"Efficient Consumer Response" Meets "Total Food Industry Systems"

Jarvis L. Cain

Introduction

Before we consider E.C.R. and its potentially considerable impact upon the total food industry system in the United States, a brief historical exercise could prove quite useful. During the roughly 25 years since 1970, a food industry system has been operating and evolving toward the situation we have today. Many factors have combined and recombined in an ever-changing series of events, developing with increasing speed and complexity as we hurtle toward the 21st century.

The author has provided written commentary on total systems development over this period. A brief summary of this work will be provided to help put E.C.R. in a temporal and structural perspective; and, more importantly, to provide a glimpse at what can happen from the positive results of E.C.R. efforts in the continuing total systems development for the early 21st century and beyond.

Total Food Industry Systems Ideas (1970-1994)

Near the beginning of this period,[1] we took a look at what was considered to be a loosely jointed channel of distribution and projected the potential impact of a single major change over a 30-year period (dealing with meals instead of commodities). The issues of goals, criteria and evaluation of the total food industry system were raised at this time.

In 1973,[2] we constructed a hypothetical "Nutrient Delivery System," established a specific goal for the system and discussed criteria for its evaluation. We raised questions about the efficiency of the existing total system, and talked about an information system for the total food industry.

In 1975,[3] the Food Distribution Research Society--through a special issue of the *Journal of Food Distribution Research*--listed many opportunities for productivity improvements in the total system by 1985 in retailing, wholesaling, transport and processing. The challenges of measuring total systems productivity gains were also discussed.

In 1977,[4] we focused on a portion of the existing total system--the inner city markets—and added such new element as: (1) "Flex-i-mart," (2) central kitchens, (3) central perishable preparation facilities, no vendor items and (4) bussing people to stores to improve total food industry system effectiveness.

Broadening the analysis in 1981,[5] we discussed the great diversity of goals sets and the difficulties involved in developing national goals for the food industry. We noted the negative impact of sometimes conflicting goals sets on system productivity. We also suggested a 21st century goal for the total food industry system.

We addressed total systems productivity head-on in 1983.[6] We identified forces (organizational and technological) that were unifying the food industry; spelled out problems in institutional change within the system and their impacts upon productivity; and suggested a seven-step approach for implementation of total systems productivity management.

During the next year (1984)[7] we applied information technology to the total system to make meals available any time, any place, any where.

Our most recent effort in the total systems arena was a series of three JFDR articles (1986,[8] 1987,[9] 1988[10]). The first article discussed what the individual firm could do to get ready to participate in the total systems concept. The second article addressed the market area and its pivotal role in the total system. The final article expanded the concept to the entire country. We will return to these three articles later in this work.

In summary, we have been working on the total systems idea for 25 years. We've talked about goals,

---

Professor of Agricultural and Resource Economics, University of Maryland System, College Park, Maryland 20742, April 15, 1994.

criteria-measurement, and evaluation. We have discussed systems productivity, information systems and other forces driving the systems concept. Finally we put together a three-part series to help get the total systems idea off the ground.

Efficient Consumer Response

Cain's perception of E.C.R. is as follows: It is a very positive, industry conceived and developed, multifaceted, U.S. grocery industry effort that is (a) part *attitudinal*--"better service to the customer," (b) part *technological*--using basically information systems improvements to lower costs and improve productivity for participating firms within the existing system, and (c) part *organizational*--interfirm and intrafirm cooperation to achieve the goals mentioned under (b). E.C.R. is a series of pilot projects of a systems nature. Such areas as continuous replenishment, inventory reduction, activity based costing D.S.D., cross-docking and electronic data sharing do indeed have serious systems implications. The approach is basically firm to firm with joint-industry groups as watchdogs. The element of *trust* has been mentioned a number of times in the material available to the author. This is an absolutely essential element in the success of any systems endeavor.

With all the good things that either have happened or will be happening based upon E.C.R., it is

A. *narrow focus*
   (1) timewise--"now,"
   (2) spacewise--U.S.A.,
   (3) industry--grocery;
B. *excluding many essential parts of the total system*--the food service industry, production agriculture, legal and regulatory, government and university, packaging and transport to name a few;
C. *a long time overdue*--many of the problems being addressed by E.C.R. could have been eliminated if they had been dealt with in their embryonic stages.

What the author proposes to do with the rest of this paper is to return to the total food industry systems concept and blend its most positive elements with the positive side of E.C.R. into proactive long-range planning efforts. Using past work in total systems and E.C.R. as jumping off points, we will establish a framework for positive systems with planning efforts into the 21st century that can truly serve all of our customers' needs.

"Back to the Future"

To begin this part of the discussion, let's return to the series of three articles on total systems from the late 1980s mentioned above. In the 1986 paper, we focused upon what individual firms could do for themselves, like competing firms and their segment of the industry to get ready for total systems. This is about where the major thrust of E.C.R. falls in the time continuum.

The 1987 paper focussed upon market areas through which the firm sold its products, services or perceptions. We talked about consumption, structure, common languages, measures of performance and linkages of market areas to the total system.

In 1988 the third paper looked at the total of some 300 major market areas and the major components necessary to complete the total system—information systems, packaging, transport, legal and regulatory, educational and financial. Putting these markets and components together into a workable "network" yields what we refer to as the total food industry system for the United States of America.

Once we get an idea of what a total food industry system is all about and have some point of reference for E.C.R. in the system, it would be useful to introduce the future portion of a time continuum into the process.

Toward 2010 A.D.

In the year 1994 we have a complex, sophisticated multilayered food industry system to provide for our citizens' food and food products needs. The challenges before us are, in a world where massive change is the order of the day, to (1) make major revisions to our systems "on the fly," (2) survive competitively and (3) allow for only minimal changes in the food portion of our level of living for the average consumer. As has been said many times, "The difficult we do immediately; the impossible takes a little longer."

In the 1970s, we called it "Imagineering." In the 1980s, some called it "Futuring." The buzzword in the early 1990s appears to be "re-engineering." Whatever we call it, our intent here is to look down the road to 2010 A.D. and catch a glimpse of the 21st century total food industry system. Much of what follows comes from a 1993 paper on the competitive situation in the industry, 2010 A.D.[11]

Vision--Cain sees nutritionally adequate meals available practically anywhere, any time, in any form, at a reasonable cost. Virtually unlimited access to nutrition for all our citizens.

Goal--From the early 1980s we have:

"to provide adequate supplies of safe, nutritious food and food products, with desired service levels, at prices that reflect true value to the United States consumer, at minimum total resource cost."

Vehicle--meals, we will be moving toward the concept of a "Nutrient Delivery System," going back to the early 1970s.

2010 A.D. Lifestyle--Bottom line here is that we will probably be experiencing an overall lower level of living than today. The food portion of that level will reflect the demands of an altered lifestyle.

Major forces driving total systems change toward 2010 are:

Information systems
Structure and institutions
Technology
Financing
Demography

The *structure* of the system will be:

More worldwide (market-wise, company-wise, people-wise)
More concentrated—fewer owners
More integrated—"tighter knit" system
More power, in fewer hand, to better serve our customers??

E.C.R. in 2010 A.D.

The E.C.R. of the early 1990s will have had its impact (hopefully for the good of the system and its customers) and be long gone. Hopefully there will have been other similar efforts between now and then. Each one getting more toward a total systems effect, and each one bringing in more and more elements of what will be truly a worldwide food industry system.

Author's Note

Please, dear reader, don't take away the impression Cain is against E.C.R. or any similar efforts to improve the productivity of our ever-changing total food industry system. He stands ready to help with efforts which will contribute to our recently stated goal.

Food Industry Systems Planning and Innovations Group

In an industry which does in the area of $600 billion annually at retail, it is inconceivable that an overall planning and innovations group does not exist. First of all, to relieve many fears, this group *would not* be involved in actively operating the industry or telling people how to run their businesses. It *would* be made up of the best and brightest long-range thinkers, experts in technological development, systems strategists, and others. Their major functions would be to:

1. Develop an overall food industry systems view
2. Describe and measure the existing system
3. Develop scenarios of alternative systems
4. Work on long-range strategies for worldwide markets
5. Work as a clearinghouse for innovative ideas in the systems area.

The bottom line for this group would be to provide information and analysis--input for the planning process in the myriad of firms that make up the food industry. This should be a broad based group with input from the major segments of society: (1) the industry, (2) government, (3) educational institutions, (4) labor, and (5) consumers.

Such a group could help to make a good thing like E.C.R. better, as well as to broaden and deepen the systems work for the food industry. Its relatively minor cost could be more than offset by helping to implement innovations in our system or by helping to avoid a potential serious systems blunder.

We work on "manageable things" in the short run because of limitations in our technology, institutions, and financing. In order to make meaningful contributions to the total food industry system, we need a group to take the broader and deeper view; and thus help us all.

Best of good fortune to us all.

References

1. Cain, J. L. "The Food Industry—2000 A.D. Revisited." *Journal of Food Distribution Research* 2.3 (1971): 17-21.

2. Cain, J. L. "Nutrient Delivery System—A Human Feeding Concept for 2000 A.D. and Beyond." *Journal of Food Distribution Research* 4.3 (1973): 10-15.

3. "Food Distribution Research Priorities for Improvement in Total Systems Productivity to 1985." *Journal of Food Distribution Research* 4.2 (1975).

4. Cain, J. L. "Food Distribution System, Inner City, U.S.A." *Journal of Food Distribution Research* 8.2 (1977): 43-49.

5. Cain, J. L. "National Goals and Food Industry Productivity, Toward 2000 A.D." *Journal of Food Distribution Research* 12.3 (1981): 3-8.

6. Cain, J. L. "Total Systems Productivity in the Food Industry: An Idea Coming into its Own." *Journal of Food Distribution Research* 14.3 (1983): 44-49.

7. Cain, J. L. "Compute-A-Meal II." *Journal of Food Distribution Research* 15.3 (1984): 4-10.

8. Cain, J. L. "Food Industry Management: Preparing for Total Systems." *Journal of Food Distribution Research* 17.2 (1986): 43-46.

9. Cain, J. L. "Market Area: Preparing for Total Systems." *Journal of Food Distribution Research* 18.2 (1987): 15-18.

10. Cain, J. L. "Total Systems: Completing the Concept." *Journal of Food Distribution Research* 19.2 (1988): 43-44.

11. Cain, J. L. "Competitive Situation in the United States Food Industry, 2010 A.D." *Journal of Food Distribution Research* 24.1 (1993): 39-48.