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Review

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BUSINESS TO BUSINESS ISSUE

February, 1987

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Quirk's MARKETING RESEARCH Review

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Tennant fine tunes its bus

By Beth E. Hoffman
managing editor

When Dave Hetterick began working in research at Tennant Co. three years ago, the primary function of his department was conducting sales analyses and sales forecasting. While these two research areas are important, little was done to measure customer satisfaction with its industrial floor cleaning equipment, the firm's primary manufacturing interest.

"Traditionally, business-to-business research for industrial companies had primarily an internal focus on making a profit," says Hetterick, business research manager at Tennant Co. in Minneapolis. "Marketing was a 'pushing' process, meaning, getting a customer to purchase a machine and then moving on to the next likely prospect."

With a number of competitors and a finite group of customers, the research emphasis needed readjusting if the company wanted to remain a leader in the floor cleaning machines and floor cleaning materials business. That was part of the responsibility Hetterick was asked to assume, to help redirect the research outward to the customer.

"Marketing at Tennant as at many other industrial companies, is now more of a 'pulling' process. The idea is to 'pull' customers in by determining their needs and expectations, designing products and services to meet those needs, then measuring their satisfaction with those products."

TENNANT®

Tennant Co. is a manufacturer of floor maintenance equipment and operates in the industrial, commercial and surface maintenance markets. In 1985, the firm had over $136,000,000 in net sales, providing equipment, accessories, supplies and floor treatment materials to customers worldwide in a variety of diverse markets. The company's headquarters, research, engineering operations and domestic manufacturing facilities are located in Minneapolis.

Customer questionnaire

Tennant began measuring customer satisfaction about two years ago when it initiated the "Customer Feedback Channel" project. This two-part questionnaire measures customer satisfaction with its products soon after delivery and then again one year later after the customer has used the machine. The survey is an on-going, direct mail project which the company developed internally for its machine customers in the industrial markets.

Thousands of businesses or organizations that have large floor or other horizontal surfaces which need cleaning and wear protection use Tennant equipment and products. These include: college campuses, military hangars, aircraft carriers, convention centers, shopping centers and parking ramps as well as manufacturing and warehousing facilities.

The Customer Feedback Channel questionnaire is the first formal and systematic procedure the company has used to help meet customer expectations for the firm's products and services. Prior to the Feedback Channel, customers were sent a letter about one year after they purchased the equipment asking about their satisfaction

iness-to-business research

with the product. The letter was an effort to assist dissatisfied customers, but relatively few customers responded and the results were not quantifiable. Favorable responses were used by the salespeople as testimonials.

The purpose of the Customer Feedback Channel is to assure that customers are satisfied with the quality of Tennant's products and services.

"The ultimate measure of quality is being able to continuously meet customer expectations," says Hetterick. "With this research program, we are able to do this thoroughly and on a more consistent basis."

Measuring expectations

The company begins measuring expectations soon after the customer receives the machine.

"Two weeks after a machine is delivered and is installed by a company salesperson, we send out a questionnaire," says Hetterick. "Naturally, there are many variables about the machine that we can't ask about until the customer has used it awhile, but there are many things that can be measured."

Hetterick says the things that Tennant measures right after delivery are: the customer's expectations and degree of satisfaction with the shipping of the machine; any damage that occurred in delivery; the type of crating used and the installation. The customer is also asked how he plans to use the machine. The questionnaire also contains a section on the machine's characteristics. Additionally, the customer is asked to comment on his expectations for the machine's performance, productivity, how long it will last, its reliability, the availability of parts and service availability.

One year later, the customer is mailed the second part of the survey. The intention of this questionnaire is to find out how well the customer's expectations are being satisfied.

"We want to find out how well the machine is performing, if there are any problems with it and if there is anything the customer would like to change about the machine," says Hetterick.

The 10-page questionnaire covers six areas. The first two ask the customer to rate his satisfaction with the company and its products and services and his satisfaction with the machine purchased one year previously. The third section asks the customer about warranty claims and his satisfaction with the company's maintenance. The fourth area is concerned with the machine purchased, its cleaning performance, ease of operation, reliability and quality. The fifth area asks the customer about his use of other industrial floor cleaning equipment and the floor surfaces on which the machine is used. The final part asks questions about the customer's facility demographics.

Questionnaire results

Survey results Tennant has received thus far are based on the first part of the questionnaire sent to customers who purchased products since the program began in 1985. The follow-up questionnaire went out beginning in 1986, one year after customers purchased the equipment. Although a report for the 1985-86 period has not been fully completed, the company is recognizing the need for some changes or adjustment in design, manufacturing, and packaging of the equipment. The findings have also helped rein-

Tennant continued on p. 34

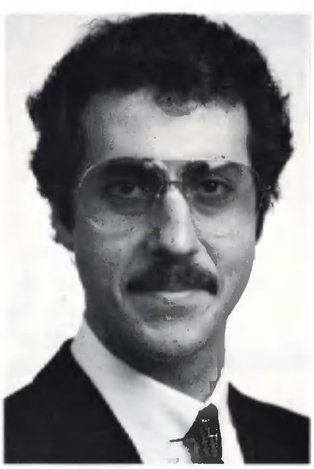
"Marketing at Tennant Co. is now more of a 'pulling' process. The idea is to 'pull' customers in rather than 'push' products out. We're 'pulling' customers in by determining their needs and expectations, designing products and services to meet those needs and then measuring their satisfaction with those products." Dave Hetterick

Wendy's research serves

By Beth E. Hoffman
managing editor

When research revealed that Wendy's Single hamburger was not in the same league with the Burger King Whopper and the McDonald's McD.L.T., additional research was instrumental in making a change.

Nearly $250,000 and thousands of taste tests later, the world's third largest hamburger chain stepped out with another new hamburger. The result was "The Big Classic," similar to the Single but featuring a different bun, different packaging and a distinctive brand name.



Michael Sapienza

Research directors

The taste tests were conducted under the direction of Michael Sapienza, vice president of marketing analysis and new products at Wendy's International, Dublin, Ohio, and by a nationally-known research supplier. The project took over six months to complete, beginning at the end of 1985 and ending in May, 1986. The objective was to find out which of several Wendy's hamburger prototypes would be most competitive with other "signature" fast-food sandwiches currently on the market. More than a dozen tests, involving 5,200 taste testers, made up the main portion of the study. Some of these tests were conducted internally at Wendy's corporate headquarters using Wendy's employees. In addition, three major taste tests involving fast-food consumers were conducted in locations throughout the U.S.

Six cities

The taste tests were conducted in six cities. They were: Houston, Memphis, Cincinnati, Philadelphia, Toledo and Columbus. According to Sapienza, these cities were chosen on the basis of three criteria:

"First of all, we wanted a good geographical diversification of cities that had many Wendy's outlets. Secondly, we wanted cities where Wendy's was well-represented and where we had competitive presence. Thirdly, we had to conduct the tests in places where we could get reliable field services to control the quality of interviews."

> *"The research revealed that the order of the condiments makes a tremendous difference to the consumer. The order in which the condiments hit your taste buds will taste differently to you depending on how those condiments are arranged." Paul Raab*

Taste tests

The individuals involved in the study were primarily between the ages of 18-34. They were selected randomly by telephone and were chosen up

"The Big Classic"

on the basis of two criteria. The first criterion was demographics. Wendy's wanted to recruit a representative sample within each market area. Secondly, all of the participants had to be frequent consumers of fast-food signature sandwiches.

Once selected, the participants were asked to taste and comment on the Wendy's prototypes and two other sandwiches, primarily the Whopper and the McD.L.T. The participants were unaware of which fast-food competitors were used in the unbranded study.

"For 17 years we have been teaching our employees the color of white, red, green, white, red, green (mayonnaise, ketchup, pickle, onion, tomato, lettuce). If that combination is still well-liked today, it just doesn't make sense to change."
Paul Raab

In addition to rating the competitors' sandwiches, the participants were asked to judge a variety of topping combinations on the Wendy's hamburger.

The first category tested was the bun. Wendy's Research and Development Department screened internal taste panels who sampled 100 different varieties of buns. The off-site participants tried three major types of buns which were selected from the original 100. The three included a sesame seed bun and hard and soft versions of the kaiser bun. Participants also evaluated 40 special sauces, three types of lettuce, two sizes of tomato slices and 500 names, including "The Hunk," "The Chief," "The X.L.," "The Hot 'n' Juicy" and "The Max."

The end product is a quarter-pound square beef patty, topped with iceberg lettuce, two tomato slices, raw onion rings, dill pickles, extra dabs of ketchup and mayonnaise on a cornmdusted, spiral-top kaiser bun. The sandwich is served in an almond-colored styrofoam box with a dome formed to resemble the bun's top. "The Big Classic" costs slightly more than Wendy's Single hamburger, which is still available on the menu.

No matter which burger a consumer chooses, one thing is guaranteed: the order of condiments on the sandwich. For big-time burger eaters, they want it that way.

"The research revealed that the order of condiments makes a tremendous difference to the consumer," says Paul Raab, manager of corporate communications at Wendy's International. "The order in which the condiments hit your taste buds will taste differently to you depending on how those condiments are arranged."

Raab said a second taste profile - mayonnaise, pickle, lettuce, tomato, onion and ketchup - was tested and also well-liked. The reason for sticking with the current combination, one which has been used since Wendy's was founded in 1969, was purely operational.

"For 17 years we have been teaching our employees the color code of white, red, green, white, red, green (mayonnaise, ketchup, pickle, onion, tomato, lettuce). If that combination is still well-liked by consumers today, it just doesn't make sense to change."

Editor's note: A recent *Minneapolis Star and Tribune* article stated that Wendy's International owns about 1,200 Wendy's restaurants in the U.S. and approximately 2,300 U.S. franchises. MRR

Pitney Bow
its business-to-

By Beth E. Hoffman
managing editor

If your business purchases mailing equipment, postage meters or copier machines from Pitney Bowes, one of the world's largest suppliers, don't be surprised if you get a telephone call from one of the company's officers. No, he hasn't dialed a wrong number; he's just interested in finding out how customers perceive the company and its products and services.

"We want to get everyone in the company involved in satisfying our customers, even those in the 'ivory tower,'" says Gerry Lenk, vice president of quality at the Pitney Bowes headquarters in Stamford, Conn. That means that once a month, one officer in each division of the company's headquarters calls two customers who have been selected randomly from the over one million customers in the U.S. To Pitney Bowes, it's the customer who's the "boss."

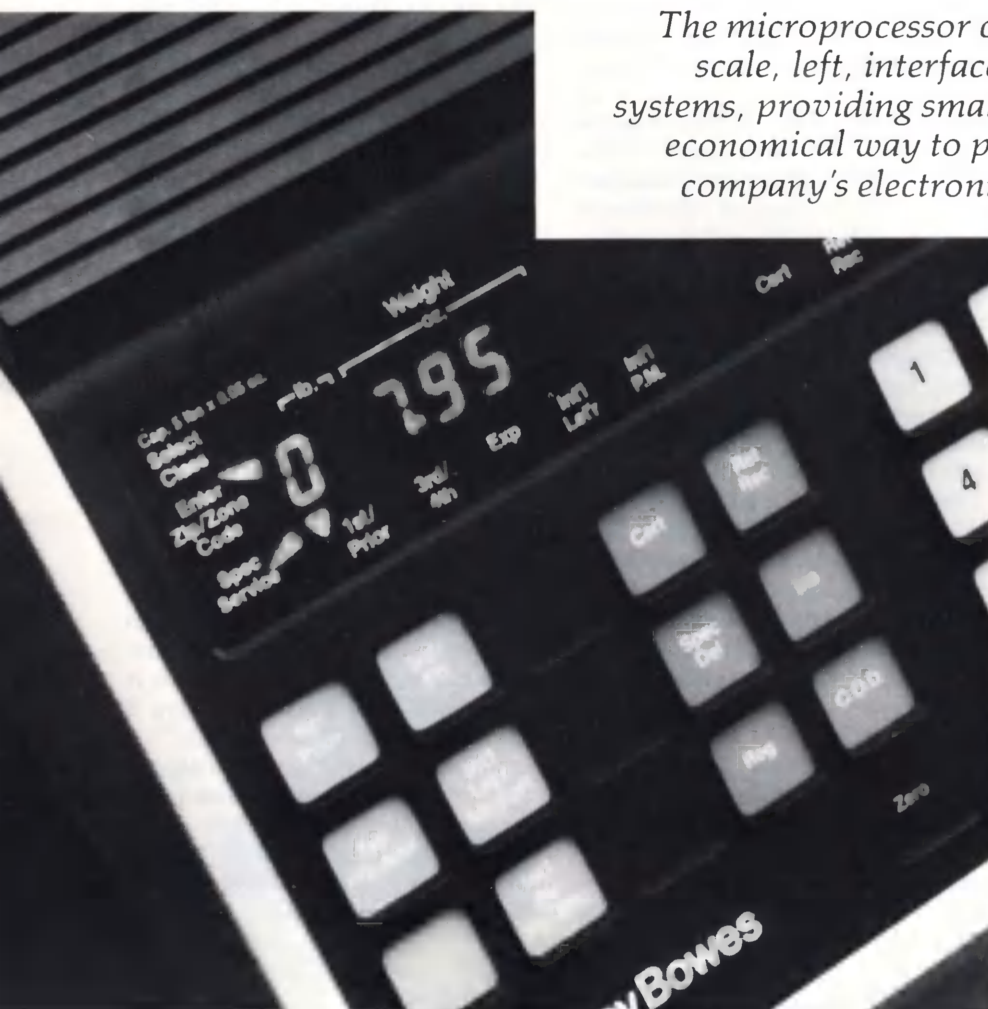
"We want to fulfill the requirements our customers have of us," says Lenk. "So we ask them what our strengths and weaknesses are, where we can improve and how we are improving."

Telephone calls are not the only way Pitney Bowes measures customer satisfaction. The primary way is through a direct-mail questionnaire. The purpose of the questionnaire is to ask customers their experience with the company's sales personnel, product delivery, product features, product reliability, service experience, fairness of its prices, the billing system and Pitney Bowes overall.

Thousands surveyed

Every six months, 6,000 customers, half of them copy machine users, half of them mailing machine users, are sent the questionnaire. These customers are selected off the renewal billing file and are selected randomly from the total customer base. A cover letter explaining the survey and signed by Lenk accompanies it. Lenk says the

The microprocessor controlled zero-to five-pound scale, left, interfaces with Pitney Bowes mailing systems, providing small-volume mailers with a fast, economical way to prepare mail. A full line of the company's electronic scales are available to meet mailer's needs.



Pitney Bowes, with total revenue of over $1,800,000 in 1985, manufactures, markets and services products in the business equipment and retail systems and fields. The company's products include mailing and shipping equipment, copiers, dictating systems, facsimile products, price marking and merchandise identification systems and supplies, business and computer supplies and financial services. It has manufacturing facilities in the U.S., U.K., Germany, Canada, Brazil, Mexico, Australia, Belgium, Switzerland and Singapore. At the end of 1985, the company had 28,995 employees of which 23,189 were in the U.S.

personalizes usiness research

letter personalizes the approach and lets people know there's really a person, rather than an anonymous department, behind the project.

Lenk goes one step further in personalizing the process. On the last page of the questionnaire, customers are invited to write additional comments about their perceptions of the company's products and services. Of the 20% who return the questionnaire, Lenk says 60% of them will write additional comments. Lenk reads all of these comments and will call customers if they're having any type of problem with the product or service they've received.

"Sometimes customers will write if they're irritated about something, for example, if they haven't received a manual with their copy machine," says Lenk. "I'll make sure to call them and to send out a manual."

Distributiug results

After the results have been tabulated and levels of satisfaction have been measured in each of the eight areas covered in the questionnaire, Lenk gives an oral presentation of the findings. The president of Pitney Bowes and vice presidents within each division of the company receive the results. From there, 18 regional vice presidents are informed of the company's product and service performance measurements within their particular location.

Lenk says the results are used to "drive improvement throughout the company." One area which has dramatically improved has been Pitney Bowes' service response time. When the first survey was mailed in December, 1985, customers stated that they were less than satisfied with the length of time it took a machine repair person to respond to service request. This prompted Pitney Bowes to implement ACCESS, a computerized dispatch system. Its purpose is to serve as an information base so that the company can better meet customer needs. Through ACCESS, customers throughout all 99 branch office areas can get immediate assistance with scheduling timely equipment service. Since Jan. 1, 1986, when ACCESS became available, the company has cut in half the time it takes a customer to get service after they have called. In addition to improving service responsiveness, ACCESS has also helped Pitney Bowes provide the appropriate spare machine parts to its service organization.

Another area being improved is the company's billing system. As a result of better understanding customer perceptions, major investments are being made in computers, software and training to assure the billing system meets customer needs.

These improvements are big steps toward the company's ultimate goal: providing the highest level of customer satisfaction in the industry. They are steps realized through the help of a direct-mail survey.

"The survey has not only helped us communicate better with our clients but given us a clearer understanding of them," says Lenk. "It's those key elements which make our company a worldwide competitive business." MRR

"The survey has not only helped us communicate better with our clients but given us a clearer understanding of them. It's those key elements which make our company a worldwide competitive business." Gerry Lenk

Accountemps relies on surveys to keep tabs on personnel

Wide-ranging surveys by Accountemps helps sharpen that company's temporary personnel performances. Those surveys also provide valuable information for Accountemps in their efforts to continually provide quality service and highly productive temporary employees.

Since the surveys were implemented eight years ago, top management of industrial companies have been interviewed on a wide variety of employee issues, says Robert Half, chairman of Robert Half Inc., the parent company of Accountemps in New York. These include: smoking in the workplace, employee use of time, how long it takes employees to get started working in the morning, Friday and Monday absenteeism, how to check references and hiring and firing practices.

Accountemps has interviewed top management of industrial companies on a wide-range of employee issues such as smoking in the workplace, employee use of time, Friday and Monday absenteeism, how to check references and hiring and firing practices.

Accountemps, with offices in the U.S. and Canada, is the world's largest temporary help service, providing thousands of business firms with skilled accounting, bookkeeping and data processing help for temporary assignments. Its clients are CPA firms, corporations, nonprofit organizations and government agencies. Accountemps is part of the New York-based Robert Half Organization which specializes in financial personnel.

Short, "helpful hints" booklets are developed based on the information collected and sent by direct mail nationally to Accountemps offices and to companies which use their services. This information is also used in print ads.

Telephone interviews

The data is gathered through telephone interviews with vice presidents and personnel management of Fortune 1,000 companies that have been randomly selected. Many of the surveys have been conducted by an outside marketing research supplier and the rest done internally by Robert Half, Inc.

Productivity survey

One survey Accountemps recently sponsored involved employee productivity. Vice presidents and personnel directors of 100 of America's 1,000 largest corporations were asked to rate the productivity of different groups of workers. These top executives rated themselves more productive compared to office workers, factory workers and professionals. The ratings were on a scale of 1 to 10 and spanned an index of "not productive at all" to "extremely productive."

The respondents considered office workers and factory workers as the least productive group, assigning them a 6.4 rating. Professionals, such as lawyers and accountants, came in second with a 7.8 rating. They considered top executives - themselves -as most productive with a rating of 8.3.

Forty percent of the respondents said top executives were "extremely productive" while 20% believed professionals were in that category. Just 3% considered office workers to be in that category and 4% said factory workers were extremely productive. MRR

Short "helpful hints" booklets are developed based on information collected and sent by direct mail to Accountemps offices and to companies which use their services.

Research method tests boundaries of conventional wisdom

Editor's note: This article is an actual case history involving Delphi forecasting. Names of the companies involved are being withheld.

Delphi forecasting is a market research technique which uses a small group of experts selected from a particular industry to respond to a scenario of that industry. The scenario involves forecasting the future of that industry.

The technique is conducted in rounds, meaning, separate sets of questions are asked at designated time frames during the research process. As many as six rounds may be conducted. After each round, the information is consolidated and edited. The editing process enables the supplier to eliminate bias from the answers.

Unlike focus groups, the respondents answer the questions independently and do not know who else is involved in the study. The only means of interaction is when they are given the feedback from the other respondents after each set of questions. This feedback is used to develop the next set of questions. The objective is to narrow the responses of the respondents at each phase of questioning so at the final phase the respondents have reached a consensus on the subject.

The value of the Delphi technique is that it uses experts, people who would normally be rejected from research. Additionally, separating the respondents cuts down on the bias and influence that may affect their answers when other respondents are present. With other respondents listening, answers are more likely to reflect the conventional wisdom heard in that particular industry. This "wisdom," however, may not reflect what is necessarily true of that industry.

One study finding revealed that demographics, which most industry sources correlate with beverage consumption, are not the most important factors affecting beverage consumption. Rather, psychological, social and behavioral factors contribute to the popularity of a beverage.

The Delphi technique may test the boundaries of conventional wisdom but it does have its risks. Besides being costly and time consuming, there is no assurance that the desired results will be obtained. Despite these drawbacks, the Delphi technique is a unique approach to research and no other technique is able to get the same results.

Beverage study

One Delphi study conducted two years ago with very favorable results investigated the beverage industry. A Minneapolis commercial research firm was responsible for the survey design and field work. The client was a manufacturer of an ingredient which is used in beverages and the panel of 12 experts were involved in the alcohol and non-alcohol segments of the industry. These industries included distilled spirits, wine, beer, juices, powdered beverages, coffee, tea, milk, pop and water. It took about one month to select the respondents who were chosen from across the country. Secondary data, personal interviews and other people's recommendations were the basis on which the 12 were chosen. All of the respondents were paid to participate in the study and were given the findings of the study when the project was completed.

Research methodology

A mail questionnaire in a three-round format was used. The first scenario included historical data on the beverage industry and 15 questions. The second round had eight pages of synopsis from the findings of the first round and five questions narrowing things down further. The last round involved eight pointed questions. It took almost three weeks between each round to get the responses back and to edit them. Many follow-up phone calls were made to further clarify and expand on the submitted responses.

Research results

Overall, the feedback from the three-round questionnaire was extensive and surfaced predictions about the beverage industry which are being realized today. One study finding revealed that demographics, which most industry sources correlate with beverage consumption, are not the most important factors affecting beverage consumption. Rather, psychological, social and behavioral factors contribute to the popularity of a beverage. For example, the media and consumers have emphasized that the "Yuppies" (Young Urban Professionals) are drinking bottled water beverages and their influence will make this beverage the drink of the future. The research revealed, however, that bottled water consumption increased not because of the "Yuppie" influence but because people have become concerned with the quality of their water in their homes. The large increases in bottled water consumption are in still water consumed at home, not in carbonated water.

The rise in the consumption of imported beer is another example. The media entices consumers to buy it by associating it as the drink of the "Yuppie" generation. However, research showed that the popularity of these imports is not because they're associated with a socially attractive group of people but because of the beer's distinct and fresh taste in comparison to American brands. This is reflected in several different market segments.

One other area in question was the reason for the steadily decreasing consumption of alcoholic beverages. Many people have said this is happening because of many anti-alcohol campaigns such as "MADD" (Mothers Against Drunk Drivers), and "SADD" (Students Against Drunk Drivers). The findings showed that population age characteristics were the cause of lower consumption levels.

Having experts as the respondents for the project generated valuable information that couldn't have been achieved using other resources. The Delphi technique provided results which helped the client in its business strategy and development which had not been possible with more conventional research techniques. MRR

TRADE NEWS

Unmarried couples living together slowly decreasing

The rate at which married couples are living together is slower in this decade than during the 1970s, the Census Bureau says.

Despite the continually growing trend in the last decade of unmarried couples living together, that number is increasing at a slower pace than in the 1970s, the Census Bureau says. About 2,220,000 as of March, 1986, shared living quarters with an unrelated adult of the opposite sex. That's four times the 523,000 did in 1970. Since 1980, however, the rate of increase in unmarried couple households has averaged 5.6% a year, down from 11.1% annually in the 1970s. This figure represents only 4% of all such couples. The slowdown is being attributed to the decrease in the number of young adults, the main source of such households.

The report did not probe unmarried couples about their relationship. Such households "may be made up of boyfriends and girlfriends" and "others involve situations such as owner-tenant relationships or paid employees of the households."

Other findings of the preliminary report include:

- The median first-marriage age for women has remained higher in the 1980s than previously recorded. In a final version of a 1985 Census Bureau poll released last December, 23.3 was reported as the median age of women and 25.5 for men.

- Average family size was down to a new low of 3.21 persons, compared to 3.29 in 1980. A record low of 2.67 was also reported for average household size.

Many hospitalizations deemed unnecessary

Forty percent of hospitalizations are probably unnecessary, a study published in the November, 1986 issue of the New England Journal of Medicine indicates.

The study, conducted by Rand Corp., a Santa Monica, Calif.-based research concern, examined the medical records of 1,132 adults hospitalized in six cities between 1974 and 1982. It determined that 23% of the patients could have been treated in a doctor's office or clinical laboratory, or at an outpatient x-ray facility. Another 17% were treated for surgical procedures that could have been provided at outpatient surgery centers.

Hospitals have been criticized for providing expensive medical care that is deemed unnecessary. Government insurance plans and company sponsored insurance programs have considerably reduced the use of hospital care in the past several years by using programs that examine the appropriateness of hospital admissions. The Rand study plans further expansion of these review programs.

Insurance plans that require patients to pay for part of their care didn't limit the number of hospitalizations, the study also reveals. In plans that require such cost-sharing, 22% of admissions were judged unnecessary while plans that provided total insurance coverage, 24% of admissions were viewed inappropriate.

With many insurance plans now requiring such cost-sharing, a reduction in the use of expensive medical care is anticipated.

Owner's problems

The most important problems small-business owners face, according to a Dun & Bradstreet survey are: cash-flow squeeze, 25%; liability insurance, 17%; finding qualified, motivated employees, 14% and controlling costs, 11%.

Study shows elderly, well-educated getting richer

Education and age, rather than race or household make-up, are attributed to the growing gap in the distribution of the nation's wealth, states a new report.

Furthermore, the report acknowledges an increase in income inequality but states it has been greatly inflated by the media.

"There has been a remarkable rush to judgment, to the conclusion that the Reagan administration is responsible for increasing inequality," says the report presented recently at a seminar sponsored by the American Enterprise Institute (AEI), a conservative-oriented policy group.

The findings were based on Federal Reserve Board surveys between 1977 and 1983. Authors are John Weicher of AEI and Susan Wachter of the University of Pennsylvania. The surveys conclude that "inequality increased because of changes in the relationships between education and wealth and between age and wealth. The elderly and the well-educated have gained; the middle-aged and the uneducated have lost."

Among their findings, in 1977 constant dollars:

- Those with a college degree had a mean net worth of $71,190 in 1977 and $82,770 in 1983. People with only a high school education had a net worth of $37,401 in 1977, up to only $37,680 six years later.

- Based on age, "the dividing line comes at age 55," it says. Those aged 55-64 had a net worth of $61,598 in 1977 and $82,115 in 1983 and people aged 65-74 saw their mean net worth grow from $53,514 to $84,499 six years later. Younger than 55, the mean dropped off in every category: from $6,842 in 1977 to $4,531 in 1983 for 17-24 year olds; $18,804 to $16,651 for 25-34 year olds; $44,359 to $40,710 for 35-44 year olds, and $59,725 to $56,320 for 45-54 year olds.

- By race, the AEI report reveals net worth of white households increasing from $44,817 in 1977 to $52,820 in 1983. Blacks improved slightly, from $12,064 to $16,766. Hispanics overall saw a tiny drop in their net worth, from $15,642 to $15,318.

—PRODUCT AND SERVICE— UPDATE

Map software

Visual display of crosstabs is now possible on the personal computer using PASS Correspondence Analysis published by Research Services. This easy-to-use software transforms a crosstab table into a map so that a reader can grasp the significance of the table at a glance. Among many uses, it can construct product positioning maps from ratings data. This package also includes a comprehensive documentation which explains how to interpret the maps. Contact Peter Obermeyer at (603) 643-8299.

Health foods study

Packaged Facts announces "The Health & Natural Foods Market," a new study on the health and natural foods market. The study covers the overall market, the marketers, distribution and retail and consumer usage. It also discusses new products trends and the competitive situation and includes retail data and examples of both print and TV advertising. Contact Edward Weiss, Packaged Facts Inc., 274 Madison Ave., New York NY 10016. (212) 532-5533.

Data entry program

DigiData announces DigiData Entry System, a computer software program designed to speed up and simplify the process of transferring information from questionnaires to a computer-readable disk file for analysis. The program uses a digitizing tablet, a computer device normally used in electronic computer-aided design (CAD) and by computer artists. Multiple page forms can be handled by the system and forms as large as 11 by 17 in. can be placed on the digitizer. Information can be entered in any order on a page and blank answers can be skipped. The program writes a standard ASCII file which can be used by many popular statistical programs for analysis. Each line in the data file represents the information from one questionnaire. A listing can be prepared which shows what information each column in the data file represents. Contact John Chidester, DigiData, 9637 East Gold Ave., Suite 401, Scottsdale AZ 85258. (602) 391-0552.

Dessert report

MRCA Information Services announces a new Special Topic Report called "Sweet Goods and Dessert." On a per capita basis, the total number of at-home meals which include any "dessert" has dropped by 13% since 1978 and dessert consumption of baked sweets has fallen by 19%. In spite of this lessening tendency to serve dessert at home, Americans' consumption of desserts in restaurants has increased 18%. Contact David Fencl, MRCA at (312) 480-9600 or Patrice Kozlowski, Stuart Pearlman and Co., 4 Landmark Sq., Stamford CT 06901. (212) 370-4940.

Trade-off analysis firm

Harris K. Goldstein announces the opening of Trade-Off Research Services, Inc. Trade-off analysis, or conjoint measurement, is claimed to be an increasingly popular form of investigative market research. It tells how the public will react to any new or revised product or service by employing computer interactive software to determine buyer preference. Through simulation and modeling, Goldstein can forecast what people are willing to give up, or trade-off, to get a product or service. Contact Harris K. Goldstein, Trade-Off Research Services, Inc., 11365 Ventura Blvd., Suite 123, Studio City CA 91604. (818)508-6345.

Inpatient publication

The Commission on Professional & Hospital Activities (CPHA) has published the "National Inpatient Profile," a publication for hospital market analysis and product planning. The publication can be used to forecast market demand, chart historical trends, establish bases for validating other sources and comparing estimates, strengthen product planning with demographic and clinical profiles, and to supplement existing sales data. CPHA research consultants will also be available to interpret study information and to offer advice on how to use CPHA data bases to supplement the information obtained through the "National Inpatient Profile." Contact CPHA Publication Services, 1968 Green Rd., P.O. Box 1809, Ann Arbor MI 48106. (1-800) 521-6210, ext. 3444.

A PC Odyssey

Integrating your marketing research software

By Stanley Cohen

Your data is ready. After weeks of planning the research strategy, fulfilling the sample quotas, collecting the questionnaires, editing and coding the items, and finally deciding on the analytical approaches that are to be taken, you are ready to "start" to work.

You lapse into a momentary reverie and remember how it used to be. You had to coordinate the individual tasks of tabulation of data, statistical analysis, graphic presentations, and report preparation among a variety of service facilities where skills and resources were concentrated among a limited number of specialists. The specter of a scratched-over project flow charts and time-tables arises, covered by a veil of deadline extensions, bridging gaps of unforeseen bottlenecks that have eaten up the conservatively planned slack, and have forced you into frenzied overtime that will ensure that the final report will be issued fresh and forthcoming on the scheduled due date.

All that is changed now. Your PC computer, compatible and charged up with all the options and features that you need is at your service. You have all the memory (RAM that is) you can get, you have a generously endowed hard disk (more than 10 megabytes), a dot matrix and/or laser printer; a graphics monitor; even a math-coprocessor; and finally a modem that breaks the isolation of your office out into the world of data communication. The specialists are a figment of the past. Careful investigation and planning has provided you with a portfolio of market research software that are highly recommended for their quality and facilitation of use, that are adequately sophisticated, and that will cover all the bases required to get the job done. You now begin to work.

Stanley Cohen, president of Pulse Analytics, Inc. since 1979, has worked in market research, statistics and computers for 23 years. Cohen has also worked for IBM, IT&T and Benton and Bowles Advertising Agency. He received his masters in mathematics from Yeshiva University, New York, and studied operations research at New York University. Additionally, Cohen has published many articles on marketing research statistics and is an early pioneer of multi-variate analysis to marketing research problems.

PC growth

The scenario being described is one that has grown throughout the entire business spectrum, and is fully represented in the microcosm of the market research industry. The "you" in the scenario are the people, departments, and even whole companies that have been assimilated into the mainstream of PC growth. Software programs and packages, developed by independent and separate producers, have been and continue to be designed to communicate with each other. Above all the software is directly usable by the market research professional and the task network can be traversed without the assistance of a computer science specialist.

Your data is on a disk file on your PC. You had the option of using one of the programs designed for expedient direct data entry into the PC. SPSS-Data Entry, Lotus 1-2-3, or Reflex would have been adequate for this size project in which the number of items and respondents were not overwhelming.

Although you are confident in the quality of the data entry process, you want to check it anyhow, and make any minor corrections and adjustments that may be necessary. Most of the data entry programs provide a fast-moving, easy-to-use program data editor. In addition the Norton Editor will do a fine job. In any case, the data will be displayed on the screen and you will breeze through making the necessary adjustments. On-line editing via cursor control as well as a number of editing function key combinations are standard fare in the editing function. The data, the key to all the research, is now ready.

Steps in analysis

The analysis of the data follows. You want the results of the analytical procedures to be saved on disk files. In general, now you are going to integrate the analytical results into the main body of your report and you will need access to the output files. Some of these results will be printed in their entirety, but for many of them you will be cutting, pasting, and editing to accommodate the format and flow of your report. All of the analytical programs in your portfolio have the option to save the output on disk files (in the required ASCII format).

Tabulation

The next step is that of tabulation and cross-tabulation. The programs SPSS-Tables and Surveytab will give you the facility of producing custom-made tables with full annotation for titles, banners and stubs. They will also provide for flexible column, row, and table percentaging. The features of weighting and filtering are also included.

You have selected the SPSS/PC as the mainstay of your statistical capability. It provides a very wide range of statistical processes, covering, basic statistics, crosstabs (with significance testing), regression analysis, nonparametrics, very broad spectrum of univariate and multivariate ANOVAs, and factor and discriminant function analyses. The virtues of this program over some of the others available include: flexible labeling and annotated outputs; on-line editing of data, output, and procedure files; in-line data transformations; and inter-procedure communication allowing for output of one process to flow smoothly as input into the next. The well-written manuals guide you through the procedures, and training seminars are widely available.

You are looking for deeper insights into your data, and have the additional experience with more sophisticated concepts. On this project you are also considering doing perceptual mapping, perhaps an AID analysis, or a correspondence analysis for which you will be using the MDS-PC package of special purpose programs. PULSE/MPC will provide you with the ability to analyze multiple paired-comparisons. The final touch to your analytical plan is the procedure needed to gain a perspective into the perceptually homogeneous segments of your market, for which you will use the Pulse/QSEG.

Charts important

Pie, bar, or line charts are pictures

Data Use continued on p. 36

3 questionnaire techniq on 'health events' repor

A U.S. Department of Commerce report, "Approaches to Developing Questionnaires," includes a section on the results of testing three questionnaire techniques to obtain information on "health events" in a given time period. A summarized excerpt from this section appears below.

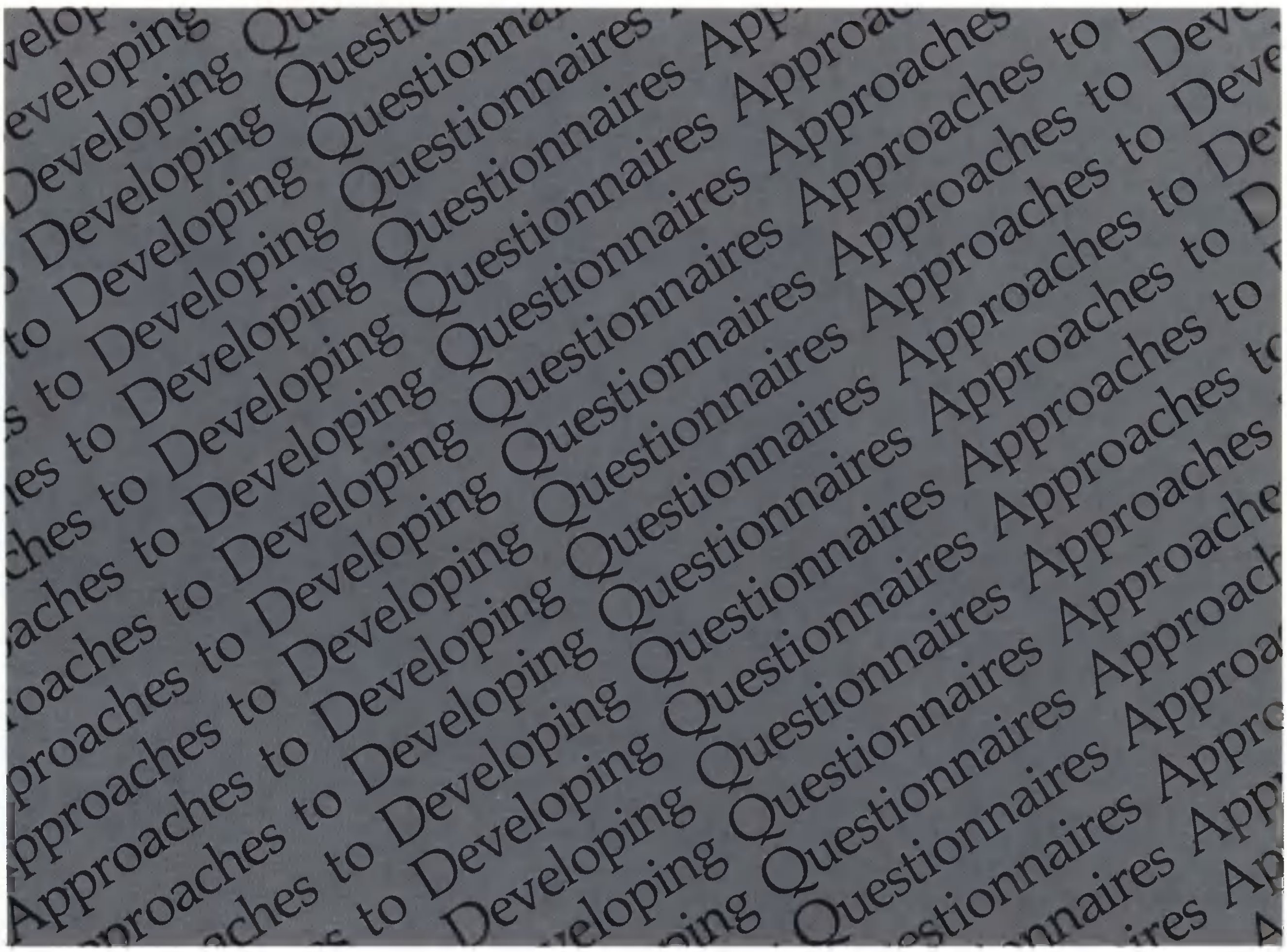
INTRODUCTION

The National Center for Health Statistics has undertaken numerous studies to improve the reporting of health events in household surveys. The example of a split sample test presented here was selected for three key reasons:

First, it illustrates the use of a small and unusually homogeneous sample, showing the strengths and weaknesses of such an approach. Second, it tested three questionnaires reflecting different strategies of questionnaire design. Third, it illustrates the successful application of hypotheses developed in another field-cognitive psychology- to survey research.

The concrete problem facing the designers of this test was the underreporting of their key dependent variable, "health events," in a given time period (e.g., the number of dental visits in the last fourteen days). Especially likely to be underreported were health conditions of low impact to the respondent and those occurring considerably prior to the interview.

The test was developed using a cognitive model of how people learn,



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sections.

A "body review" of aches and pains and a series of questions on symptoms (e.g., "Have you had any aches or pains in your joints?") opened the extensive interview. When respondents reported a symptom, interviewers asked "Do you have any idea what causes it?" in an attempt to help the respondents better define and isolate the underlying health condition. Next, questions about the respondents' medical history specified various time dimensions (e.g., childhood, last week) as another approach to uncovering events stored in the memory. Behavioral implications were referenced in the next questions. Two checklists of chronic conditions provided a direct items-recognition approach to conclude the interview.

DIARY PROCEDURE

Reviews of previous research on health diaries and informal tests of various procedures led to the second experimental approach. It utilized a di-

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store, and retrieve information. Methodologically, the aim was to determine whether reporting can be significantly increased by focusing on and aiding the recall tasks facing respondents.

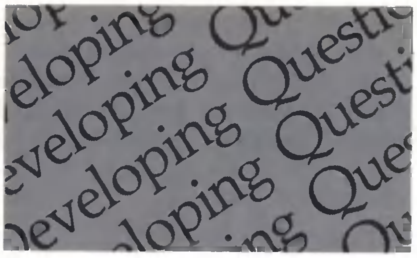
The model suggests that an event is reported only if the researcher can design a survey question/stimulus that can spark the memory during an interview. For example, a single event-number of dental visits may be recalled by the respondent in terms of money, pain, or lost work time, and a direct question on dental visits may not get an accurate answer.

THE QUESTIONNAIRE

To test some hypotheses generated by the model, three questionnaires were developed for a split sample test: an extensive questionnaire, a diary with a follow-up procedure, and a control questionnaire. All relied on personal interviews, although the diary follow-up was partially self-administered.

In the extensive questionnaire there were many questions aimed at providing respondents "with multiple and overlapping frames of references and cues." The strategy rested on the assumption that respondents could more easily recall health conditions through "some specific behavior implications" (e.g., activity restrictions, medicines, diet, visits to the doctor) than through a conceptual or general framework.

For example, previous field work showed that questions about operations usually resulted in reports of major surgery, but questions about stitches elicited reports of minor surgery as well. Therefore, standard questions included additional probes, and general medical terms as well as more popular language were used. Finally, the pace of the interview was designed to be more relaxed by allowing more time for recollection and reporting and by use of transitions between



ary procedure, in which the respondent kept a health record every day for a week in an eight-page booklet containing seven simple questions on health events. A short personal interview took place at the end of the diary week. The design operationalized two major ideas which were to facilitate the respondents' task of remembering and to consider this daily recording activity as a sensitization device for health thinking and reporting.

In the follow-up interview, each diary question was carefully reviewed, answers were clarified when necessary, and a short structured set of questions-the chronic condition lists and items on present effects of past accidents, injuries, dental sits, and hospitalizations-were asked.

The control questionnaire used a single direct question for obtaining information on each major health item. To sensitize the respondent, the interview opened with a checklist of nineteen symptoms. Questions were then asked on recent health events, including restriction of activity, and on present effects of past injuries or illnesses. Then, the chronic conditions checklists, identical to those used in the two experimental questionnaires, were administered. The interview concluded with questions about recent visits to the doctor and hospitalizations or dental visits in the past year.

In addition to the chronic conditions checklist, items on hospitalizations, dental visits, demographic characteristics, and a general health rating were identically worded in all three approaches. Other questions were similarly worded across the instruments. Then, at the conclusion of the health questions in every interview, interviewers asked a standard series of questions about each reported condition. The resulting "condition table" was designed to separately record the first report of any health problem mentioned by respondents. The purpose of these standardized questions was to allow comparative evaluation of the three experimental collection methods.

SAMPLE DESIGN

Previous research on health reporting had shown that "characteristics of the respondent are not nearly as consistent, nor as strong as their influence on underreporting, as are the characteristics of the event." For this reason, and because of the experimental nature of this test and the desire to minimize costs, a geographically concentrated and relatively homogeneous sample was selected. Specifically, all cases were in Detroit, and a modified area probability sample with clustering was used to locate "low-middle and middle socioeconomic groups, English-speaking, native-born white females between 18 and 65 years of age." The three questionnaires were randomly assigned to households within each sample block. The design yielded 462 occupied dwelling units, containing 356 dwellings with eligible respondents. Only one respondent per unit was interviewed, and 305 interviews were completed.

EVALUATION

Because underreporting of health events was a known problem, comparisons among the questionnaires focused on the amount of reported information. The assumption was that the more health information reported the better; no outside records were used for validation. There were two types of dependent variables: (1) the number of health conditions reported and (2) the impact level (i.e., the amount of medical care, psychological concern,

Mean Number of Conditions Reported Per Person By Condition and Collection Procedure						
	Collection Procedure					
Reporting Variable	Extensive	Control	Diary	Extensive-Control	Diary-Control	Extensive Diary
	Mean number of conditions per person			Difference between means		
Total	7.88	4.42	5.08	[1]3.46	0.66	[1]2.80
Chronic conditions on recognition lists.	3.54	3.25	3.29	.29	.04	.25
Other chronic conditions	2.75	.74	.58	[1]2.01	–.16	[1]2.17
Illnesses in last 14 days	.58	.28	[2].69	[1].30	[1].41	–.11
Injuries in last 14 days	.24	.05	[2].39	[1].19	[1].25	–.06
Other unclassified conditions	.76	.10	.22	[1].66	.12	[1].54

[1] $p \leq .01$
[2] These figures in diary technique refer only to the last seven day period, a restriction which enhances the observed differences between diary and other techniques.

and other indexes of salience to the respondent) of reported information.

The overall response rate of 88 % was quite similar among the three questionnaires. Demographic characteristics were also similar with the exception of education, which was highest in the diary group. However,

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Readers asked to help with syndicated research studies issue

QUIRK'S MARKETING RESEARCH REVIEW will be publishing a listing of syndicated research services in the 1987 August/September issue. In order to make the list as complete as possible, the editors of the publication are asking readers to assist by providing the names of the packages they are using or are aware of. The publisher will then contact the supplier for more details on the studies.

The syndicated research services which will be eligible for free listings are those that use primary data sources in their data collection and which are done at regular time intervals. The listings will be according to product category. The company listing will include name, address, telephone number and contact name.

The decision to initiate this service of having a central source of information on syndicated research studies came in response to reader requests. Researchers said that syndicated services were an important element in the information-gathering process. Presently they do not have an available source which will provide them access to the available sources.

Readers can assist by sending the name(s) of the syndicated services, the market served, along with the name and address of the supplier to:

Beth Hoffman, Managing Editor
QUIRK'S MARKETING RESEARCH REVIEW
Box 23536
Minneapolis, MN 55423
or contact Marlene Flohr at 612/861-8051.

READER SERVICE CARD **February 1987 Issue** **Expires May 31, 1987**

FREE INFORMATION: ON PRODUCTS AND SERVICES ADVERTISED IN THIS ISSUE.

I am a buyer of marketing research services/products? ☐ yes ☐ no

I wish to receive a FREE subscription to *Quirk's Marketing Research Review?* ☐ yes ☐ no

Send me more information on items circled:

01	02	03	04	05	06	07	08	09	10	11	12
13	14	15	16	17	18	19	20	21	22	23	24
25	26	27	28	29	30	31	32	33	34	35	36
37	38	39	40	41	42	43	44	45	46	47	48

Areas of research interest (Check all that apply. Then CIRCLE the area of greatest)

- ☐ Consumer non-durable
- ☐ Consumer durable
- ☐ Service (Banks, Ins. etc.)
- ☐ Business-to-Business
- ☐ Healthcare
- ☐ Other (Specify) ______________________

Name ______________________ Title ______________
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continued from p. 27

correlations within the treatments between education and the key dependent variables were not statistically significant.

The evaluation first examined the mean number of health conditions reported per person in each of the three questionnaires. As seen in the table, results supported the hypothesis that the multistimuli approach of the extensive interview increased reporting: the 7.9 reported conditions in the extensive interview were significantly greater than the 5.1 reported in the diary or the 4.4 in the control.

The hypothesis that the diaries would also increase reporting received less clear support. The difference between reported health conditions in the diary and control questionnaires was statistically significant only at about the 10% level.

FIVE TYPES

To learn more about the source of these differences, conditions were classified into five types, and the table also shows the number of reports of each type, by questionnaire version. Again, the extensive questionnaire achieved higher reporting than the control among all types, although, as the authors pointed out, "whenever the control questionnaire uses an extensive recognition type of approach, such as the recognition lists of chronic conditions, a reduction of the gap between the two techniques can be observed. An increase in the amount of information reported still exists in the extensive technique but is no longer statistically significant."

Compared with the diary follow-up approach, the extensive questionnaire also achieved higher reporting except for acute conditions. This particular strength of the diary procedure was expected, but since the reporting of chronic conditions did not significantly differ from reports in the control interview, doubts were raised about the general sensitization function of the diary.

When reported conditions were dichotomized into those first noticed less than three months ago and those first noticed three months ago or longer, reporting of both recent and older conditions was significantly higher with the extensive questionnaire than with the control questionnaire. But compared with the diary follow-up questionnaire, the extensive questionnaire got significantly higher reporting only for longer term conditions. The authors believed these results are not surprising since older reported conditions are more likely to be chronic and recent reported conditions more likely to be acute.

LEVEL OF IMPACT

The second key dependent variable was the level of impact on the respondent of the reported health conditions. It was hypothesized that the extensive and diary follow-up questionnaires would improve reporting of low impact conditions but have little, if any, effect on high impact reporting. Thus, the predicted result was a lower mean level of impact reported using these questionnaires compared with the control.

For testing the hypothesis, an impact level was constructed for every eligible condition, using for example, evidence of frequency (or levels) of discussions with doctors, medications taken, days in bed, and pain. Results supported the hypothesis and further showed that the extensive questionnaire produced more complete reporting of serious (i.e., high impact) conditions. Differences among the questionnaires in the mean level of impact according to whether conditions were chronic or acute were also uncovered.

SUMMARY

By emphasizing various ways of encouraging respondents to recall health events, this small test produced extremely encouraging results. The extensive questionnaire with multiple probes and cues significantly increased reporting in all groups of health conditions. Compared with the control, the extensive and diary questionnaires also produced higher reporting of health conditions of low im-

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Questionnaire helps Owens-Corning Fiberglas examine remodelers market

By Beth E. Hoffman
managing editor

OWENS/CORNING
FIBERGLAS

Owens-Corning Fiberglas is a manufacturer of glass fiber materials and a major producer of polyester resins and high-performance composite materials. With these materials, Owens-Corning serves industries ranging from construction, automotive and recreation to marine, energy, aerospace and defense. Many of their products and materials are under the trademark Fiberglas. The company, which operates principally in three domestic and one international segment, had consolidated net sales in 1985 of $3.3 billion. At that time, the total number of the firm's employees was over 28,000.

High interest rates in the early 1980s were preventing many people from buying new homes. Adding on to, improving and remodeling the home became the only feasible alternative.

According to industry experts in the home improvement market, money spent by American consumers on repair and remodeling was predicted to exceed dollars spent on housing. This phenomenon occurred in 1982. In that year, estimated the *Greenbook Of Home Improvement Contractors*, $1.15 was spent on remodeling for every dollar spent on new housing. As a result, Owens-Corning Fiberglas, one of the world's leading manufacturers of glass fiber materials, decided to initiate a study of insulation usage among various segments comprising the home improvement contractor market.

The objective of this study was qualitative in nature (as opposed to quantifying the size of the market) to determine how and where insulation products were being used among home improvement contractors. Furthermore, Owens-Corning wanted to determine the degree to which their current marketing programs (including all variables: price, promotion, product and distribution) were fulfilling the needs of this growing segment.

Research objectives

In addition to the overall objective, other key objectives were to be met from the research. These were to: determine the incidence and application of various insulation types among home improvement contractors; determine the incidence and application of foam board sheathing; determine brands of insulation/sheathing used and level of satisfaction with brand; evaluate brand buying decision, i.e., who makes the brand decision, where the product is purchased and the importance of various brand attributes; determine how contractors market their service as well as other basic business demographics.

Research methodology

A questionnaire was mailed to 450 contractors selected from the 1983 edition of the *Greenbook of Home Improvement Contractors* in October, 1984. Insulation contractors who were identified as so in the *Greenbook* were eliminated from the sampling. Since the number of home improvement contractors is a finite group, the *Greenbook* proved valuable in locating these small businesses.

"Many of these contractors are hard to find because they're small 'ma and pa' shops and on the road a lot," says Mark Packer, formerly senior market research analyst at Owens-Corning.

Questionnaires were mailed to the sample along with a cover letter explaining the survey. Those who did not respond to the initial mailing were sent a reminder post card. Those who did not respond received a second reminder with another copy of the questionnaire. Telephone calls were then made to non-responses to boost return rates. As an added incentive, a drawing was held at the end of the data collection with the winner receiving a free trip for two to Las Vegas. This extra effort to boost returns reduced significantly non-response error and negated the need to greatly oversample.

High returns

This technique resulted in 417 returns for a return rate of 93%. One reason Packer believes the response rate was so high was because of some "hard-nosed," diligent work by the nationally-known research supplier which was responsible for designing the project and conducting the field work for Owens-Corning. Owens-Corning was obviously very pleased with the number of returns, considering it previously had unsuccessful results conducting a telephone survey by another supplier who told them the

Owens-Corning continued on p. 34

Questionnaire continued from p. 31

pact to the respondent. The diary follow-up procedure resulted in more reported acute conditions, although hypotheses about the sensitization function of the diary were not generally supported.

Because of the special demographic characteristics of the sample, generalizing the results to other groups cannot be done with any certainty. The test was instead part of a larger and long-term research effort aimed at achieving greater understanding of survey techniques for better reporting of health events.

Methodologically, the improved reporting was "interpreted as the result of a greater correspondence between the questioning procedures and the manner in which respondents organize health information in memory," although the authors caution that motivational factors were not controlled in the study. Rather, "the major outcome was a pragmatic one; techniques designed in a cognitive framework to facilitate recall have proved effective in increasing reported information." MRR

Eating out survey

San Francisco Bay area residents lead the U.S. in spending at restaurants, a survey of the nation's top 100 restaurant markets reveals.

According to the survey by RESTAURANT BUSINESS magazine, area residents spent $771 per person last year in restaurant tabs.

The population's overall higher income accounts for the popularity in eating out, says Joan Lang, deputy editor of the New York-based magazine.

"San Francisco has a long history of having some of the most innovative restaurants in the country. It's always been a real dining mecca."

The survey defined the San Francisco market as the city-county itself, Marin and San Mateo counties.

Santa Barbara was second on the dining out list with $568 per capita, followed by Honolulu with $558.

Average household income, number of restaurants, number of working women and population growth were some of the factors used in rating the markets.

Ogilvy purchases research firm

Research International Group has been purchased by Ogilvy Group Inc., New York, from Unilever N.V. for an undisclosed sum.

The transaction is part of a growing trend at advertising agencies to attempt to improve profit and develop business by expanding into various fields including public relations and direct marketing.

Ogilvy Group Inc. is the parent company of several large advertising agencies.

Children's time

According to the University of Michigan Institute for Social Research, the average amount of time parents spend each day reading, talking or playing with their children is for working mothers, 16 minutes and for working fathers, 10 minutes. The average amount of time children spend each day watching television is 127 minutes when the mother works and 139 minutes when the mother is at home.

TENNANT®

Tennant continued from p. 7

force the importance of its service operations.

As customer surveys come in, business research analysts begin to organize the data for dissemination to various company departments. The dissemination of the findings involves two steps. The first is oral presentation of the data to company marketing managers. From that point, it's their responsibility to communicate this information to the relevant departments and to make sure any necessary changes are implemented.

The second step involves a written report which is sent to all senior managers in each area of the company. This dissemination process allows management to better understand the needs of its customers and how well those needs are being met. More importantly, says Hetterick, that information is acted upon by management in those areas which need improvement.

"At Tennant, quality is ultimately measured in terms of customer satisfaction. That's the bottom line."

This illustrates Tennant's commitment to sound business-to-business research and its results in improved product performance and customer satisfaction. MRR

Owens-Corning continued from p. 32

project was impossible to do.

Marketing program

The results of the project are being used for a marketing program at Owens-Corning which is directed toward home-improvement remodelers, says Edward Zinn, manager marketing research, construction products group.

"The project is helping us understand the buying process better and to provide tools which will get the remodelers to use our products more," says Zinn.

Added Packer, "The results raised our awareness of this segment of the market to their needs and product requirements. They are a valuable segment of the market Owens-Corning needs to address." MRR

Database helps Tennant Co. attract new customers

A vital part of Tennant Co.'s business-to-business research is seeking out potential customers. To do this, it gets valuable assistance from a nationally-known marketer of business information services which maintains a database file.

Of the 6.5 million businesses in the file, approximately 1.5 million of those are potential customers for Minneapolis-based Tennant. For a fee, the company obtains this information on many of these businesses and develops what it calls a "Suspect Database," a file of businesses not currently Tennant customers. The challenge, says Dave Hetterick, business research manager at Tennant, is to target in on those businesses which have the highest potential of having a need for the company's products.

To help pinpoint these selected businesses, the company maintains a complete and up-to-date database on its current customers. This process began in 1983 when it started analyzing its sales history on the demographics of the businesses which were purchasing its products. In 1983, it provided the supplier with computer tapes of customer purchase histories from 1979 on. The supplier adds demographics to the company's sales data and determines their customer profile in terms of the type of business, number of employees and other variables. Using the database, which comes from the supplier's credit reports and other sources, the supplier is able to select businesses matching Tennant's customer profile. The supplier then provides this file to the company on microcomputer diskettes. After analyzing this file and current market economics, the company selects a market to target. The marketing management department then begins "target marketing," i.e., developing tactical marketing programs focused on the target businesses. This process involves creating a product package and promotional program with appeal to the targeted businesses.

One such program involved a coupon incentive to those businesses which purchased certain Tennant products. The coupon entitled the customer to a discount on future purchases of the company's products to encourage multiple purchases. The business research department uses its customer and suspect databases to select facilities in the targeted market. The advertising department develops a mailing which is sent to the selected facilities. Meanwhile, each salesperson receives a list of the suspects in his or her territory. They screen the suspects for legitimate prospects and turn the prospects into customers.

Since the start of the program, over 70,000 facilities have been added to the customer and suspect databases and sales have been much better than the relatively weak industrial economy would predict. Its a system which has proven invaluable to our company, says Hetterick.

"The advantages of this joint research effort is that it increases the probability of keying in on those businesses which are strong candidates for purchasing Tennant products. Additionally, the system saves us a lot of time and money." MRR

Luann Novak joins Custom Research Inc., Minneapolis, as manager business-to-business marketing services. She was formerly account manager, IMI Research.

Cindy Kaminski has joined The Intersearch Corp. of Horsham, PA as an account executive. She was formerly president of National Center for Telephone Research. Also joining TIC is **Lisa Wycoff**, senior project director. She was formerly with RMH Research as senior project director.

William Kane joins Savitz Research Center, Los Angeles, as research director. He was formerly vice president research director, Dancer Fitzgerald Sample, Los Angeles. Joining SRC's Philadelphia office as research director is **Terry Thompson.** He was formerly involved in account service work at Chilton Research Services, Radnor, PA.

The following individuals have been promoted at Market Opinion Research, Detroit: **Janice Brown** to vice president, administration; **John McDonald** to vice president for consumer and healthcare research; **Ronald Mulder** to vice president, media studies and consulting division; and at MOR's Washington office, **William Feltus** to vice president.

Gilbert Barrish has joined Opinion Research Corp., Princeton, N.J., as senior vice president. He was formerly director, Chilton Research Services, Radnor, PA. Also at ORC, **Linda Pasachnik** has been promoted to research director of the financial services group, from research associate. And, **Andrew Brown,** president of ORC, has been named chief executive officer. He was formerly chief operating officer.

Bob Conklin director of operations at Centrac Inc., Bergenfield, N.J., died on Jan. 1, 1987. Prior to joining Centrac in 1985, he worked for McGraw-Hill, Inc. for 15 years where his responsibilities included the management of the advertising research department. For eight years he had also been operations director at Yankelovich, Skelly & White, Inc., and has also operated his own marketing research company.

Twin City Interviewing Service Inc., announces the opening of its facility on 3225 Hennepin Ave., So., Minneapolis.

Quality Controlled Services announces the opening of a new branch office at 7634 Crossroads Dr., Columbus, Ohio. **Judy Golas** has been named manager of the new branch.

Data Use continued from p. 23

worth how many words? In an instant the data is understood in the perspective of the question being posed. Chartmaster will generate these charts with the full facilities of scaling, editing, regressing, and titling options. While the program is accessible on its own, SPSS/PC has a special interface for generating and saving charts during analytical processing.

You have finally finished all the analyses, and are ready to put together the report. All the tables, charts, and analytical results are on disk files, ready to be called upon when needed. Your main tool for this task is your word processor. One of the many that are highly recommended and that you have selected is Wordstar/2000. Its range of options gives you the flexibility you need, while at the same time being very user-friendly.

You will now begin to type a draft copy of your report. While you are typing you will also be editing and revising the text of your report. At any point you will retrieve any required analysis file and place it into the desired place in the text. You will cut, paste, and edit those files so that the pieces of the analysis are appropriate to the flow of the report. Similarly, your graphics will be retrieved by Inset which will be placed in line with the text. This ingenious graphics editor is used as an integrating utility to your graphics will be retrieved by Inset-2 which will be placed in line with the text. This ingenious graphics edireorient, and overlay the graphic material required for your presentation.

At long last, the report is written. As a final step, you will reread your draft copy and resubmit it to the word processor. A last editing pass through the copy and your final report is ready for printing.

Take a deep breath, and relax. There is another project waiting to get started. MRR

Stealing study

Security Management magazine conducted a study of 453 employees caught stealing from their company. The results reveal that: 90% are under 30 years old; 78% steal without an accomplice; 63% are male; 60% are full-time workers; 60% steal merchandise; and 22% steal cash.

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Coming in March

In the March issue of **QUIRK'S MARKETING RESEARCH REVIEW,** we will feature a special emphasis issue on Data Processing. In edition to editorial features on data processing, we will provide a listing of data processing services and software programs designed for research.

Focus group listing additions

The following listing was omitted from the December/January issue in the focus group directory. We regret the omission.

MINNESOTA
MINNEAPOLIS
Research Systems, Inc.
1809 So. Plymouth Rd./Ste. 325
Minnetonka, MN 55343
612-544-6334
Contacts: Kathy Dumas
Sandra Warner
1-2-3-4-5-6-7B

Also, the location of **Mar's Surveys, Inc.** was incorrectly listed. It should have appeared under Fort Lauderdale/Boca Raton, Fla., not Miami.

INDEX OF ADVERTISERS

By Beth E. Hoffman
managing editor

Student drug use survey subject

Parents who talk to their children about their disapproval of drug use and govern their activities are more likely to have kids who don't abuse drugs.

This was one of the findings reported in a recent week-long series in the *Minneapolis Star and Tribune* on teen-age drug use in Minnesota. The 10-month investigation included two extensive surveys which revealed patterns of teen-age drug use. The survey results helped explain why some kids abuse drugs and others don't.

The surveys included one for Minneapolis-St.Paul area teen-agers and the other for school drug education coordinators in Minnesota. Additionally, an analysis of the 1983 Search Institute Minnesota teen survey was used as part of the research which was conducted by the Minneapolis Star and Tribune Research Department.

From Oct. 8 to Nov. 7, 1986, teenagers in 38 public and private schools in suburban Minneapolis and St. Paul were surveyed on their alcohol and drug use. The schools were selected randomly. The public school sample was stratified by county and the private school sample was stratified by religious affiliation. Thirteen junior highs, 13 senior highs and 12 private schools in suburbs of the five-county metropolitan area agreed to participate. Response rates for school participation were 86% for private schools and 68% for suburban public schools. The 26 public schools in the survey were geographically dispersed and represented a range of socioeconomic characteristics based on census figures for districts, including income, education and occupation.

A representative cross-section of students within the schools were selected to participate. Students completed the questionnaire during regular class periods with teachers present and under the supervision of proctors from the University of Minnesota Center for Survey Research. The students were guaranteed complete questionnaire anonymity.

Survey participants

Of the 5,604 students who participated, 5,473 provided usable data. The obvious illogical and fabricated answers were discarded. Results were based on responses from 1,932 eighth-graders, 1,762 10th grade students and 1,778 12th graders.

The second survey, conducted from Oct. 22 through Nov. 10, 1986, involved school alcohol and drug education coordinators. A Minneapolis firm specializing in survey research was responsible for conducting the telephone interviews in which 427 districts were contacted and 386 interviews were completed.

To provide national comparisons and trend data for Minnesota, the *Star and Tribune* student survey replicated a number of questions from the University of Michigan Institute for Social Research's National Senior Survey and the 1983 Search Institute Minnesota teen survey.

Validity concern

The student use of alcohol, marijuana, cocaine and LSD was the focus for the *Star and Tribune* survey. The questionnaire covered many sensitive areas and illegal behaviors, therefore, the issue of validity was an important concern. To encourage honest and candid reporting, the researchers stressed the importance of the study, assured the students of their anonymity and made the questionnaire itself totally anonymous.

"The questionnaire was machine scored and nowhere did we ask for the student's name or assign code numbers to their questionnaire booklets," says Jeanne McGee, Ph.D., an independent consultant in research and project management and research director for the project. "During the administration of the questionnaire, students were also given complete privacy. When the questionnaires were turned in, they were put into envelopes and sealed shut in front of the students."

To further assure anonymity, none of the results for the individual schools that participated in the study were made available to school administrators. The concern was that certain students, especially those from private schools where a small number of students were sampled, could be easily identified. This stipulation improved the quality of the data, adds McGee.

Though every effort was made to assure the students the anonymity of the surveys, the Star and Tribune Research Department stated there is no objective way to assess the accuracy of teen-agers'self-reported drug use. However, says McGee, studies by the University of Michigan's Institute of Social Research and others suggest that anonymous questionnaires such as the one used produce largely valid data, that if anything, tend to underestimate drug use. That's partially because the students who are heavy drug users tend to be among those who are absent the most from school and are therefore, unrepresented in the study.

Survey results

Some of the results of the survey found that Minnesota high school seniors abuse alcohol at levels above the national average. Cocaine use is growing faster than any other drug with 14% of the seniors trying that drug compared with 11% in 1983. At least 10% of the students use harder drugs than marijuana and alcohol. One in 20 eighth-graders surveyed reported using cocaine or LSD. One in six high school seniors reported trying those drugs. Kids who used crack are 10 times more likely than other kids to have used LSD or cocaine. They are almost twice as likely to come from families where someone else has a drug problem. Brothers and sisters are twice as likely to supply drugs to crack users than to non-crack users. Drug users are nearly three times more likely than non-users to come from single-parent homes. They often perceive their parents as less upset by drug use and not very strict. MRR