

Research

Marketing information systems in the top U.S. companies: A longitudinal analysis

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Abstract

Marketing information system (MKIS) has been the nerve center of a marketing organization in corporate America. To measure its strengths and weaknesses, one may use its overall status in industries as a yardstick. The objective of this effort was to determine the overall status of MKISs in top U.S. companies. In order to identify the progress of MKISs, the findings of this study are compared to those of a similar study made in 1985. Apparently, MKISs today are more sophisticated than before and that MKIS usage has increased. However, many companies are not utilizing the latest information technologies and many marketing managers are not satisfied with their MKISs. The study further discusses possible reasons for the progress and recommends several actions through which the companies may shape the future of their MKISs.

Keywords: Marketing information systems; Marketing functions; Marketing activities; Marketing management; Computer usage; Decision support; Information technologies; Competitive advantage

1. Introduction

The marketing function of a business entity includes many activities. It is “the process of planning and executing the conception, pricing, promotion, and distribution of ideas, goods, and services to create exchanges that satisfy individual and organizational objectives.” [3] In a nutshell, its main purpose is to satisfy customers’ wants and needs at a profit [20]. A successful organization must integrate its functional elements into a smoothly operating unit. In marketing, this integration is best achieved through the satisfaction of customer’s objectives. Firms that are unable to outperform their competitors in satisfying the customers are destined to fail. To be able to stay in business, a company must gather and analyze

pertinent information to plan for its marketing actions.

In the 1960’s, an MKIS was merely an outgrowth of marketing research. As competition became increasingly intense, the gathering and management of marketing information became important. The data needed to make informed decisions exceeded the physical processing capabilities of most firms. More and more businesses began to establish MKISs: typically, a marketing manager uses them to learn about the needs of the marketplace for new or improved products and services. The MKIS makes it possible for a firm to react rapidly to customer needs. Once the product or service has been provided, the marketing manager may use the MKIS to determine how well the needs are being satisfied. The MKIS

provides managers with marketplace information and this may be used to modify, improve, or delete products and services. If a company does not have an MKIS, its efficiency and effectiveness are likely to be severely degraded, weakening its competitive edge. Therefore, to be able to compete today, business organizations must have an MKIS.

To gain a perspective of MKISs in U.S. companies, researchers have conducted survey studies. The first was reported by Boone and Kurtz [6] in 1971; it used Fortune 500 companies as its target group. The study was replicated by McLeod and Rogers [21] in 1982; they compared the results and provided important insight into the progress of MKIS in Fortune 500 type companies.

McLeod and Rogers [22] later conducted a survey of some of the companies listed in the Fortune 1000 directory. They reported the MKIS status of these companies based on information from 75 respondents with MKISs in 1985. A few

other studies have been reported since 1980. Berry [5] and Mentzer, et al. [23] surveyed the use of microcomputers in the MKIS; Higby and Farah [10] reported the use of decision support and expert systems; and Li, McLeod, and Rogers [15] updated the status and progress of MKISs in some Fortune 500 companies. However, none of these studies has replicated the 1985 study to determine the progress of MKISs in top 1000 U.S. companies. The purpose of this study is to do so by surveying this group of companies and comparing the results with those of 1985. The significant differences between these two studies may shed some light on the future of MKISs in these companies.

2. The MKIS model for this study

In retrospect, the very first descriptive model of MKIS proposed almost thirty years ago may be attributed to Philip Kotler [14]. Since then, many

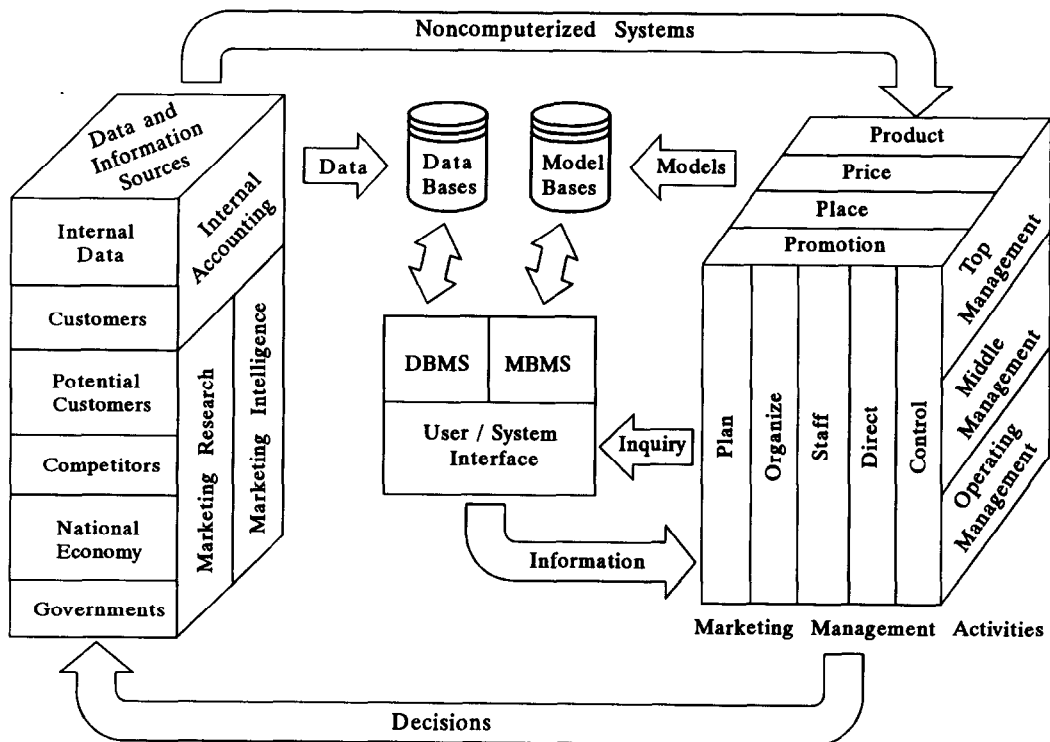


Fig. 1. Framework of a marketing information system.

Table 1
Industry types of participating companies

Type of industry	Company has MKIS?		% of row total	
	No	Yes		
Product-related non-manufacturing industries:				
Metal mining	1	1	1.4%	
Coal mining	0	1	0.7%	
Oil and gas extraction	1	4	3.6%	
Mining and quarrying of nonmetallic minerals, except fuels	0	1	0.7%	
Subtotal:	2	7	6.5%	
Product-related manufacturing industries:				
Food and kindred products	1	8	6.5%	
Lumber and wood products, except furniture	1	0	0.7%	
Furniture and fixtures	0	2	1.4%	
Paper and allied products	1	4	3.6%	
Printing, publishing and allied industries	2	1	2.2%	
Chemicals and allied products	1	9	7.2%	
Petroleum refining and related industries	0	3	2.2%	
Rubber and miscellaneous plastic products	1	1	1.4%	
Stone, clay, glass, and concrete products	1	1	1.4%	
Primary metal industries	2	4	4.3%	
Fabricated metal products, except machinery and transportation equipment	0	1	0.7%	
Industrial and commercial machinery and computer equipment	3	6	6.5%	
Electronic and electrical equipment and components except for computers	2	7	6.5%	
Transportation equipment	2	2	2.9%	
Measuring, analyzing and controlling instruments	2	3	3.6%	
Miscellaneous manufacturing industries	1	0	0.7%	
Subtotal:	20	52	52.1%	
Service industries:				
Motor freight transportation and warehousing	0	2	1.4%	
Transportation by air	1	0	0.7%	
Communications	0	2	1.4%	
Electric, gas and sanitary services	2	15	12.3%	
Wholesale trade – durable goods	0	2	1.4%	
Wholesale trade – nondurable goods	0	1	0.7%	
Building materials, hardware, garden supply, and mobile home dealers	0	1	0.7%	
General merchandise stores	0	1	0.7%	
Food stores	0	1	0.7%	
Home furniture, furnishings and equipment stores	1	0	0.7%	
Eating and drinking places	1	0	0.7%	
Miscellaneous retail	0	1	0.7%	
Depository institutions	0	4	2.9%	
Insurance carriers	2	7	6.5%	
Insurance agents, brokers and service	0	1	0.7%	
Holding and other investment offices	1	3	2.9%	
Personal services	1	0	0.7%	
Business services (including EDP)	2	1	2.2%	
Motion pictures	1	0	0.7%	
Health services	0	1	0.7%	
Educational services	0	1	0.7%	
Engineering, accounting, research, management and related services	0	1	0.7%	
Subtotal:	12	45	41.3%	
(N = 138)	Total:	34	104	100.0%

more models [1,2,7,9,13,15-18,21,22,24,25] have been proposed, however there is none widely accepted in industry. In fact, an MKIS is like a decision support system (DSS): it is generally unique to the company it serves.

For the purpose of this study, we adapted the MKIS model of McLeod and Rogers as shown in Figure 1. In this, there are two general subsystems which are fairly consistent with the others: they are the input and output subsystems. The input subsystems are *internal accounting*, *marketing intelligence*, and *marketing research*. They gather internal and environmental data for the databases. The output subsystems utilize the databases to produce marketing management information. Marketing managers will not only receive routine reports, they can also inquire interactively to produce *ad hoc* reports. Through this information, marketing managers can make their decisions on pricing, products, advertising/promotion, distribution, and packaging, under the constraints imposed by economics, the government, competitors, and the customer needs. This process should be integrated into organizational strategies and decision making processes to support all levels of marketing functions - planning, organizing, staffing, directing, and controlling.

3. Research method

3.1. Subjects

A questionnaire concerning the use of MKIS with instruction for completing it was mailed to the marketing executives of the top 1000 firms listed in a recent issue of *Business Week*. This list is equivalent to the *Fortune 1000* listing which was discontinued in 1983. Eventually, one hundred and thirty-eight replies (13.8%) were returned. This response rate is typical of an unsolicited mail survey. Of all the respondents, 81 (59%) were from product-related companies and the rest from service-related ones. Their annual sales ranged from \$20 million to \$30 billion and the number of employees ranged from 90 to 85,000. Among them, 104 (75%) indicated their firms have some form of MKIS and were able to complete the entire questionnaire. Table 1 and Table 2 show the distributions of the types and size of the companies having an MKIS. The profile of the entire sample (138 companies) seems to be representative of *Business Week 1000* firms. A chi-square test was conducted to identify significant difference in each distribution between the companies having MKISs and those having no

Table 2
Size of respondents' companies

Size of company	Company has MKIS?		Row total	% of row total
	No	Yes		
Annual sales:				
Below \$100 million	2	1	3	2.2%
\$100 million to below \$500 million	8	23	31	22.5%
\$500 million to below \$1 billion	10	24	34	24.6%
\$1 billion or above	14	56	70	50.7%
Column total:	34	104	138	100.0%
% of column total:	24.6%	75.4%	100.0%	
Number of employees:				
50 to 500	1	1	2	1.4%
501 to 2,000	4	17	21	15.2%
2,001 to 10,000	18	47	65	47.1%
10,001 to 25,000	5	20	25	18.1%
25,001 to 50,000	3	14	17	12.3%
50,001 to 100,000	3	5	8	8.0%
Column total:	34	104	138	100.0%
% of column total:	24.6%	75.4%	100.0%	

MKISs. No significant difference was found in any distribution, indicating that the companies having MKISs should be representative of the entire sample.

3.2. Questionnaire

In order to facilitate comparison, the author adapted the questionnaire used by McLeod and Rogers with some additions. The additional questions were developed after considering the advances of information technology and the trend towards using CIS as a competitive weapon [4,8,11,12,19,26,27] in the past few years. The final questionnaire is shown in the Appendix.

3.3. Procedure

The questionnaire was pretested twice to determine its format and wording. The final questionnaire was sent to all 1000 executives. Two months later, a second mailing was sent to non-respondents. Of the 104 who were able to complete the entire questionnaire, 58 were in the first-wave mailing. The samples allow us to examine the existence of late-response bias. A series of chi-square and 't' tests were conducted between the two samples. The first was for questions with a nominal or ordinal scale and the second for questions with a ratio (percentage) scale. No significant differences were found on respondents' perceptions of MKISs. Since there is no evidence of late-response bias, the samples were merged for further analyses.

4. Results and discussion

Of the 138 respondents, 25% said that they did not have a corporate MKIS. This percentage is fairly consistent with that of 1985 survey (24%). This is somewhat difficult to explain. It seems that any business should process some marketing-related information (e.g., customer addresses, sales orders, merchandise returns, etc.). As McLeod and Rogers suggested, the perceived MKIS support might be at such a low level that it did not seem to exist which resulted in losing its

identity. Alternatively, managers might rely on external MKIS services for marketing information. For the purpose of this study, the companies having no MKISs are excluded from further analyses.

4.1. CIS and marketing plans

The majority (81%) of the companies that stated they had MKISs also had company-wide computer information systems (CISs). Of the companies with CISs, two thirds had formal, written company-wide CIS plans. Fifty-nine percent said that their CIS plans were influenced by marketing strategies. In addition, most (89%) said they had formal, written marketing plans. However, only 53% of these were influenced by the status of information-related resources in the company.

4.2. Hardware usage

An overwhelming number (95%) of respondents indicated that their MKISs were computer assisted; for the breakdown, see Figure 2. Interestingly enough, little use is made of supercomputers.

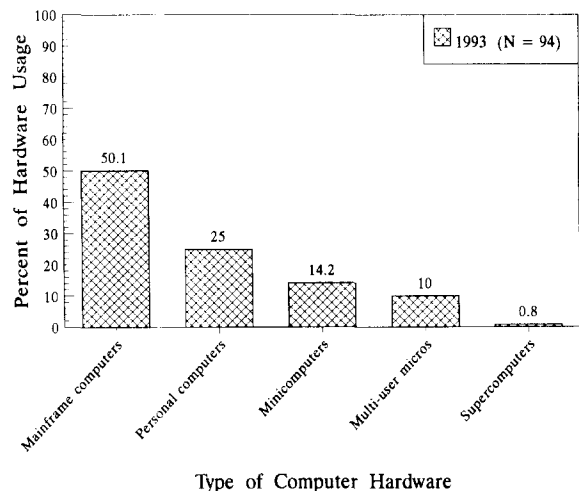


Fig. 2. Computer hardware usage in MKIS.

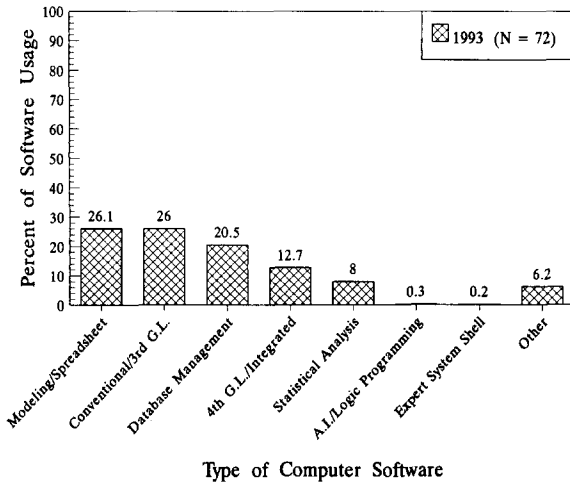


Fig. 3. Computer software usage in MKIS.

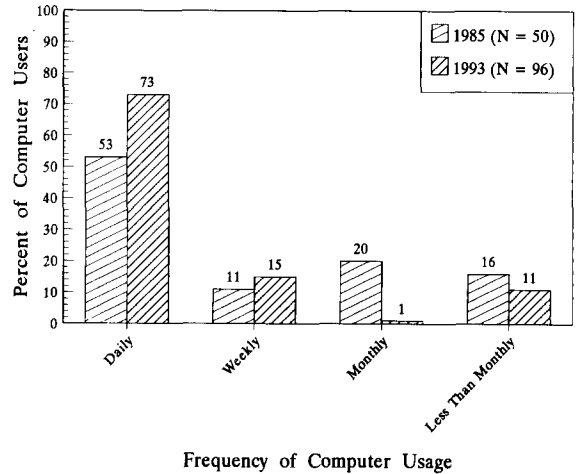


Fig. 4. Frequency of computer usage.

4.3. Software usage

Figure 3 shows that there were three main categories of corporate-wide software (i.e., decision modeling and spreadsheets, conventional programming, and database management). Apparently, expert systems and artificial intelligence languages are not meeting their assumed demand.

4.4. Frequency of computer usage

Most of the respondents (93%) were able to access personal computers (PCs) or terminals in their job functions. This is much greater than 67% of 1985. Many (73%) used PCs or terminals on a daily basis (up from 53% in 1985). Figure 4 contrasts the frequencies of computer usage between 1985 and 1993. There were more daily or weekly users and less monthly or sporadic users in 1993 than in 1985 (significant at $p < 0.0001$ based on the chi-square test).

4.5. Purposes of computer usage

As in 1985, the major use of computers is to retrieve data (see Figure 5).

When asked what they first considered useful in their marketing information systems, 31% of the results were "reports," with 23% "different

managers' information needs," and 18% "data/file retrieval." However, there are significant differences ($p < 0.01$) between 1993 and 1985 based on the chi-square test. "Reports" and "data retrieval" in 1993 were up from 1985's. This is consistent with the major purpose of computer usage in 1993 - retrieving data. On the contrary, "information needs" were down. Obviously marketing managers focus on their means (the information) and not their ends (the needs).

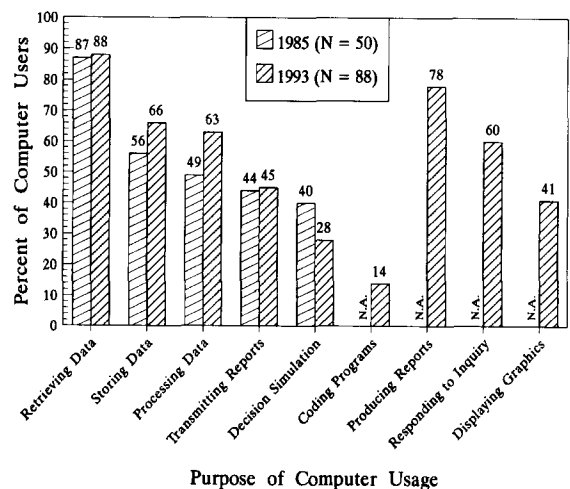


Fig. 5. Purposes of computer usage.

4.6. Communications of information

Communications between branches and their main office are of vital importance to the success of a marketing organization. Traditionally, these communications were through the phone (or voice mail). In 1993, other communication channels included electronic mail (68%) and electronic bulletin boards (26%). The use of computer conferences (9%) and video conferences (10%) was limited. Surprisingly none of the firms utilized any hypertext or hypermedia technology for their inter-branch conferences. Moreover, many (78%, $78 \div 103$) of these firms routinely routed marketing intelligence information to those managers with a need to know.

4.7. Sources of information

Internal accounting was regarded as the most important source of MKIS information. It received 65% of the 95 top-ranking responses (see Figure 6). Table 3 shows the change in ranks of marketing intelligence (significant at $p < 0.05$ based on the Mann–Whitney test). Also, the rank distributions in 1993 between marketing-intelligence and marketing-research information are quite similar. This is a good sign for customers, since marketing research is primarily designed to identify market demands and preferences. This seems to confirm the reviving interest of corporate America in customer-driven programs.

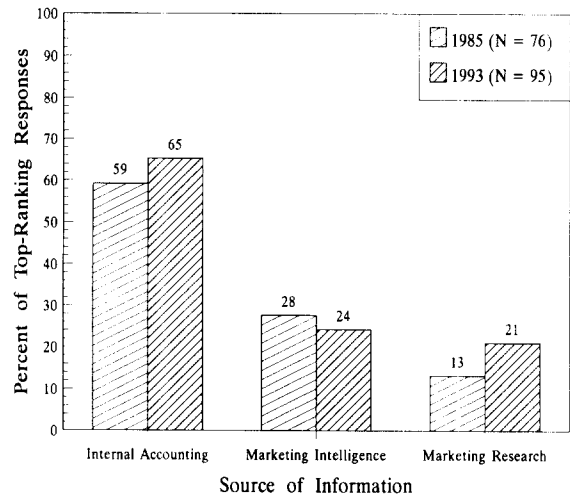


Fig. 6. Sources of information in MKIS.

4.8. Information content

Figure 7 shows the environmental data maintained in the MKIS. Furthermore, it shows that most (93%) customer data were computerized and that more prospect data (up by 10%) but less national economy (down by 8%) were computerized in 1993 than in 1985.

With regard to preprocessed information, such as sales forecasts, distribution trends, market share, inventory statistics, etc., 70 of 100 responding companies made them available to managers on a real time basis. Nearly half (49%) of the companies had economic-trend estimates in-

Table 3
The ranks of sources of information in 1985 and 1993

Source of information	Rank			Average rank	Mann–Whitney test ^a
	1	2	3		
Internal accounting:					
1985 (N = 66)	45	9	12	1.500	0.2482
1993 (N = 102)	62	12	28	1.667	
Marketing research:					
1985 (N = 56)	10	27	19	2.161	0.6547
1993 (N = 102)	20	41	41	2.206	
Marketing intelligence:					
1985 (N = 57)	21	18	18	1.947	0.0244
1993 (N = 102)	23	30	49	2.255	*

^a Significance level of the Mann–Whitney test of independence between 1985 and 1993 data.

* Significant at $p < 0.05$

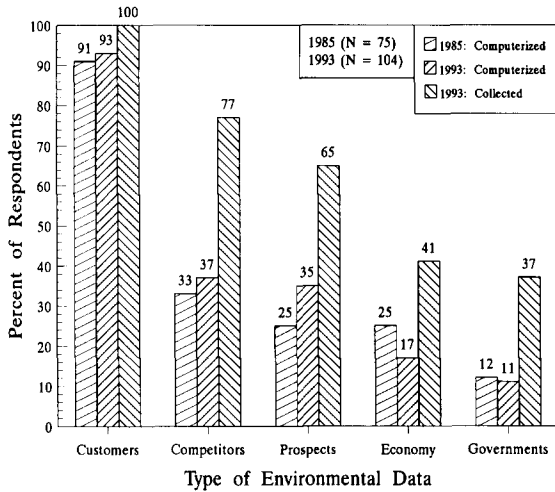


Fig. 7. Environmental data collected for MKIS.

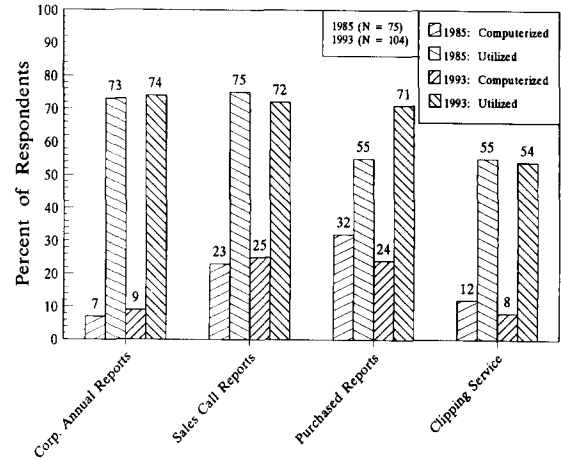


Fig. 8. Sources of competitor information.

cluded in their marketing forecasts. As for competitor information, the status of 1993 is not much different than that of 1985 (see Figure 8). Many firms had been using corporate annual reports (74%), sales call reports (72%), purchased reports (71%), and clipping service (54%) as the source of their competitor information. Nonetheless, most was not computerized.

4.9. Support for marketing management

As in 1985, 42% of the companies said that their MKISs were mostly supporting middle-level management (see Figure 9). However, more companies thought that low-level management were receiving more MKIS support than the top-level. Table 4 shows the average ranks of 1993 from middle to low and finally top. The distribution has changed significantly.

Regarding management functions, Figure 10 shows that planning (50%) and controlling (31%) were the two areas receiving the most support from the MKIS. While planning was up, controlling was down from 1985. Table 5 shows the average ranks of 1993 in sequence: planning, controlling, directing, organizing, and staffing. Also directing and controlling have significantly changed their rank distributions (at $p < 0.001$ and $p < 0.05$, respectively under the Mann-Whitney

test). This increased support for planning activities has two implications: on the positive side, MKIS had attracted more marketing managers to use the system for planning, but on the negative side, marketing managers may have focused too much on planning and too little on implementation and controls.

4.10. Support for marketing-mix decisions

A marketing program typically involves decisions on the marketing-mix ingredients: product,

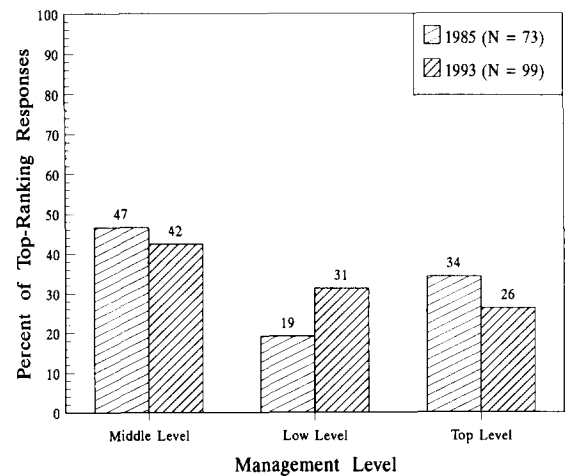


Fig. 9. MKIS support for marketing management.

Table 4
The ranks of support for management levels in 1985 and 1993

Management level	Rank			Average rank	Mann-Whitney test ^a
	1	2	3		
Top level:					
1985 (N = 70)	25	28	17	1.886	0.0203
1993 (N = 92)	26	23	43	2.185	*
Middle level:					
1985 (N = 68)	34	32	2	1.529	0.2936
1993 (N = 92)	42	39	11	1.663	
Low level:					
1985 (N = 63)	14	7	42	2.444	0.0369
1993 (N = 92)	31	16	45	2.152	*

^a Significance level of the Mann-Whitney test of independence between 1985 and 1993 data.

* Significant at p < 0.05.

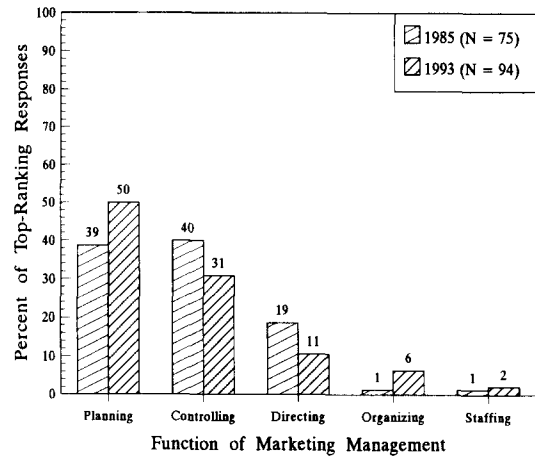


Fig. 10. MKIS support for marketing management functions.

price, place, and promotion. In 1985, product-related decisions were receiving the most MKIS support. In 1993, support for price-related decisions took a small lead ahead of that for product-related ones (see Figure 11). The chi-square test indicated that the change in top-rank-

ing MKIS support between the two years was significant at p < 0.05. Table 6 shows the average ranks of 1993 in sequence were product, price, promotion, and place. Also product and promotion related decisions have significantly changed

Table 5
The ranks of support for management functions in 1985 and 1993

Management function	Rank					Average rank	Mann-Whitney test ^a
	1	2	3	4	5		
Planning:							
1985 (N = 65)	29	14	14	5	3	2.062	0.4716
1993 (N = 92)	47	20	13	3	9	1.989	
Organizing:							
1985 (N = 55)	1	9	12	30	3	3.455	0.5241
1993 (N = 92)	6	12	24	27	23	3.533	
Staffing:							
1985 (N = 54)	1	2	5	2	44	4.593	0.6136
1993 (N = 92)	2	5	4	10	71	4.554	
Directing:							
1985 (N = 64)	14	20	13	16	1	2.531	0.0003
1993 (N = 92)	10	16	24	20	22	3.304	
Controlling:							
1985 (N = 68)	30	19	15	3	1	1.912	0.0234
1993 (N = 92)	29	27	14	10	12	2.446	

^a Significance level of the Mann-Whitney test of independence between 1985 and 1993 data.

* Significant at p < 0.05

** Significant at p < 0.01

*** Significant at p < 0.001

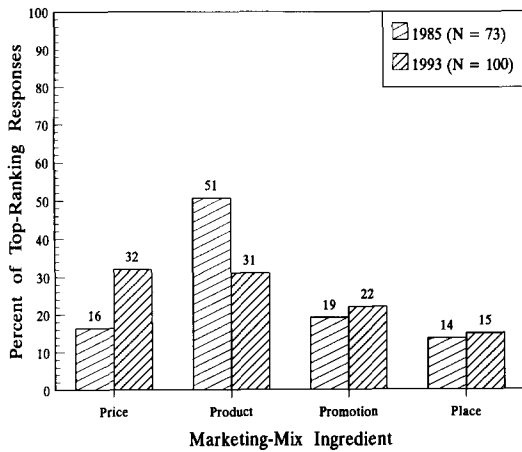


Fig. 11. MKIS support for marketing-mix ingredients.

their rank distributions (at $p < 0.01$ and $p < 0.05$, respectively under the Mann–Whitney test). Apparently, MKIS in 1993 was supporting marketing-mix decisions on a more balanced basis than in 1985.

However, only 55% of the companies had the descriptions of price-related decisions computerized. To develop such databases is by no means easy under old computer technology. Fortunately,

hypertext or hypermedia should make it easier in the future.

4.11. Use of decision models

There are several decision models available to a marketing manager. Most of them were developed to aid in price and product decisions. In 1985, 58% of the managers used decision models to compute their annual operating budgets, and 42% used them to evaluate new products or formulate pricing strategies. In 1993, this has flipped; operating budgets went down and product evaluation and pricing strategies each went up (see Figure 12). Furthermore, the use of models had shown various levels of increase in less-structured tasks such as product deletion, advertising media selection, salesperson assignment, and delivery routing. One particular task, selection of advertising media, had more than doubled in its use. On the contrary, the well-structured tasks such as computing economic order quantities, determining reorder points, and approving customer credit had shown significant decreases ($p < 0.0001$ under the chi-square test) in model use. Figure 13 shows that the decision models most likely to be computer-assisted are for formu-

Table 6
The ranks of support for marketing mix in 1985 and 1993

Marketing-mix decision	Rank				Average rank	Mann–Whitney test ^a
	1	2	3	4		
Product:						
1985 (N = 65)	37	11	10	7	1.800	0.0037
1993 (N = 98)	31	29	17	21	2.286	**
Price:						
1985 (N = 59)	12	21	12	14	2.475	0.3042
1993 (N = 98)	32	24	23	19	2.296	
Place:						
1985 (N = 58)	10	11	16	21	2.828	0.3928
1993 (N = 98)	15	20	17	46	2.959	
Promotion:						
1985 (N = 61)	14	18	19	10	2.410	0.0169
1993 (N = 98)	22	15	19	42	2.827	*

^a Significance level of the Mann–Whitney test of independence between 1985 and 1993 data.

* Significant at $p < 0.05$

** Significant at $p < 0.01$

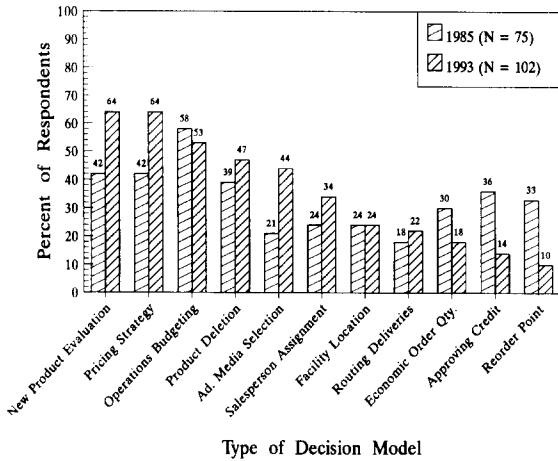


Fig. 12. Use of decision models.

lating pricing strategy, computing operating budget, evaluating new products, and deleting products.

4.12. Performance of MKIS

There were a diversity of MKISs among the participating companies. When asked to define the company's MKIS, thirty-seven (37%) managers replied that it was "a group of subsystems - some gather data and others process it. The data gathering subsystems are marketing research,

marketing intelligence, and internal accounting. The processing subsystems produce information about product, price, distribution, and promotion."

The next most popular definition was given by 23 managers who stated that the MKIS was "a group of subsystems that gather information from the environment and use it to help the manager answer certain basic questions, such as What is our current situation? Where do we want to be? What are the constraints? and What action should we take?"

Fifteen managers felt that the MKIS was a "data bank that stores data from the environment and makes that data available to a set of computer programs. The programs produce output that is communicated to the manager on a display unit." Only ten managers thought that the MKIS was "a group of subsystems - each representing an area of marketing activity - product, price, distribution channels, and promotion. The subsystems help the manager formulate and execute marketing programs."

This wide divergence in MKIS definitions indicates that there is no accepted industry standard. The companies seem to be searching for efficiency in their marketing organizations. It is obvious that most of the companies have not found a system that they believe is best. Only 32% were satisfied with their existing MKISs and 16% were

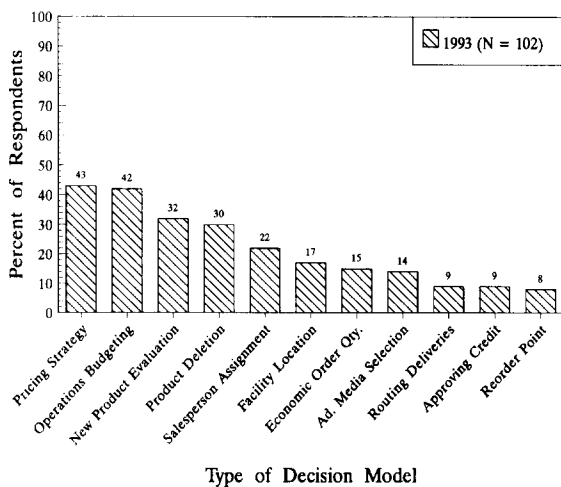
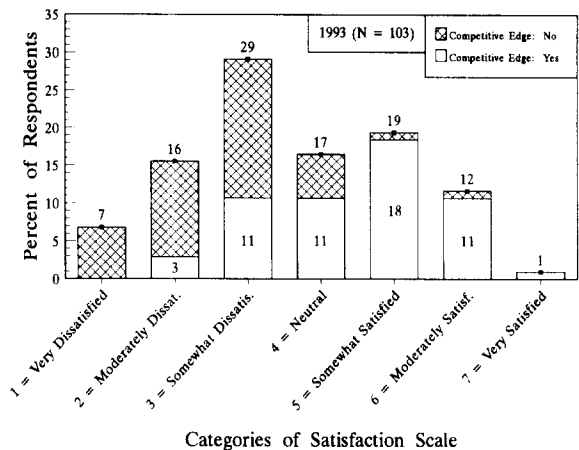


Fig. 13. Computer-assisted decision models.



Grand Mean: 3.650, Grand Standard Deviation: 1.473, Grand Median: 3

Fig. 14. Satisfaction with marketing information systems.

neutral on the subject. However, 54% felt that their MKISs gave them some sort of competitive advantage. A cross-tabulation of satisfaction level by competitive advantage (see Figure 14) showed that there was a significant positive association between them ($p < 0.0001$ under the chi-square test).

5. Conclusions and recommendations

Overall, the results of this study confirm mostly to the trends identified in 1985. The specific patterns of MKIS usage includes:

- (1) Computers are needed by marketing managers, for retrieving data and then storing and processing it.
- (2) Internal accounting continues to be the most important source of MKIS information while the use of marketing intelligence and marketing research as information sources are more balanced.
- (3) Most companies collect data about their customers. Collection of data about competitors and prospective customers is also popular, but this is less computerized.
- (4) The major users of MKIS are the middle-level managers.
- (5) Planning and controlling are still the management functions using most MKIS support.
- (6) Price and product related decisions consume most of the MKIS resources. However, support for marketing-mix ingredients is likely to become more balanced.
- (7) Decision models are used mostly for product and price decisions. Computer-assisted decision models reflect this.
- (8) Mini and microcomputers are now used as much as mainframe computers.
- (9) The computer software being used in an MKIS includes modeling/spreadsheets, conventional/third-generation programming languages, and database management systems. Statistical analysis software, logic programming languages, and expert system shells are not used very much.

Although many of the surveyed companies have sophisticated CISs and MKISs, most of them are limited in nature. There seems to be a deficiency in computerizing information about governments, economy, competitors, and prospects across companies. Such information cannot be used effectively if it is not computerized. Nor can it be communicated between branches and the main office efficiently.

In today's global marketplace, the success of a company does not depend on how much the company uses latest technologies but on how well it can gather, manage, and utilize pertinent information and integrated it into the marketing managers' decision making processes. To achieve a successful MKIS, implementing new information technologies is not enough. It is necessary to focus more on the information needs of marketing managers, to balance the MKIS support for all management functions, and to integrate business plans with CIS plans in order to exploit the available information resources. This will probably create a competitive advantage for the company and, in turn, increase the level of satisfaction perceived by the managers.

Survey Questionnaire

Does your firm have a marketing information system (be it manual or computer-based)?

1 _____ YES 2 _____ NO

If your answer to the above question is *NO*, please return this questionnaire in the enclosed self-addressed, postage-paid envelope. Thank you.

Does your firm have a company-wide computer information system (CIS)?

1 ____ YES 2 ____ NO

If **YES**, does your firm have a formal, written company-wide CIS plan?

1 ____ YES 2 ____ NO

If **YES**, is the company-wide CIS plan influenced by your company's marketing strategies?

1 ____ YES 2 ____ NO

Does your firm have a formal, written marketing plan?

1 ____ YES 2 ____ NO

If **YES**, is the marketing plan influenced by the status of your company's information-related resources?

1 ____ YES 2 ____ NO

When you think of your firm's marketing information system (MKIS), what do you think of first? (Check only one)

- 1 ____ Computer equipment
- 2 ____ Computer models/programs
- 3 ____ Data storage
- 4 ____ Data retrieval
- 5 ____ Data processing
- 6 ____ Reports
- 7 ____ Areas of marketing operations
- 8 ____ Different managers' information needs
- 9 ____ Other _____

Does your firm have the following activities between branches and the main office? (Check all that apply)

- a ____ Video conferences
- b ____ Computer conferences
- c ____ Electronic mail
- d ____ Electronic bulletin board
- e ____ Hypertext conferences
- f ____ Hypermedia conferences

Is your firm's marketing information system in any way computer assisted?

1 ____ YES 2 ____ NO

If **YES**, please give the percentage of usage pertinent to the following types of computers. (Note that the total percentage of usage should equal 100%.)

- a _____ % Supercomputers
- b _____ % Mainframe computers
- c _____ % Minicomputers
- d _____ % Multi-user microcomputers
- e _____ % Single-user microcomputers

Is a personal computer or terminal available to you in your own office?

- 1 _____ YES 2 _____ NO

How often do you use a personal computer or terminal?

- 1 _____ Daily
- 2 _____ Two or three times per week
- 3 _____ Once per week
- 4 _____ Once per month or less
- 5 _____ Never

If you use a personal computer or terminal, for what purpose do you use it? (Check all that apply)

- a _____ Storing data
- b _____ Retrieving data
- c _____ Processing data
- d _____ Decision simulation
- e _____ Sending/receiving reports
- f _____ Coding computer programs
- g _____ Displaying graphic output
- h _____ Producing reports
- i _____ Responding to inquiries
- j _____ Other _____

Does your firm maintain data on the following entities? Which data on these entities is computerized? (Check all that apply in each category)

<u>Entity</u>	<u>Maintained</u>	<u>Computerized</u>
Customers	1 _____	2 _____
Potential customers	1 _____	2 _____
Competitors	1 _____	2 _____
Governments	1 _____	2 _____
National economy	1 _____	2 _____

Is any preprocessed information (e.g., sales forecasts, market share, distribution trend, etc.) maintained in the database for immediate response to manager queries?

- 1 _____ YES 2 _____ NO 3 _____ Other: _____

If **YES**, can you give examples of the information items? _____

Do your marketing forecasts explicitly include estimates of economic trends?

1 _____ YES 2 _____ NO 3 _____ Other: _____

Rank the levels of marketing management based on degree of support received from the Marketing Information System (MKIS). Enter a "1" for the level receiving the most support.

- a _____ Top level (vice presidents of marketing, sales, etc.)
- b _____ Middle level (regional managers, directors, etc.)
- c _____ Low level (office managers, supervisors, etc.)

Does your firm have an office concerned primarily with the collection of information on: (Check all that apply)

- a _____ Customers b _____ Competitors c _____ Governments

Check the following sources of competitor information that your firm utilizes, and the ones that enter the computerized database. (Check all that apply)

<u>Source</u>	<u>Utilized</u>	<u>Computerized</u>
Clipping service	1 _____	2 _____
Corporate annual reports	1 _____	2 _____
Salesperson call reports	1 _____	2 _____
Purchased reports	1 _____	2 _____

Rank the following data and information sources to your marketing information system. Enter a "1" for the most important source.

- a _____ Internal accounting
- b _____ Marketing research
- c _____ Marketing intelligence

Rank the following decision areas according to the degree of support received from the marketing information system. Enter a "1" for the most important source.

<u>Rank</u>	<u>Marketing Program</u>	<u>Computerized</u>
a _____	Product-related decisions	a _____
b _____	Pricing decisions	b _____
c _____	Distribution channel decisions	c _____
d _____	Promotional decisions	d _____

Are descriptions of the above marketing decisions stored in the computerized database? Please check the ones that are computerized on the right of the above decisions.

Does your firm routinely route marketing intelligence information immediately upon receipt to those managers with a need to know?

1 ___ YES 2 ___ NO 3 ___ Other: _____

Which of the following decisions are you responsible for? Do you use computers to assist in making the following decisions? (Check all that apply in each category.)

<u>Decision</u>	<u>Responsible</u>	<u>Computer-Assisted</u>
New product evaluation	1 ___	2 ___
Product deletion	1 ___	2 ___
Pricing strategy	1 ___	2 ___
Location of facilities, such as warehouses or stores	1 ___	2 ___
Routing of salesperson or deliveries	1 ___	2 ___
Computing economic order quantities (EOQ)	1 ___	2 ___
Computing reorder points	1 ___	2 ___
Approving customer credit	1 ___	2 ___
Selecting advertising media	1 ___	2 ___
Assigning sales representatives to territories	1 ___	2 ___
Computing operating budgets	1 ___	2 ___
Other _____	1 ___	2 ___

Are certain models listed above intended for use by particular management levels?

1 ___ YES 2 ___ NO 3 ___ Other: _____

Rank the management levels in terms of model use. Enter a "1" for the level making greatest use of models.

- a ___ Top level (vice presidents of marketing, sales, etc.)
- b ___ Middle level (regional managers, directors, etc.)
- c ___ Low level (office managers, supervisors, etc.)

Rank the marketing management activities according to the degree of support received from the MKIS. Enter a "1" for the activity receiving the most support.

- a ___ Planning
- b ___ Organizing
- c ___ Staffing
- d ___ Directing
- e ___ Controlling

Which definition most closely describes your marketing information system?

- 1 _____ A data bank that stores data from the environment and makes that data available to a set of computer programs. The programs produce output that is communicated to the manager on a display unit.
- 2 _____ A group of subsystems that gather information from the environment (customers, competition, government, etc.) and use it to help the manager answer certain basic questions, such as What is our current situation? Where do we want to be? What are the constraints? and What action should we take?
- 3 _____ A group of subsystems - each representing an area of marketing activity - product, price, distribution channels, and promotion. The subsystems help the manager formulate and execute marketing programs.
- 4 _____ A group of four subsystems. Three are concerned with gathering data (marketing research, marketing intelligence, internal accounting). One subsystem includes decision models that convert the data into information.
- 5 _____ A group of subsystems - some gather data and others process it. The data gathering subsystems are marketing research, marketing intelligence, and internal accounting. The processing subsystems produce information about product, price, distribution channels, and promotion.
- 6 _____ None of these definitions fits our system. I would describe our system as follows: _____

To what extent are you satisfied with the capability and quality of your existing marketing information system? (Circle one number only)

Very satisfied 7 6 5 4 3 2 1 Very dissatisfied

Do you think the company-wide computer information system or your marketing information system have somehow created a competitive edge for your firm?

1 _____ YES 2 _____ NO

If the total percentage of software usage is 100%, what is the percentage of the following software usage in your marketing information system?

- a _____ % Conventional programming— COBOL, FORTRAN, PL/I, C, etc.
- b _____ % A.I./Logic programming— PROLOG, LISP, SMALLTALK, etc.
- c _____ % Expert system shell— ART, GURU, KEE, OPS5, etc.
- d _____ % Decision modeling/Spreadsheets— EXPRESS, IFPS, SIMPLAN, LOTUS, etc.
- e _____ % Database management— IMS, DB2, ADABASE, IDMS, dBASE, etc.
- f _____ % 4th generation/Integrated— FOCUS, NOMAD, MAPPER, etc.
- g _____ % Statistical analysis— SAS, SPSS, BMDP, MINITAB, etc.
- h _____ % Other (specify): _____

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