

The Implications of External Change for Marketing

Talk before the Midwinter Conference of
The Food Marketing Institute
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The previous two speakers have told you about changes ahead: Changes in the environment, changes in economic conditions, international changes, changes in technology, changes in business and labor.

We're looking ahead to a world where any appliance around the house costing more than \$20 will have a computer in it. It's a world where the buzz words in business will be office automation, electronic mail, and computer conferencing. It's a world where robots run warehouses and scanners are old hat; where the chess champion will be a computer; where bioengineers build organisms that produce medicines much more efficiently than the conventional methods of today. It's a world where we will be farming the oceans

as well as the prairies. It's a world of different lifestyles, greater diversity, more single person households, more eating out. For some people eating will be a recreation and health the ultimate luxury. For others, whether by choice or necessity, food prices will be an important issue.

All right, in this changing world, will there be changes in marketing? The answer, obviously, is: Yes.

Will the food industry take advantage of these changes to achieve greater productivity? Will it deliver more to the consumers along the dimensions they value as these change? And will the food industry maintain its own health at the same time? I don't know the answers to these questions; you will have to tell me.

What I'd like to talk about this morning is how future marketing will be affected. How will changes in technology, in communications and in the economy influence marketing activities and strategies? And how can management take advantage of these developments?

I'd like to look at two areas: First, changes in what we know about our markets -- the knowledge dimension; and second, changes in how we actually do our marketing physically -- the operations dimension.

I. Changes in Marketing Knowledge

The first area deals with changes in what we know about markets and marketing processes. This is a house I live in every day.

In the past ten years a new technology has emerged for assisting

and improving marketing decision making. Those of us who are involved see foundations being laid for a scientific understanding of marketing that will substantially affect what we do.

Quite a lot has happened already. I recall in the early 1960's an article by a prominent advertising agency executive who said, categorically, that it was impossible to measure the effect of advertising on sales. It was out of the question. In fact, I think he thought it would be morally wrong.

Well, we may not do it as accurately, or as quickly, or as inexpensively, as we would like; but we certainly measure the effect of advertising on sales today.

Then there was another person who wrote that the computer would never have any applications in marketing. I'm glad my name wasn't on that one.

At this point we have analytic tools and measurements to help out at each major stage of the product life cycle. For example, much of the mystery has been taken out of new product evaluation for package goods. We still have a lot we'd like to learn, of course. But any company that takes a big loss today on introducing a major new package good just isn't paying attention to what we know and the techniques we now have.

Knowledge is growing, but it is not enough to understand things; we must put them to practical use. So I want to give you a conceptual framework that you can take away from here and use. It's meant to guide a company in pulling together and applying modern tools for gathering marketing information and acting on it.

The idea is that of a decision support system. I define this as a coordinated collection of data, analytic methods, and computer power, by which an organization gathers information from its environment and

turns it into a basis for action. The system is in the service of the manager. He wishes to take action with respect to the environment. To do this he must perceive and interpret the market, even if imperfectly. This process is conducted through a complicated system of people, paper, and machines. That's what we are calling the decision support system. A stream of data comes into the organization from the world at large. It comes in many ways, from talking to people, from reading the Wall Street Journal, from doing market research and, especially, from distilling all the individual transactions of the business: sales, advertising, prices, etc. Some data are soft and qualitative; others hard and quantitative. They're all important but I'm particularly interested here in data that can be captured in machine readable form.

Now, whenever a manager, or anyone else looks at data, he or she has a preconceived idea of how the world works and therefore what is interesting and worthwhile in the data. I shall call such preconceived ideas models or theories. Even a person who is browsing through a set of numbers has some constructs in mind that signal when a particular number is important and worth further consideration. Some models remain in people's heads but the ones of most interest here are ones that we can make specific and compute with.

Now the process of relating models or theories to data is statistics. The most important statistical operation I know is addition. That makes big important numbers out of small unimportant ones. There are, however, a variety of sophisticated techniques available which management scientists frequently find useful.

A manager is constantly seeking to improve the performance of his organization. Abstractly this is optimization. Again the most frequent

processes are deceptively simple: calculating two numbers and seeing which is larger. but, in addition, we have a bag of tricks we can bring to bear on complicated problems when required, often with substantial payoff.

Finally the manager and his staff must communicate with the system. Much of this is through the standard processes of meetings, conversations, and reports. But increasingly, some of this takes place through time-shared computing. Tools, models and data are stored in a computer and, with the right software, these can easily be accessed to perform a wide scope of analysis quickly and efficiently.

How A Decision Support System Works

That's the concept. To illustrate how a decision support system works in practice, I shall tell you a story. I call it: "The True Story of the Marketing Manager, the Management Scientist and the MBA."

It actually took place a few years ago at a large food manufacturer, although the same kind of thing could have taken place at a retailer or in another industry, for that matter.

Once Upon a Time an MBA student took a summer job with a particular company. He reported to a management scientist in the principal division of the organization. The MBA was assigned the job of putting key marketing information, basically store audit data, onto a time-shared computer. The goal was to create an easy-to-use retrieval system; that is, construct a databank.

OK. He did this.

By the end of the summer, word of the system had reached the marketing manager of the major product of the division. The marketing manager asked for a demonstration and so the three met. The MBA and the management scientist showed the marketing manager how simple

English-like commands could retrieve data items: sales and share by brand, package size, and month; prices; distribution levels; etc.

The marketing manager was very impressed. "You must be fantastically smart," he said to the MBA. "The people downstairs in MIS have been trying to do this for years and they haven't gotten anywhere. You did it in a summer."

It was hard for the MBA to reject this assessment out of hand, but he did acknowledge, and this is a key point, that the software world has changed. There are now high level computer languages available on time-sharing that make it easy to bring up data and start working with it right away.

The MBA and the management scientist, flushed with success, now said to the marketing manager: "OK. Ask us anything!" (Famous Last Words!)

The marketing manager thought a minute and said: "I'd like to know how much the competition's introduction of a 40 oz. package in Los Angeles cut into sales of our 16 oz. package."

The MBA and the management scientist looked at each other in dismay. What they realized right away, and what you might, too, if you think about it, is that there isn't going to be any number in the machine for sales that did not occur. This isn't a retrieval question at all, it's an analysis question.

Here then is another point. The marketing manager had no idea the number would not be in the machine. To him it was just one more fact no different in his mind from other facts about the market. Notice also that the question is a reasonable one. One can visualize a whole string of managerial acts that might be triggered by the answer, possibly even culminating in the introduction of a new package by the company.

What is needed to answer the question is a model, probably a rather simple model. For example, one might project previous share forward and use it to estimate the sales that would have happened without the competitor's introduction. Then the subtraction of actual sales would give the loss.

The three discussed possible assumptions for a few minutes and agreed on how to approach the problem. Then the management scientist typed in one line of high level commands. Out came the result, expressed in dollars, cases, and share points.

The marketing manager liked that, a good demonstration. The MBA and the management scientist thought it was a miracle! They had responded to the question with a speed and accuracy unthinkable a few weeks earlier.

The story is simple but contains several important lessons. I see the same points coming up again and again in various organizations, although not always so neatly and concisely:

1. Managers tend to ask for analysis, not retrieval. It's a mistake to build a system that does only retrieval. Too many people do. You must also need a good analysis language to push the numbers around.
2. Good data is vital.
If you haven't done your homework and put key data where you can get at it, you are nowhere.
3. Models are needed.
These are often simple, but not always. Some can be prepackaged. Many are ad hoc.
4. The manager needs an intermediary between himself and the system.
There used to be brave visions of managers sitting at the computer terminal. This just hasn't happened, although there is an occasional exception. (Mr. Ben Heineman, Chairman of

Northwest Industries is one of these. He's a hands-on person for financial analysis. It is even said that he sometimes takes a portable computer terminal to his yacht.)

The intermediary is frequently a recent MBA or management scientist. He's a new breed who connects the manager to the system. The management scientist interprets questions, formulates problems in cooperation with the manager, creates models and uses them to answer questions and analyze issues.

5. Quick, quick, quick.

Timelines is critical. If you get the answers to your questions right away, you use them. Otherwise you frequently make a decision without them and go on to the next thing.

A few companies have decision support systems in place today. These firms typically have a substantial chunk of their sales and marketing research data online and are making good use of it.

What's Ahead?

So far, however, people have only scratched the surface. In the next 5 or 10 years I foresee a number of new developments:

1. A tremendous increase in the amount of marketing data used.

Perhaps ten times as much as is used today. The scanners will play a big role in this. They are going to create a large amount of valuable data, both for the retailers and, in various forms, for the manufacturers. Sales data is not the whole story, however. There will be better media data and better consumer panel data. This last will eventually include media usage and so permit a better analysis of advertising effects. Competitive data that monitors advertising, promotion, and prices will be vastly improved.

2. A dramatic increase in computer power available for marketing analysis and planning.

The hardware is already built and much of the software. It's out there now. The price is going to break. The only problem will be for marketing scientists and practitioners to absorb the computer power in a useful way.

3. A shift from market status reporting to market response reporting.

This is an important change. Let me explain. Today, internal company reporting systems and syndicated market monitoring services like SAMI and Nielsen emphasize market status, i.e., how things are. For example, what are sales, share, price, advertising, promotion, etc.?

Tomorrow's systems will report response. For example, what is price elasticity, i.e., how do sales change when price changes? How do sales change when advertising changes? What is promotional effectiveness? These are market response questions. Just as we monitor price today, we shall monitor price elasticity tomorrow. These are market response questions. Companies will even do a reasonably good job of monitoring competitor's market response.

Some firms have already started toward response reporting but much remains to be done. We need that new and better data I referred to and we need new tools that will have to be developed by marketing researchers and management scientists. Today we have pre-test market assessment, focus groups, trade-off analysis, market response models, pressure tests, and a variety of other tools. But we shall add to the list in the time ahead.

4. New Styles of Operation

Whenever you get an innovation that speeds things up, you're likely to get extra changes you didn't expect. I suppose when the telephone came in people thought it was a replacement for letters. But that's a trivial part of the effect - it creates whole new kinds

of behavior. Xerox is the same way. It doesn't replace carbon paper - it makes every office a print shop.

I expect the same thing with the technology I have been describing. To give an example: in one company I know with a good decision support system, there has been a marked increase in what I call "try-and-see" operations.

If somebody has an idea for a new promotion or a line extension, they try it in a couple of markets and see what happens. What the decision support system does is give you good analysis of the results and give it to you quickly. Because of this, you do more and do them better. The scanners will affect this. They are going to cut the time delays more and further encourage such a style of operation.

OK. That is an overview of changes to be anticipated in marketing knowledge and how you can organize to take advantage of them.

II. Changes in How We Market

Let's now turn to the second area: changes in how we actually do our marketing -- the operations dimensions.

We can look at this along the elements in the marketing-mix: product, advertising, promotion, price and distribution.

Product innovations are, of course, going on all the time. Some are more revolutionary than others. Some lead to products that will be sold through food stores. Others affect what food stores sell.

One thing seems clear. Anything that involves communication and information processing, we are likely to be able to do cheaply and quickly, if the volume is there. I'll give you an example. Here's one of the new generation of smart toys: "Speak and Spell" made by Texas Instruments. I push the button here and it gives me a word to spell. Unfortunately, because I didn't have this machine in third grade,

I fail the quiz.

As you see, we are teaching the computer to talk to us. Unfortunately, it still hasn't learned to listen very well. But that comes next. Some of my colleagues at MIT, for example, are working on that. The main point here is that we shouldn't think of the computer technology as just faster and faster addition and subtraction. It's really information processing and it opens up a new generation of smart devices that will impact food marketing as well as everything else.

For example, we can have programmed ovens that remember complicated heating cycles for a hundred different dishes. We can have programmed food processors. It would be relatively easy to design a menu planning machine that remembers dishes your family likes and doesn't like and types out a shopping list for you. We can certainly bring information processing machines into the supermarket: Dial your own granola! Vend-a-quiche! We're entering into an era of applications that no one can see the other side of.

Another direction in new products is fabricated food. The technologies of texturing, binding, and flavoring permit the engineering of new foods. The opportunities here are driven by cost, health, and plain, old consumer variety-seeking. The current focus is on inexpensive meat substitutes with health benefits. Who can doubt that, as meat prices go up, these activities will continue and expand.

Another innovation is the retortable pouch. This is the multi-layer plastic and aluminum package that has the promise of producing shelf stable products with high quality without the need for freezing. It's already in Europe and is now approved by FDA here. In these days of escalating energy costs such a development looks like good news

indeed in the quest for delivering quality food to the home at low cost.

Let's leave new products and take a look at advertising and promotion. There are some fascinating innovations ahead here. In London today you can turn on your television set and, if you have an extra piece of equipment, you can get an electronic newspaper on your screen. The BBC version is called CEEFAX. The information is actually carried on two lines of the TV picture that don't ordinarily appear on the screen. They are decoded by the special equipment at the press of a button.

It's important to note that the information is there all the time. You don't have to wait for the news broadcast. You simply push a button and the newspaper is available. Furthermore, the news is updated continuously throughout the day. What you do is to push a button to make the regular picture disappear and a table of contents appears. Then, if you want the weather map, for example, you push 115 and there it is.

As of now, there are 300,000 people in the UK who have the equipment to decode the picture and the number is growing fast. Besides the BBC version, there is also an independent television version on which you can buy advertising.

Clearly, we have a new medium. Clearly, it's a significant one. And, just as obviously, we'll have to do a lot of experimentation before we understand how to use it for greatest effectiveness.

Another service in market trial, also in the UK, is called Viewdata. This uses the telephone connected to a video terminal. The important difference is that a telephone gives you two-way communication. The

viewer answers a series of questions that appear on the tv screen and thereby guides the system to the information he or she wants to get. This kind of capability - - being able to draw information out of a large databank - - has tremendous marketing implications. It offers a super-catalog, a library-size yellow pages.

Suppose you want to go to a restaurant. The system shows you a selection of types. You pick Italian restaurants. It offers you a choice of geographic areas. You decide on the West End. It shows you a set of restaurants. You elect one. It shows you the menu for tonight.

As you can see, such a system is a place you can put ads of sales, sale items, sale prices and a vast variety of consumer information. The big advantage to the advertiser is that he can provide a great store of information on products and services and direct it to very specialized market segments. Everybody does not have to look at everything. The individual customer is assisted in a self-selection of the information he or she wants.

Turning to promotions, new measurements are going to lead to new marketing actions. This is one of the places the scanner will have great impact. From the scanners we can get highly detailed information. For example, I have collected daily market share of a food item in a Boston supermarket chain. You don't have any difficulty seeing the effect of store specials in this date. They are exactly one week wide.

Within a relatively short period of time, we can probably put a reasonable estimate of daily market share on the desks of the CEO's of the food manufacturers and food retailers. I'm not sure that's a good idea, but, if they want it and are willing to pay something

for it, they can probably have it.

Anyway, from our point of view here, what's important is that you will be able to get much more precise measurements of the effect of promotion. In this plot it's easy to read the short term effect.

Much trickier is the long term effect. Are the customers who bought during those peaks, people who would have bought anyway? What would they have bought if they hadn't bought the promoted brand? Which brands really compete with which other brands? What are the long term effects on the category? What are the effects on store loyalty? We don't know the answers to all these questions. But I believe we will learn some of them in the next few years through a combination of scanner and panel data. And I'm sure this will change some of the ways you do promotion.

Next to the product itself the most powerful variable in the marketing mix is price. In these inflationary times, it's a variable constantly on the move: upward. Price sits squarely in the center of any company's strategy on market segmentation. You want to have the right product at the right price for the right people. Some segments want quality, convenience and ease of preparation and are willing to pay for them. Others are happy with no-frill basics at the lowest delivered cost. Proper orchestration of the product and price mix will do a lot for profits.

The same data sources we have been discussing should greatly enhance your ability to monitor the price sensitivity of individual market segments. You can visualize an operation based on a combination of scanners and panel data where you keep track of the tastes and price response of a sample of households. Then you could use that to make

product line and pricing decisions.

Next, I would like to say a little about physical distribution and food delivery systems.

From the vantage point of a supermarket chain, stores are a portfolio and the strategy of opening, closing, and modifying stores has a lot of effect on the bottom line. At the manufacturer level, there is a parallel problem: How much emphasis to give what channel of distribution.

Some food manufacturers and grocery chains have reacted to the growth of out-of-home eating by declaring themselves in the food delivery business. They have adopted the attitude of "If you can't lick 'em, join 'em." So we find prepared food take-out departments in supermarkets and food manufacturers going into fast-food franchising.

However, other changes may be ahead. My colleague Gordon Bloom has just written a provocative article in the winter issue of the Journal of Retailing. He argues that new food delivery systems may grow out of just some of the trends and changes we have been discussing here today.

First of all he sees the emergence of a two-tiered price market. You have the affluent who are interested in convenience, quality, service, and variety and are willing to pay a price premium. Then you have a price conscious market made up of lower and middle class families, not necessarily poor, but willing and able to seek out bargain prices.

Meanwhile, conventional supermarkets face a continuing cost escalation: energy costs are bound to go up. So are labor costs which now represent 60% of the total bill. Cost problems are particularly

severe in the central city. Space is expensive. Insurance rates are high; pilferage is serious. All this forces costs and therefore prices upward, for conventional operations.

At the same time there are changes in the American household. The supermarket is geared to the large family that eats at home. For them there is an economic gain for the housewife to spend time seeking out low prices. It's a different story for the single person households which have been forming at such a rapid rate in the past few years. These represent people in a hurry with full time jobs, with less concern over a price premium. Add to this the women who work and, you get an increasing market for convenience and service.

In this environment Bloom sees an opportunity for warehouse to consumer systems: direct delivery. These have not been successful in the past but the changing market, the increasing costs of conventional distribution, and new technologies that solve certain problems, open up new possibilities.

The big obstacles in the past have been, first of all, the high cost of selecting the order. This may be substantially eased by advances in automation, or robotics as it is now called. Second there has been the problem of payment, but this is likely to be alleviated considerably by electronic funds transfer, credit cards and credit checking systems. A third problem is particularly sticky: the costs and risks of delivery. Yet, a whole level of the distribution system is being cut out, thereby creating savings that may be applied to resolve the difficulty.

A fourth problem is the effective display of goods, particularly goods of the unplanned purchase variety which often contribute importantly

to a store's total revenue. But this is a place where video display by cable or telephone as already discussed seems a natural. Customers could be alerted to new products and special items by video display at home. You could easily take into account their past buying habits. Thus if the customer has been purchasing seafood, a special on fresh salmon might automatically be brought to his or her attention.

Such systems won't make the supermarket disappear, but, as costs there increase with inflation, and technology brings the costs of alternatives down, an opportunity will develop for radical systems.

Conclusions

OK. Let's stand back.

Where are we after these looks at marketing change. We're in a world that won't stand still, a world not without its problems, but a world full of new devices, new ideas and new knowledge.

We have seen that you can capture and utilize the new knowledge with a decision support system. We have seen the possibility of new and physically different methods of operation.

Food marketing can be on the verge of a new thrust forward. Will it grasp the opportunity? If it can, than all of these developments spell productivity for the system.

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