RESEARCH REPORTS AND TIMELY DEVELOPMENTS

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Computer Use and Marketing Concepts in the Food Broker Industry

by

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Objectives

1. Determine the extent of the use of computers by food brokers.

2. Determine future plans by food broker firms for incorporating computers into their business operations.

3. Determine the feasibility of incorporating existing computer knowledge with the potential development of computerized trading by food brokers.

Procedures

A mail survey of food brokers was conducted during September and October 1984. A questionnaire was mailed to 750 food broker firms selected at random nationally. The list was provided to us by the NFBA. The number of respondents was 20 percent of the total mailing.

The questionnaire was designed to determine the characteristics of the responding firms as well as to analyze present and anticipated computer activity in accounting and marketing.

Initial Results

The number of firms responding by yearly sales volume was as follows: less than 1 million sales - 9 percent; 1 to 4.9 million - 20 percent; 5 to 9.9 million - 10 percent; 10 to 19.9 million - 23 percent; 20 t0 34.9 million - 12 percent; 35 million and over - 26 percent.

Forty-five percent of the firms do not consider electronic marketing a feasible alternative, with 21 percent indicating it would be feasible. Only 20 percent expressed interest in electronic marketing, while 42 percent had no interest. Responding to a question concerning potential benefits, 24 per-

cent indicated there would be no bene-
fits forthcoming. An equal number of

firms indicated that the system had
potential benefits.

Value of Quality Characteristics of Fresh Vegetables

Through the Postharvest System

by

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This summary outlines the initial findings of an interdisciplinary project aimed at understanding and improving the postharvest handling system. The purpose of the project is to estimate implicit prices for selected quality factors of fresh tomatoes during the postharvest process. Knowing the monetary value of quality characteristics of selected fresh vegetables can aid in the evaluation of changes in the food distribution system.

Cross sectional observations of 474 "vine-ripened" tomatoes grown in Georgia and North Carolina and corresponding prices were obtained at harvest, at a packinghouse, and from warehouse conditions sampled on two successive days in August 1984. Each tomato was weighed and evaluated for color and damage based on USDA standards of identity. The rate of deterioration was measured after the samples had been stored for seven days at 20C.

The value of quality characteristics was estimated using an hedonic price method. The hedonic function is estimated by regressing the price of a good on the quantity of various characteristics. The resulting coefficients are implicit marginal prices that duplicate the information acquired by agents in the market, on the basis of which they make decisions.

For purposes of estimation, this study was focused at the point in the

process after the tomatoes have been packed and are ready to be shipped to a warehouse. The results of the model are as follows (t-statistics are in parentheses):

$$P = 2.23 + .005 \text{ (SIZE)} - .08 \text{ (DAMAGE)}$$
$$\quad\quad (2.49) \quad\quad\quad (11.88)$$
$$\quad - .93 \text{ (DETERIORATION)}$$
$$\quad\quad (7.39)$$

$R^2 = .75$, F value = 18.17

The results indicate that increasing the weight by one gram per tomato increases the price by just over half-a-cent per box; a one percent reduction in defects will increase price 8 cents per box; and a unit decrease in deterioration will increase price 93 cents per box. A unit decrease in deterioration represents approximately two and one half extra days of storability and will increase the price of a box of tomatoes significantly. Thus, methods that increase storability will be beneficial to the postharvest marketing of tomatoes. Further, since the weight of the tomatoes varied from 80 to 250 grams, the half-cent per box per gram size factor may actually be the most significant.

A change in the post harvest handling of tomatoes that costs less than the marginal implicit price of the affected quality characteristic can be considered as a net benefit. In effect, a

type of benefit-cost analysis is pro-
posed based on the results of a hedonic
price estimation. A price-size/quality
relationship can aid tomato handlers in
making decisions concerning the size and
color of the fruit at harvest, early
sizing and special handling of larger
tomatoes, use of stronger shipping con-
tainers to minimize bruising and method
of ripening based on weight and color.

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Household Adjustment to Changes in the Economy

With Special Reference to the Food Industry

by

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A. Problem Addressed

Consumer Perceptions and Strategies
Used in a Changing Economy.

B. Methodology Utilized

Data was collected (using a modified
Dillman method) through a mail question-
naire completed by 532 Virginia citizens
in October and November, 1983.

C. Major Findings and Their Significance

The majority of the households (96%)
were affected by the present economic
situation with three-fourths being nega-
tively affected. Negative effects would
include paying higher prices, having
difficulties in making ends meet, and
being less happy. About one-half report-
ed a lower standard of living compared
to expectations five years ago.

Coping strategies varied among house-
holds. Many increased income through
second jobs, more family members working,
and working overtime. Other major stra-
tegies included changing savings accounts
(40%), changing checking accounts (30%),
and starting an IRA or Keogh Plan (30%).

Other strategies utilized by house-
holds to cope effectively included buy-
ing less of everything (65%), changing
habits and preferences (74%), using more
cents-off coupons (85%), being more of a
comparison shopper (89%), shopping for
specials and bargains (89%), looking for
cheaper products (74%), buying through
wholesale/discount stores (70%), and
spending more time shopping (66%).

Advertising also has an impact on
shopping behavior. Over one-half of the
respondents said their choice of brands
was affected by advertising. About two-
thirds of the respondents said store
brands were as good as nationally adver-
tised brands. Many (88%) felt there was
too much advertising on television, and
79 percent felt commercials made little
sense.
In the area of food-related behavi-
ors, the largest majority of respondents
were affected somewhat by rising food
prices. Recent economic conditions
had caused 45% to switch the principal
place of buying groceries.

In conclusion: The economic situa-
tion has had a serious effect on house-
holds interviewed in this study. Most
consumers have been forced to alter
their habits and preferences. More

are reducing consumption, shopping more
carefully and doing more financial man-
agement to cope. Numerous behavioral
and attitude changes are occurring among
Virginia households. The consumer of
1984 is a more serious buyer and consum-
er than in the previous decade.

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Feasibility of a Reusable Crate Exchange Pool

In Australian Fresh Produce Markets

by

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and

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The findings in this presentation
are the interim results of a privately
funded research project undertaken to
identify the critical variables in operat-
ing a plastic returnable crate (PRC)
system for fresh produce. The PRC would,
in effect, replace fibreboard packaging.
The initial research focused on the Syd-
ney and New South Wales markets.

Several important differences in the
production, marketing, and consumption of
fresh produce make the Australian markets
noncomparable to the United States.
Specifically: (1) production is concen-
trated in close proximity to urban consum-
ing areas for many kinds of produce,
especially vegetables, (2) long inter-
state shipments are much less frequent
in Australia, and (3) a higher per capi-
ta percentage of fresh produce is bought
and consumed in Australia. Therefore,
distribution practices in the United
States are not necessarily appropriate
for Australian markets. The objective
of this research was to define the opera-
tional and strategic variables that a

plastics manufacturer should evaluate
in determining the feasibility of operat-
ing a PRC exchange pool profitably.
These variables were developed by first
defining the various market channels
for fresh produce and then personally
visiting and interviewing the members
of these channels.

A PRC offers several advantages
over fibreboard. (1) Although the ini-
tial cost is higher, the long-run result
should lower packing costs. (2) Produce
is better protected from damage, and
ventilation is improved. (3) Handling,
both manual and mechanical, is
improved. And (4) standardization and
unitization are promoted. In fact, the
appropriate Australian governmental
agencies have approved a series of
PRC's, and a significant number of them
are currently being used by several
large producers' cooperatives throughout
Australia.

The key operational issues identi-
fied included: (1) crate security and

documentation, (2) crate turnaround, (3) seasonal production patterns, (4) crate cleaning, (5) pricing techniques, and (6) various regulatory considerations.

The major strategic concerns are: (1) mature market, (2) shifting consumption patterns, (3) strong and consolidated competition, (4) shifting roles of produce market channel members, and (5) lack of corporate experience and influence in produce channels.

The overall preliminary conclusion so far reached is that each market channel has distinctive operational characteristics and must be evaluated independently. The best opportunity for success lies in those channels that are short and direct, deal in high volumes with rapid turnover, and have one clearly dominant member who can assert singular channel control. Of the seven different channels identified, those used and operated by the large retail chain stores offer the greatest likelihood for successfully utilizing a PRC exchange pool.