborhoods with special economic problems? How will the system accurately communicate prices and costs to the consumer prior to purchase.

Will the automated supermarket checkout of the future reduce the time required to register an item or will it simply just allow for automatic recording? Is this already ample justification for adoption?

Will automated checkouts motivate the development of a new way to mass mark items with a human readable cost indicator? Will the situation exist where, instead of price or a cost indicator, the package will display the standard product code number?

Will a standard product identification marking system pay off in a reduction in marking costs?

Will there be certain data accumulation advantages such as:

1. Immediate information at store level?
2. Price look-up capability at a minimum cost and,
3. Less central data processing?

And, who will solve the problems of developing:

1. A low cost method of marketing merchandise at the store and the
2. Low cost label printer for instore use?

#### IN CONCLUSION

Many questions have been posed. These represent the questions asked by many persons.

These questions represent the potential barriers to acceptance of the automated checkout by retailers, consumers and others in the food retailing industry. But, these barriers represent the new business and educational opportunities and challenges we all face today, right now. Many people will avoid the opportunity for developing the answers to these questions because of a perceived hard job to do so. But, aren't all opportunities disguised as hard work?

The continued development of automated equipment and the possibility of yet more sophisticated equipment suggests that many of these questions, though valid today, may not have to be answered. They may well be superceeded by new systems and concepts which raise different questions. But, let us not be lulled to sleep waiting for this to happen.

Let's keep running with this new development and the chances are we will stumble onto many answers as well as methodically provide answers to each of the questions posed here. As Charles Kettering once said, "I have never heard of anyone stumbling on something sitting down." ●