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Appendix A

Financial Behavior Checklist

CHECK THE SITUATION WHICH BEST DESCRIBES THE WAY YOUR FAMILY HANDLES ITS DEBT REPAYMENT????

1. We pay all our bills when they are due and we always seem to have enough money to do this.
2. We pay all our bills when they are due but in order to do this we have to "tighten our belts." (This means we eliminate unnecessary or extra items - like extra food or clothes - in order to get the bills taken care of that month.)
3. We usually pay all our bills when they are due. Sometimes, in order not to cut our budget, we have to let one or two bills go to the following month.
4. We usually pay all our bills when they are due. Sometimes we cannot meet one or two bills, even after "tightening our belts." We usually let one or two bills go to the following month.
5. We have "tightened our belts" as far as possible. We cannot meet all of our bills when they are due. We always have bills to pay from previous months.

RESOURCE MATERIALS FOR CONSUMER EDUCATION

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Introduction and Outlines of Workshop

How does one evaluate consumer education resource materials?

The basic problem in a primitive or bare subsistence level economy has been the procurement of adequate food, clothing and shelter for mere survival. Thus, the energies of men have had to be directed toward that goal. Today in western civilization, and in more and more other areas of the world more and more persons are not only able to secure the basic food, clothing and shelter, but have been able to develop a surplus of funds which may be spent in one of many different ways as the individuals so desire. Additional funds for discretionary spending are now available to many people, but at the same time the proliferation and availability to vast scores of new products and services have almost overwhelmed the consumer both as to what to spend his money on, and how to decide what is the best buy among similar products or services that will meet his particular needs. Thus has developed the necessity for good, reliable sources of consumer information to guide the consumer through the labyrinth of the market place.

The basic problem confronting the consumer educator in choosing sources of consumer information is the same problem which confronts the consumer when he enters the market place -- this is how to evaluate all that is available. The success or failure in the use of source materials will be dependent upon the degree of success in the evaluation of such material.

In evaluating materials the consumer educator has a limited number of choices. He can merely accept as reliable whatever consumer materials he becomes aware of; or he can reject all such materials as the prejudiced opinions of vested interests. The consumer educator who accepts either of these two alternatives will fail in his decision-making process in the market place.

The acceptance of the sources of consumer information should be based not only upon an intelligent, cautious, and skeptical evaluation of the material, but it should also be based upon as much information as one can

find concerning both the writer and the organizations which are distributing such consumer information. We cannot be all-knowing in all areas, so we have to accept the judgment of other persons and other organizations many times.

I and the members of my family switched brands of toothpaste a few years ago when the American Dental Association's Council on Dental Therapeutics issued a statement recognizing Crest Toothpaste to be an effective anticaries dentifrice. I am in no position to evaluate the effectiveness of dentrifices, so I must follow a hit-or-miss policy, or have enough confidence in both my dentist and the American Dental Association to accept their judgment. This is the type of decision-making process we must all follow, if we are to have a degree of success in the market place.

I have been quite satisfied when I have written to a producer for specific information and prices for a product which I am interested in purchasing. When I was shopping for an automobile I wrote to the manufacturers for price and product information and was inundated with both useful specific price and specifications information, as well as advertising brochures. Again I would suggest that these materials of the producer be used with selectivity.

Consumer information is made available by government, business, and by private, non-business sources. The materials are available for the persons interested enough to seek them out and make use of them, but the availability of them means little if the consumer does not avail himself of these materials. If he does make use of them, it is essential that proper evaluative procedures are used.

Having available many sources of consumer information is vital to intelligent consumption, but the ability to analyze these materials critically is the basic prerequisite to their proper use.

Outline

1. An evaluation of audio-visual list, book list and periodical list.
2. An exhibit and discussion of examples of deceptive packaging.
3. A showing of a selected group of audio-visuals taken from the following:

BE A BETTER SHOPPER - 100 slides, color, about 90 minutes, 1967, price of \$20 includes slides, Leader's Guide, \$1.50, which includes all pictures and script, a set of Better Shopper Record Sheets, a Cost-Weight Table, and a "Be a Better Shopper" Bulletin. (Note: Also available in eight 27 min., video tapes and 16 mm. films). Cornell University, Mailing Room, Building 7, Research Park, Ithaca, New York, 14850.

THE EXPLOITED GENERATION - Filmstrip, color, 1969, with cassette or 12" record, 28½ min., \$35.00. Guidance Associates, Harcourt, Brace, & World, Pleasantville, N.Y. 10570.

THE OWL WHO GAVE A HOOT - Consumer fraud, 15 min., color cartoon, 1967, free loan. Produced for Office of Economic Opportunity. May be purchased for \$40.52 including reel, can, and case from Consolidated Film Industries, 959 Seward St., Hollywood, Cal. 90038.

THE MONEY TREE - 20 min., color, movie, 1971, \$260.00, rental \$20 for 3 days. Aims Instructional Media Services, Inc., P.O. Box 1010, Hollywood, CA 90028.

TRUTH IN LENDING: INFORMATION FOR CONSUMERS - 14 min., filmstrip, 93 frames, 33-1/3 rpm 12 inch record, color, 1970, free loan, \$10 purchase. Federal Reserve Banks and Federal Reserve Branch Banks.

AUTOMOBILE INSURANCE - filmstrip, 57 frames, 33-1/3 rpm record, 13 min., color, 1971, \$5.00 to educators. Director of Educational Relations, Insurance Information Institute, 110 William St., New York, N.Y. 10038.

INSURANCE FOR THE HOME - filmstrip, 60 frames, 33-1/3 rpm record, 11½ minutes, color, 1972, \$5.00. Director of Educational Relations, Insurance Information Institute, 110 William St., New York, N.Y. 10038.

CONSUMER SENSE - a ten-cassette series, 18-22 min. each, 1972, set of ten \$85.00 includes 30 student workbooks and teacher's guide with student response sheets. Coronet Instructional Films, 65 E. South Water St., Chicago, Il 60601.

4. Closing with a discussion of what is felt by the speaker to be the most important aspect of consumer education and that is an understanding of what is meant by and the implications of "patterns of consumer behavior," as illustrated in the following illustrations:

ARE THE WOMEN GUILTY?

The late Mrs. Walter Ferguson wrote in the New York WORLD TELEGRAM: "We hear that scientists are working to see if they can find out what is killing off so many men in the prime of life. That's a real easy one. It's the women.

We aren't doing it on purpose, of course. We love having mink coats, two air-conditioned cars, large houses with lovely gardens, stylish clothes and all the latest gadgets in the kitchen. It's killing the men to supply them. The pressure of getting 'things' for their women and gratifying their own material wants puts them in a rat race.

Looked at another way, it seems that men commit deliberate suicide as surely as if they put a gun to their heads. They have geared our economy to the wants of the American public which must be constantly increased.

The person who is satisfied with what he has is now regarded as a menace to industrial progress and the next thing to a moron. I doubt that the findings of scientists will help much in this tragic dilemma. At least, until the wives in this country decide they'd rather keep Papa than keep up with the Joneses."

I would like to close with this ode of George Santayana for your consideration. (Ode ii, 1923)

My heart rebels against my generation,
That talks of freedom and is slave to riches
And, toiling 'neath each day's ignoble burden,
Boasts of the morrow.
No space for noonday rest or midnight watches,
No purest joy of breathing under heaven!
Wretched themselves, they heap, to make them happy,
Many possessions.

CAREER OPPORTUNITIES AND

JOB HUNTING IN CONSUMER AFFAIRS

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Prior to 1960, careers in the consumer field were all but non-existent. However, consumer agencies began appearing in government by the early sixties. Studies by The Conference Board¹ revealed that by the late sixties and early seventies consumer affairs functions were emerging high on the organization charts of a number of large companies whose products or services were being sold to individual consumers. Because the career field of Consumer Affairs Professionals (CAPs) is a relatively new one, little is known about it.

Little research has been conducted about CAPs. The Conference Board² made one study of 149 consumer affairs departments in 1973; and in 1974, a study of consumer affairs directors in over 150 firms in the fields of manufacturing, retailing and service was made. Other studies are now underway concerning consumer affairs directors and departments in business. None of these studies in the business area concern CAPs of lower rank than director and none are concerned with the large number of CAOs in government employment.

This study attempted to fill the void in knowledge about CAPs, and in doing so, to present information that can be used in preparing CAPs for work in business and in government.

Statement of the Problem

The purpose of this study was to determine the functions of consumer affairs professionals in business and in government and to specify the education and the experience required to carry out these functions. It was designed to provide information to serve as the basis for answering the following questions:

1. Approximately how many CAPs are employed in government consumer agencies and in selected larger businesses?
2. What are the functions of consumer affairs professionals? Do these functions differ significantly between business and government?
3. What are the minimum experience requirements for a career as a consumer affairs professional?
4. What level of degree and in what field of degree are preferred for consumer affairs professionals?
5. Do consumer affairs professionals in business come from within or outside the firm?
6. What compensation may a consumer affairs professional expect to receive?
7. What special competencies, if any, are required of consumer affairs professionals?
8. What is the future employment need for consumer affairs professionals in business and in government?

Need and Importance of the Study

Since the career of CAPs is a relatively new one, information is needed concerning the preparation for this field, the functions performed on the job, and future career opportunities. This information could then be used by educational institutions to develop programs for persons preparing to become CAPs. Also helpful would be knowledge of any special competencies needed to be successful as a CAP.

Individuals contemplating careers as CAPs also need information about the number, type, and location of job opportunities available, the experience and educational background required, the expected pay range, and the various functions of a CAP.

Government agencies and businesses, with the knowledge of what other agencies and businesses are requiring of CAPs, can then better organize and staff consumer agencies in government or consumer affairs departments in business.

CAPs need as much information as possible concerning their profession and the people who practice it in order to enhance the profession's identity and also to advance the profession.

Procedures

Mailed questionnaires were used to gather data for this study. Separate questionnaires were developed for government consumer agencies

and for consumer affairs departments in business. Both questionnaires were designed to elicit information to answer the questions listed in the purpose of the study. The business and government questionnaires were designed to be essentially similar to each other, in order to facilitate comparisons between the CAPs in business and the CAPs in government.

The government questionnaires were sent to the heads of the 312 consumer agencies (branch offices excepted) listed in the 1974 edition of the Directory, State, County and City Government Consumer Offices published by the Office of Consumer Affairs, Department of Health, Education, and Welfare. This list was supplemented by a list of federal consumer agencies supplied by the Office of Consumer Affairs. The U.S. Postal Service, although only a quasi-governmental agency, was included in the government section of this report.

The business questionnaires were sent to 1,455 businesses. This list of businesses was obtained from the following sources:

FORTUNE Magazine index of the 500 largest industrials

FORTUNE Magazine index of the second 500 largest industrials

FORTUNE Magazine index of the "Fifty Largest" lists (this list includes the 50 largest firms in each of the following six categories: commercial banking companies, life insurance companies, diversified financial institutions, retailing companies, transportation companies, and utilities).

Society of Consumer Affairs Professionals membership list
155 persons who were in the scope of the study yet were not associated with firms listed in the FORTUNE indexes were contacted. Only one SOCAP member per firm was included.

Approximately one-half of the government agencies responded to the survey. Slightly more than one-fourth of the businesses contacted responded to the questionnaire. Approximately one-half of those responding reported having consumer affairs departments and/or consumer affairs professionals. The SOCAP sample had the highest response percentage -- by definition, SOCAP members in business are involved in consumer affairs.

The majority of firms listed in the FORTUNE indexes do not by nature, come into direct contact with the consumer and therefore have no perceived need for a consumer affairs department and/or CAPs. Many of the firms do not make consumer goods or perform services for consumers; many are holding companies and only their subsidiaries have contact with the consumer.

Additional Information

Many businesses, in responding to the questionnaire, supplemented their response with extensive comments concerning the role of consumer affairs professionals in business. Excerpts of two of these letters are

reproduced here because this researcher believes that they reflect the tone of what many of the business respondents considered the role of a consumer affairs professional to be. The first letter is from one of the nation's largest retailers:

I doubt there is any single executive in. . . who would feel qualified to respond on behalf of our more than 450,000 employees -- all of whom consider themselves "Consumer Affairs Professionals" in the context of your definition. Certainly at least 20,000 executives qualify. . . . Because our business is totally consumer-oriented we do not have a Consumer Affairs Dept. per se.

The second letter is from an industrial firm listed in the second largest 500 industrials:

. . . . However, you have given me the opportunity to suggest that the U.S. Office of Consumer Affairs is totally missing an existing resource that could never be duplicated by government, and that is the marketing function performed by most companies by experienced people whose job it is to see that products made and sold do indeed respond "to the needs and grievances of the consumer during the design, promotion, sales, and service of the product." When they succeed, the company is successful. It's obvious that to survive for long in a free enterprise system, i.e., under competition, these needs must be satisfied more often than not. And while marketing people are not omnipotent, they do have the advantage of knowing the manufacturing process, the engineering problems, the distribution systems, the market, their respective positions in that market, and something about what's going to happen down the road as a result of outside economic factors, governmental action, customer demand, technological advances, new materials, private research, industry standards, ad infinitum. Every person in every marketing staff of every company in the world is either a consumer affairs professional or is on his way to being one. This is the very essence of his job. How else do we educate or develop such expertise in the elements I've mentioned about except through practical exposure and experience? You probably start, I believe, with business school graduates and guide them into the marketing function. It's all there now. If the government wishes to superimpose this kind of knowledge over the existing structure, it might start by hiring retired marketing people.

Government Consumer Agencies

One hundred and forty-two agencies on the municipal, county, state, and federal level were included in this study. This represented about fifty percent of the agencies contacted. The number of consumer agencies

at the state level was greater than at any other government level. The federal level had the lowest number of agencies, but the federal agencies had by far the greatest percentage of response to the questionnaire.

Most government agencies employ ten or less CAPs; however, a relatively large number of state consumer agencies employ between eleven and twenty-five CAPs. Generally, government consumer agencies expect to increase the number of CAPs employed, presently over one thousand, by about fifty percent by 1977.

Usually, CAPs in government are employed to perform various combinations of some or all of the five functions designated for CAPs. The most mentioned single function, especially in county and state consumer offices, was handling and resolving consumer complaints. The consumer education function was often mentioned by state agencies. Federal, county, and municipal agencies, on the other hand, often cited the function of internal consumer ombudsman and consultant on consumer matters within and between agencies.

Most government consumer agencies prefer to have CAPs with some experience in the consumer field, with the exception of some state agencies, where there are generally no experience requirements.

The great majority of agencies require at least a bachelor's degree for job entrance. When a preferred academic major was expressed, it was usually business, however, most agencies expressed no preference. State agencies in particular, often mentioned a degree in law.

Generally county consumer agencies prefer to recruit their CAPs from within the agency, whereas at the state and municipal levels there is usually no preference as to the source of CAPs. The federal consumer agencies generally prefer their CAPs from outside the agency.

Federal CAPs are paid the highest with the \$15,000 - \$25,000 annual pay range most mentioned. Municipal agencies offer the least, a yearly salary of \$7,000 - \$10,000 was most mentioned. Falling in the middle range of \$10,000 - \$15,000 a year are the county and state agencies.

Government consumer agencies stressed special competency in communications as being necessary to perform the CAP functions. Technical, legal, and investigative competencies were also often cited.

In reference to future opportunities for CAPs, an increase was expected by most agencies expressing their opinion.

Business Consumer Affairs Departments

One hundred and eighty-four business consumer affairs departments were included in this study, representing thirteen percent of those contacted. These businesses were grouped into eight classifications

according to the product or service rendered. Non-durable goods manufacturers represented the largest classification, with fifty-five firms. Durable goods manufacturers were the next largest. Other than the miscellaneous classification, trade associations, with seven firms, had the smallest representation, with financial institutions, retailing, transportation, and utilities ranging from fourteen to twenty-five firms being represented.

Fifteen percent of the businesses contacted reported having no consumer affairs personnel employed. Of the 4162 CAPs reported to be employed by the one hundred and eighty-four firms, the durable goods manufacturers and utilities together employed 90 percent of the CAPs involved in the study, the remaining ten percent were distributed among the other six classifications. Business expects to increase the number of CAPs employed by about ten percent by 1977; durable goods manufacturers expect the greatest increase in numbers and trade associations the greatest percentage increase. Other than the miscellaneous classification, utilities expected the smallest percentage increase.

The functions performed by most CAPs in business is a combination of all or of various combinations of the five functions ascribed to CAPs in this study. A significant number of CAPs in the utility field perform the functions of handling and resolving complaints and inquiries. The education function is important for CAPs in the non-durable goods, retailing, and utilities fields; a very small percentage of CAPs in durable goods firms perform the education function.

Although many firms desire CAPs to have some consumer experience before being hired, more require experience in other areas. Several firms, especially the non-durables, desire experience in business, marketing, or public relations.

In every classification, a bachelor's degree was most mentioned as the minimum requirement for a position as a CAP. Master's and doctor's degrees were also mentioned to a lesser extent; and several firms have no degree requirements whatsoever.

The academic major cited most was business. Many firms said they had no preference as to academic major. Law and home economics degrees received several mentions. Home economics was often preferred in non-durables, retailers, and utilities. Most businesses prefer to recruit their CAPs from within the business organization; retailers, though, take their CAPs from outside the firm. Some had no preference as to the source of their CAPs.

Very few firms reported paying CAPs less than \$7,000 a year. The most cited annual salaries were the \$7,000 - \$10,000, \$10,000 - \$15,000 and \$15,000 - \$25,000 ranges. Several firms pay in excess of the \$25,000 annual pay, such as many durable goods firms and a significant number of airlines.

The special competencies that firms desire most of their CAPs are in communications. Other firms also stated that they would like CAPs to have technical, human relations, marketing, and home economics competencies.

Eight comments from business indicated that there was an optimistic outlook for future employment of CAPs. Other comments from several firms indicated that the consumer affair functions were better carried on by executives and/or marketing, sales, and public relations personnel.

Conclusions

The "Statement of the Problems" section of this study stated that this research was designed to answer eight questions. On the basis of the findings of this study, the following conclusions are drawn:

1. Approximately one thousand consumer affairs professionals are employed by the one hundred and forty-two government agencies responding, which represents about fifty percent of the agencies listed by Office of Consumer Affairs directories.

Approximately 4100 consumer affairs professionals are employed by one hundred and eighty-four businesses representing about thirteen percent of the 1455 businesses contacted. This sample included mainly the largest businesses in the United States. Care must be taken in viewing this large number of CAPs, for some firms used quite a loose interpretation of the definition of a CAP.

2. Although the functions of consumer affairs professionals were divided into five separate categories, most CAPs in business and government performed a combination of all or some of these functions. The most mentioned combination was that of handling and resolving complaints and handling and processing inquiries. Detailed comparisons between the functions of CAPs in government and in business was difficult because of different consumer activities performed, but generally the functions did not vary extensively between the groups.

3. minimum experience requirements for consumer affairs professionals varied little between government and business. It should be noted, however, that when "other experience" was indicated, business often wanted CAPs with experience in business, marketing, and marketing-related areas.

4. A bachelor's degree was overwhelmingly mentioned as the minimum degree requirement for consumer affairs professionals in business and government. Also, many consumer affairs offices in both groups had no degree requirements for employment in the consumer field. Both groups often cited business when an academic major was mentioned. Law degrees were relatively more important to government agencies than business, and home economics majors were desired more by business than government. Degrees in education were mentioned about equally by the two groups.

5. Considerable difference existed between business and government as to the source for recruiting CAPs. Business was much more interested in recruiting their CAPs from within their own business organization whereas government often would go outside the agency to employ CAPs.

6. Although the pay ranges varied greatly within the business group and within the government group, business generally paid more than government for the services of CAPs.

7. Both government and business consumer affairs offices emphasized the necessity of communications and technical competencies for CAPs in performing their functions. Although not as important, legal competency was also mentioned by some business and government organizations.

8. The government sector expects a much greater increase in the number of CAPs by 1977 than does the business sector. Many business offices employed only one or two CAPs, with a few employing over 100, whereas the government offices frequently had five or more employees but few with over 25 CAPs.

Recommendations

Recommendations are divided into three sections in response to the need for the study. The first section concerns itself with recommendations for curriculum development, and is aimed at educational institutions who have or desire to have curriculums for the preparation of CAPs. The second section contains recommendations for individuals who plan careers as CAPs -- what to expect and where the job opportunities exist. Recommendations are made in the third section pertaining to the need for further research.

Curriculum Development

Most firms require at most a bachelor's degree for CAPs, and when a major is preferred, it is usually in business; very few firms require advanced degrees and/or a degree in consumer affairs or in a related area. This could be due either to the fact that there is actually no need for advanced degrees and a consumer major, or that business and government are not aware of the existence of such programs. If the latter is true, it is recommended that business and government consumer offices be made more aware of the fact that colleges are educating persons in the consumer field.

If advanced degrees should indeed not be necessary for CAPs, educational institutions should concentrate on undergraduate programs for consumer affairs professionals. The emphasis should lie in the business subjects, especially in marketing and related fields and with some law. Home economics may be important for some consumer offices. All programs for CAPs should also stress competency in communications, both written and oral. Because a significant number of consumer affairs offices desire some previous consumer experience, it is also recommended that CAP programs include field experience in a consumer affairs office.

A program to prepare consumer affairs professionals on any degree level should be an interdisciplinary program. Although the findings of this study indicate the personnel that government and business want to solve the problems of the consumer should have a business background, they also considered educational input from other areas, such as social science, technical, law, and home economics as important.

Career Planning

According to the findings of this study, individuals who wish to enter into careers as consumer affairs professionals should be majors in business or possibly for a government job, in law, and need only a bachelor's degree. Potential CAPs should emphasize communications in their background. Because of the desire by business and government for some prior consumer experience, they should try to get some field work in their educational program or through paid or volunteer consumer activities. Business consumer offices often prefer someone with technical knowledge of the product or business, therefore, it may be desirable for a CAP to major in his technical field of interest as well as taking consumer courses.

If monetary considerations are important, a future CAP should consider business over government, and within business, he should consider airlines first. Because government plans more expansion in the consumer field than business and businesses more often hire from within their organization, CAPs may find more consumer career opportunities in government than in business.

Appendix

Job Functions of Consumer Affairs Professionals in Business and Government

Given below are the job functions of consumer affairs professionals listed in the questionnaires that were sent to government consumer agencies and in questionnaires that were sent to business consumer affairs departments.

Job functions of consumer affairs professionals in government and business:

1. Handling, resolving, and analyzing consumer complaints.
2. Handling and processing consumer inquiries other than complaints.
3. Developing consumer education programs and disseminating consumer information.

Job functions of consumer affairs professionals in government (in addition to those listed for government and business, above):

1. Internal consumer "ombudsman" and consultant on consumer matters within and between agencies.
2. Providing liason with consumer groups and/or industry.

Job functions of consumer affairs professionals in business (in addition to those listed for government and business, above):

1. Providing liason with consumer groups and government agencies.
2. Internal consumer "ombudsman" and consultant on consumer matters within the firm.

Footnotes

1. The Conference Board, The Consumers Affairs Department: Organization and Functions (New York: The Conference Board, 1973) p. i.
2. Ibid.

FACTORS WHICH RELATE TO NON-GROUP LIFE INSURANCE HOLDINGS OF FAMILIES:

A PILOT STUDY

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The family's need for life insurance has been well documented in the literature, but analyses of the factors which affect family purchases of life insurance have not been as well analyzed. This is an attempt to redress this deficiency.

Among the factors which affect a family's demand for individually purchased life insurance, one would expect price (net premium), holdings of financial securities, income, group life insurance holdings, and the perceived need for various after death financial resources to be among the most important. The effect of these factors on individually purchased life insurance was tested using data obtained from a class project at the University of Minnesota. The sample characteristics are not representative of the United States as a whole, but the effects of the differences are not clear.

What is the effect of these variables on individually purchased life insurance holdings, and what are the implications of this for the consumer? The own price elasticity of demand for individually purchased life insurance is quite inelastic, but the key factor is the negative sign of this relationship. This implies that as the net premium of individually purchased life insurance increases, the amount of life insurance purchased decreases. This results in a situation in which more expensive forms of individually purchased life insurance will be associated with smaller holdings of the same.

The income elasticity of demand is 0.49 which is quite low. This indicates that life insurance is high in many families' purchase priorities, and that young families will tend to have relatively more life insurance than one would expect given their lower income levels.

The effect of securities on individually purchased life insurance is positive which is somewhat surprising at first blush. However, when considering that many families may view securities and life insurance, both, as

financial assets, it is not surprising. But a factor of which one must be aware is that the financial asset aspect of life insurance could force families to overlook the insurance aspect. When combining this with the negative price effect, one would expect many families to be underinsured.

The relationship between group life insurance and individually purchased life insurance is negative as expected with the substitution elasticity being negative and small, -0.09 . This tells one that group life insurance is not a very good substitute for individually purchased life insurance and one cannot count on one to make up deficiencies in the other.

More imminent perceived needs for after death financial resources have a positive impact on the amount of individually purchased life insurance. That is, if the major breadwinner of a family were to die today, the need for close-to-death, death contingent financial resources, would tend to increase individually purchased life insurance holdings more than the more distant needs.

What has been found is that families are sensitive to the net premium for individually purchased life insurance; many families view individually purchased life insurance as a financial asset and not as a death contingent substitute for financial assets; group life insurance cannot be counted upon to serve as a substitute for individually purchased life insurance; and the perceived need for after death financial resources for the period immediately following the major breadwinner's death has the greatest impact on individually purchased life insurance holdings.

A FRAMEWORK FOR ANALYZING THE EFFECTS OF INTEREST RATES ON

PURCHASES OF CONSUMER DURABLES

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The purpose of this paper is to explore a specific framework for analyzing optimal consumer choices of durable goods in the face of alternate interest rates. This framework has three related uses:

- 1) Advice to consumers - assuming some consumers do not make optimal choices, this framework can help reveal what advice should be given to such consumers about purchases of durables, given particular preferences and resources;
- 2) Empirical study of consumer behavior - assuming consumers do make optimal choices, this framework can help show what their choices reveal about their preferences; and
- 3) Public policy analysis - assuming consumers do make optimal choices, this framework can help show what optimal government policies would be for specific goals such as energy conservation, improvement of the environment, and reductions of poverty.

In principle a consumer's decision to purchase a particular durable good is simply a capital budgeting decision. The consumer can evaluate the costs and benefits of the item for each period in its expected lifetime. It is helpful to consider the valuation of simple financial assets in order to better understand the value which an individual consumer might place on a durable good. For convenience, a number of factors which might have an influence on decisions will be ignored at first.

The basic principles of the valuation of simple financial assets can be illustrated by considering the following question. How much should one

pay today for the right to receive \$100 one year from now? Most people would pay less than \$100 - they discount future benefits because of uncertainty, impatience, and the value of alternate uses of their money. One way to compute the present value of a future benefit is to compute how much one would have to put into an alternate investment such as a savings account in order to end up with an equivalent amount of money. How much would one have to put into a savings account today in order to have \$100 at the end of one year? For a savings account paying 6% interest compounded annually, the formula

$$F = P (1 + r)^n$$

can be used, where F equals the amount after n time periods, r equals the rate of interest per time period, and P equals the present value, or initial amount invested. With rearrangement, the formula for present value is derived:

$$P = \frac{F}{(1 + r)^n}$$

In the example just described, F equals \$100, r equals .06 per year, and n equals one year, so

$$P = \frac{\$100}{1.06} = \$94.34$$

What would be the value today of receiving \$100 at the end of two years? Substituting in the present value formula,

$$P = \frac{\$100}{(1.06)^2} = \frac{\$100}{1.1236} = \$89$$

It is convenient to use a present value table instead of going through the calculation. (Use of present value tables becomes especially useful when many time periods are involved.) Using a standard table for the present value of one dollar received n time periods from now, it can be found that the discount factor for two years at 6% interest is .89, so that the present value of \$100 to be received two years from now would be \$89.¹ The use of the present value method makes clear the importance of timing in evaluating future benefits from investments - the longer one has to wait for any benefit, the lower will be its present value.

How much should one pay for the right to receive \$100 at the end of each year for the next 10 years? One way to compute the price one should pay is to compute the present value of the benefits for each of the 10 years and then add each of the present values to obtain the present value of the stream of benefits. Thus, the present value of \$100 per year for 10 years at 6 percent interest is:

$$P = \sum_{t=1}^n \frac{F_t}{(1 + r)^t} = \frac{100}{1.06} + \frac{100}{(1.06)^2} + \dots + \frac{100}{(1.06)^{10}} = \$736$$

One can use a table for the present value of an annuity (a constant payment per year for a certain number of years) to obtain the present value of \$736 at 6% interest.² What would be the present value of \$100 per year for 10 years at a zero interest rate? It would simply be the sum of each of the future payments, \$1,000. The higher the interest rate, the lower will be the present value of the future payments.

For computing the present value of a stream of aftertax or non-taxable income, the appropriate discount rate to use may be the effective aftertax interest rate of alternate investments. For instance, for a person in a 25% marginal income tax bracket, the effective aftertax interest rate of an 8% investment is 6%. (Effective aftertax interest rate equals actual rate times (1 - marginal tax rate), so .06 equals .08 times .75.) What if a person is considering borrowing money in order to buy an asset? Then the appropriate discount rate may be the effective aftertax interest rate of the loan. If a person in a 25% marginal tax bracket borrows money at 12% interest, the effective aftertax interest rate, if the person itemizes on his tax return, is 9%. Table 1 shows the effective aftertax interest rates for tax rates of 22%, 32%, and 50%, and for actual interest rates of 8% and 12%. One important inference one can draw from this table is that the present value of any particular flow of future benefits will tend to be higher for persons in high tax brackets than for persons in low tax brackets.

Table 1

Aftertax Effective Interest Rates

<u>Marginal Tax Rates</u>	<u>Actual Interest Rates</u>	
.22 (Taxable income, \$8,000-\$12,000)	<u>8%</u> 6.24%	<u>12%</u> 9.36%
.32 (Taxable income, \$20,000-\$24,000)	5.44%	8.16%
.50 (Taxable income, \$44,000-\$52,000)	4.00%	6.00%

(Based on 1973 Federal Income Tax rates for married couples filing joint returns.)

A simple application of the principles discussed can be shown by a consumer's purchase of air conditioner. Assume a consumer has a choice of two air conditioners which are identical in every respect except initial purchase price and efficiency of operation. Table 2 shows an example where, with electricity costing five cents per kilo-watt hour, the difference in

electricity costs between an inefficient air conditioner and an efficient air conditioner would be \$17 per year. If it is assumed that either air conditioner will operate without repairs for 10 years, how much of a premium should a consumer be willing to pay for the more efficient air conditioner? (In subsequent discussion, it is assumed that a consumer considers only his private costs and benefits, ignoring social costs and benefits.) If a consumer values future benefits as highly as present benefits, the present value of the future savings will be the sum of the annual savings, \$170.

This result is shown in the first line of Table 2, the present value of \$17 per year for ten years at a zero discount rate. A zero discount rate may be appropriate for few persons, but low discount rates may apply for persons in high tax brackets. For a person in a 50% tax bracket with the opportunity to invest at an 8% rate of return, the appropriate discount rate is 4%, so that the present value of the savings from buying the more efficient air conditioner is \$138. But for a person with a 6% rate, the present value of the savings will only be \$125. What about the low income person who must borrow at 12% interest, and who does not itemize deductions on his income tax return? Such a person will have a present value for the savings of only \$96. A person with a discount rate of 18% would value the savings in electricity costs at only \$76, and a person with a discount rate of 36% would value the savings at \$45.

Table 2

Present Value of Savings in Cost of Electricity for an Efficient Air Conditioner Compared to an Inefficient Air Conditioner.

<u>Interest Rate</u>	<u>Present Value of \$17 per Year for 10 Years</u>
0%	\$170
4%	\$138
6%	\$125
12%	\$ 96
18%	\$ 76
36%	\$ 45

(Based on approximate costs of operation at five cents per kilowatt hour of two approximately comparable room air conditioners, operating for 10 hours per day six months per year.³)

Since the average retail price difference between the two models was about \$36, it would be rational for almost any consumer to pay the higher price for the more efficient air conditioner. But what about further technological improvements to save electricity? What if General Electric developed an air conditioner which could save \$10 per year on electric bills compared to the most efficient air conditioner at present, but which would sell for \$80 more? Which consumers would be willing to purchase

such an air conditioner? The present value of \$10 per year for 10 years is greater than \$80 only for discount rates less than 5%. Therefore, only those consumers who could obtain money at an aftertax interest rate of about 4% would be willing to pay for the more expensive but more efficient air conditioner.

What would be the effects of a government requirement of higher energy efficiency for appliances and automobiles? If the higher efficiency were to be obtained by increasing the cost of production, then under the present tax system and patterns of credit availability, upper income consumers would benefit more than lower income consumers. What would be the effects of government requirements for greater durability - for longer lasting appliances, cars, and housing? In this situation, too, higher income consumers would tend to benefit more than low income consumers. For instance, what if the alternatives consist of one appliance which will last 5 years, and another appliance which will last for 10 years? If the net benefits per year have a value of \$100 for either appliance, how much of a premium should a consumer be willing to pay for the longer lasting appliance? The price premium should depend upon the discount rate of the individual consumer. As Table 3 shows, a consumer with a discount rate of 6% rationally should be willing to pay a premium of \$315 for the purchase of the more durable appliance, while a consumer with a discount rate of 18% should be willing to pay premium of only \$136 for the longer lasting appliance.

Table 3

The present Value of Appliances Providing Benefits of \$100 per year, for Lifetimes of 5 Years and 10 Years, at 6% and 18%

<u>Lifetime of Appliance</u>	<u>Discount Rate</u>	
	<u>6%</u>	<u>18%</u>
10 years	\$736	\$449
5 years	\$421	\$313
Difference (Price Premium)	\$315	\$136

The above analysis is also helpful in explaining the actual behavior of consumers. If some low income consumers apparently buy appliances, cars, clothing, and mobile homes which do not last as long as corresponding products bought by high income consumers, they may still be making rational choices under existing conditions. Low income consumers generally face higher interest rates than do high income consumers, and they do not have the advantage of deducting interest paid from their taxable income, so it may be perfectly rational for them to choose items with shorter lives but lower initial prices.

The preceding analysis leaves out many factors important for choices in the real world. One factor which has been important for purchases of durable goods in recent years has been general inflation and related rapid increases in the prices of specific durable goods. How can the expected price changes for a durable good be incorporated into the present value analysis described above? Usually, market interest rates will tend to adjust for expected inflation rate - all other things being equal, the higher the expected rate of inflation, the higher will be the market interest rate. If a consumer uses his current after-tax interest rate as a discount rate in calculating present value, the benefits and costs for a time period should be measured in terms of expected prices in that time period.

How should a consumer take expected price changes into account in determining the present value of a durable good such as a house? Assume a consumer is planning to buy a house which has a rental value of \$1,000 per year. For simplicity, assume this house will last for 30 years in perfect condition, then turn to dust when it falls into the San Andreas Fault. What is the present value of the house to a consumer with a discount rate of 6%? Using the formula for the present value of a stream of payments,

$$P = \frac{\$1,000}{1.06} + \frac{\$1,000}{(1.06)^2} + \dots + \frac{\$1,000}{(1.06)^{30}}$$

Using a table for the present value of an annuity, one can find that the present value equals \$13,765. In other words, the consumer should not pay more than \$13,765 for the house. But what if the consumer expects the rent on comparable houses to increase 5% each year for the next 30 years? Then the present value of the house obviously must be greater. Now,

$$P = \frac{\$1,000 (1.05)}{1.06} + \frac{\$1,000 (1.05)^2}{(1.06)^2} + \dots + \frac{\$1,000 (1.05)^{30}}{(1.06)^{30}}$$

which equals approximately,

$$P = \frac{\$1,000}{1.01} + \frac{\$1,000}{(1.01)^2} + \dots + \frac{\$1,000}{(1.01)^{30}}$$

From a table for the present value of an annuity, it can be found that the present value for an annuity of \$1,000 per year for 30 years discounted at 1% interest is \$25,808, which is almost twice as much as the present value with no price (rental value) increase expected. The consumer should be willing to pay \$25,808 for the house. The reasons for the attractiveness of real estate as an investment should be clear. In addition to providing valuable tax advantages for middle and upper income investors, it provides an excellent hedge against inflation. The higher the expected rate of price increase (or equivalent rent increase), the higher will be the present value of the investment at any particular discount rate. (However, the market price may be higher than the present value to a particular investor.)

It is instructive to examine the rate of price increases for some other consumer durable goods during a recent period. As Table 4 shows, the rate of the price increases for various durable goods between January, 1974 and January, 1975 were very high, with almost all rates higher than the rate of increase in the overall Consumer Price Index. Durable goods were among the few investments available to the ordinary investor which more than kept pace with increases in the cost of living during this period. Apparently, some extra buying as a hedge against inflation did take place during this period, especially with automobiles.⁴ In fact, there were three good reasons for consumers to sell their old cars and buy new ones: expectations of price increases in new cars, expectations of even more rapid increases in the cost of auto repairs and maintenance which would make old cars relatively more expensive to operate than new cars, and increases in gasoline prices which provided an incentive to buy cars with better gas mileage. Similar factors were present for some other consumer durable goods. But there was a severe loss of purchasing power with the combination of high inflation and recession, with the Consumer Price Index increasing 11.7% while the spendable earnings of the average nonagricultural worker with three dependents increasing only about 6%.⁵

Table 4

Price Changes of Selected Consumer Items,
January, 1974 to January, 1975

<u>Item</u>	<u>Change in the Bureau of Labor Statistic Price Index</u>
Consumer Price Index (Overall)	11.7%
All Durables	13.0%
Household Furnishings	15.0%
Automatic Washing Machines	14.2%
Refrigerator-Freezers	15.4%
Electric Clothes Dryers	15.1%
New Automobiles	12.7%
Used Automobiles	9.3%
Auto Repairs and Maintenance	15.5%
Gasoline	14.3%

(Source: Monthly Labor Review, March, 1975, Table 23, Consumer Price Index - U.S. Average, pp. 105-110)

The preceding type of present value analysis can be quite useful, but it has one serious theoretical limitation - it must be assumed that the current satisfaction received from an amount of money payment or real consumption in any time period is the same for all individuals and is independent of the particular time period and of other circumstances. One can obtain some interesting theoretical results with less restrictive assumptions by using the present value of utility received in each time period rather than the present value of the monetary value of benefits in each time period. With this method, one can calculate the present value of current utility in each period derived from a durable good as:

$$P = U_1 d_1 + U_2 d_2 + \dots + U_n d_n,$$

where U_t equals the utility derived in each time period t , and d_t equals the discount factor appropriate for time period t . If a consumer discounts future time periods at a constant rate per time period, say r , the above formulation becomes,

$$P = \frac{U_1}{(1+r)} + \frac{U_2}{(1+r)^2} + \dots + \frac{U_n}{(1+r)^n}$$

For a complete analysis of optimal consumer choice over time, one would derive demand functions from the maximization of a multiperiod utility function subject to a lifetime budget constraint.⁶ However, for simplicity, the concept of the present value of the net utility derived from a product in each time period during its lifetime will be used.

If two related plausible assumptions are used - risk avoidance and declining marginal utility of wealth - some results relevant to consumer purchases of durables can be derived. First, if consumers are risk avoiders, then the greater the uncertainty about future benefits, the lower will be the expected utility of the benefits to the consumer. In financial analysis a risk adjustment factor is often included in the discount factor used in computing the value of the investment. If two investments are being considered, each with an expected average return of \$1,000 per year, but the return of one investment is expected with certainty to be exactly \$1,000 per year, and the return on the other investment has a 50% chance of being \$1,500 per year and a 50% chance of being \$500 per year, a risk avoiding investor would prefer the certain return to the chance of making perhaps more and perhaps less than \$1,000 per year. A risk avoiding investor might use a 6% discount rate for the safe investment and a 9% discount rate for the risky investment.⁷

A similar consideration would apply for a consumer considering investing in risky durable goods. Why might durable goods be risky? They might be risky because they fall apart sooner than expected, because they require higher than expected repair expenses, or because the consumer's needs might change in the future. Since a consumer cannot be sure about these events, he may discount expected benefits from a durable good at a higher rate than he would for a safe investment such as a savings account. If economic and political conditions become very unstable, a consumer's perception of risks may cause him to discount benefits from all investments at a high rate, leading him to spend more for immediate consumption.

If a consumer has declining marginal utility for wealth,⁸ then the lower present wealth is relative to expected future wealth, the higher will be the consumer's discount rate. This provides another economic rationale for the alleged present-orientation of low income consumers, as the higher the discount rate, the lower will be the investment for the future. Even if low income consumers have preferences identical to those of high income consumers, their behavior may appear to be more present-oriented because they face higher interest rates and because their present wealth is low relative to future expected wealth.

What implications does this present value analysis hold for public policy? For energy policy, this type of present value analysis should be considered in deciding upon specific ways to encourage energy conservation. One way to achieve energy conservation is to raise energy prices, which will presumably induce some consumers to cut back on their use of energy. One of the most important ways to reduce energy consumption is to make some investment to achieve more efficient usage. But, as shown before, there are good reasons why low income consumers have less incentive (and less ability) to invest now for future benefits. If public policy on energy is to be equitable as well as efficient, perhaps programs should be designed to help low income consumers to invest in energy conservation. Another related public policy issue is the use of monetary policy to fight inflation. During periods of increasing inflation, a common monetary policy to fight inflation is to decrease the rate of increase in the money supply, which in turn will tend to increase interest rates for borrowers and investors. All other things being equal, high interest rates will tend to inhibit investment in energy saving methods such as insulation and more efficient appliances. In order to encourage investment in energy saving devices during periods of tight money, special tax credit allocation, or direct loan programs may be appropriate to prevent anti-inflation policies from working against energy conservation goals.

The above policy recommendations are based on somewhat impressionistic analyses. Obviously, further research is needed in this area. Research needs include surveys on time preferences of different classes of consumers and of actual interest rates faced by different groups of consumers and corresponding investment patterns in financial assets and durable goods.

Footnotes

1. For a basic introduction to the use of present value techniques, see Glen A. Mumeey, Personal Economic Planning, New York: Holt, Rinehart and Winston, 1972, pp. 45-51.
2. See ibid., p. 50.
3. Based on data in the article, "Air Conditioners," Consumer Reports July, 1973.
4. Business Week, "The Auto Slump Spreads," December 14, 1974, pp. 58-64.
5. Monthly Labor Review, March, 1975, Table 20, "Gross and Spendable Weekly Earnings," pp. 102
6. James Henderson and Richard Quandt, Microeconomic Theory, New York: McGraw-Hill, 1971 (2nd edition), chapter 8.
7. In general, the investor's utility function would include both expected return and measures of expected risk. One applied method for taking risk into account is mean-variance analysis, where it is assumed that the investor's utility is a function only of the mean and variance of the expected return. See H.A. John Green, Consumer Theory, Baltimore, Penguin Books, 1971, pp. 256-246.
8. See Alfred Marshall, Principles of Economics, New York: MacMillan Press, 1972, pp. 80-81. (Based on Eighth Edition, published in 1920.)

LIFESTYLE AND PSYCHOGRAPHIC ANALYSIS
OF CATALOG SHOPPERS

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Consumers in the 1970's have an overwhelming selection among business establishments when shopping for general merchandise. In 1972, there were over 70,140 general merchandise stores, 5,792 department stores, and 21,046 variety stores in the United States. Combined there are over 1.7 million retail establishments in the United States doing more than \$448 billion in business annually (15). Furthermore, consumers in the 1970's can purchase a wide variety of items including such classifications of merchandise as clothing, gifts, home furnishings, and large appliances without even leaving home. In fact, consumers in 1972 purchased almost \$4 billion worth of goods and services from one or more of the 2,833 mail order houses in the United States (5).

The mail order catalog business is growing rapidly, and more expensive items are replacing the less expensive product offerings of the past (7). The United States Census of Business in 1972 reported a 16.1 percent increase in mail order sales during 1971 (14). A study of Tucson mail order buyers found that families averaged \$190 annually in merchandise, a combined expenditure in 1971 of almost \$7 million on mail order goods (12).

The growth observed in catalog shopping can be related to recent social, psychological, and economic developments which may alter future shopping patterns as well. The growth of metropolitan areas has influenced the lifestyle of consumers. The profile of isolated rural residents dependent upon mail order buying for a variety of goods is a visage of the past. Urbanization has created new shopping patterns downtown and in outlying malls. With such a variety of shopping areas available, it would seem that the necessity for catalog buying would be minimized. However, in the late 1960's, 70 to 80 percent of catalog sales were in the metropolitan market, compared to 50 percent in 1950 (4). What factors, then, motivate consumers to shop at home?

Convenience may be an important motive. Locked-in shoppers such as mothers with small children, the elderly, and the handicapped frequently shop at home because shopping downtown is too difficult. Furthermore, the traffic

problems associated with downtown and outlying shopping centers create a need for more convenient shopping methods. Particularly in regard to the recent gasoline shortage and the uncertainties of the future relative to energy, the in-home convenience of catalog buying provides consumers with a viable alternative to remote, in-store shopping (6).

Another factor contributing to the increase in catalog buying may be the reduction of risk which consumers in the past have associated with buying unseen catalog merchandise. Manufacturers and retailers have made great strides in standardizing and branding products. Consumers themselves have become more educated and sophisticated shoppers. Furthermore, the self-service format of supermarkets and discount stores has contributed to the consumer's ability to judge quality by forcing choice in merchandise with little or no aid from salesclerks (7).

Although retail sales statistics indicate an increase in mail order purchases, they offer no information which may be utilized to identify frequent catalog shoppers. Moreover, the research which has been conducted related to catalog shopping behavior primarily describes consumers on the bases of demographic and socio-economic characteristics (6). Since several authors (2, 10, 11) suggest that recent changes in socio-economic characteristics of consumers raise doubt as to the usefulness of these valuables, life-style analysis was employed in this exploratory study to examine mail order, catalog, purchasing behavior. The specific objectives were:

- (1) To identify stratified groups of Sears, Roebuck and Company shoppers based on life-style characteristics, and
- (2) To examine these groups formed on the basis of life-style characteristics in order to determine if they vary significantly on the basis of catalog shopping frequency.

Methodology

Sample

The sample for the study consisted of 680 Tuscaloosa, Alabama, residents who were randomly chosen from the Sears, Roebuck and Company catalog mailing list. The 680 member sample represented ten percent of all Tuscaloosa residents who received a Sears Roebuck and Company catalog in 1974. In each case only female subjects were retained for the study. In the event that a male name appeared in the sample, survey material was sent to the "Mrs." in the household.

Questionnaire

Each of the 680 subjects in the sample was sent a questionnaire through the mail. A business reply envelope was also included in order to make responding more convenient for the subjects. Responses were collected for a two week period. One week following the initial mailing, a post card reminder was sent to each subject.

The questionnaire utilized in the study was composed of three parts: life-style analysis, catalog usage index, and demographics. Both catalog usage as determined by the frequency of purchasing catalog items and demographics were used to group and classify the catalog shopper.

The life-style portion of the questionnaire consisted of forty-five Likert statements directly related to nine life-style variables (Table 1). Each statement was rated on a six point continuum from definitely agree to definitely disagree. Statements for the questionnaire were developed from unstructured interviews and previous research conducted by Reynolds and Martin (9) and Tigert and Arnold (13).

A pilot study was performed in order to determine the overall readability of the questionnaire items and to determine if each life-style statement was unidimensional. For each statement an item analysis was performed to determine the correlation between that statement and the life-style variables to which it was related (8). Negatively correlated items generally indicate that the numeral values for the scale are not properly assigned and should be reversed. Zero or very low correlation coefficients suggest that the statement fails to measure the life-style dimension to which it is related. In each case statements utilized in the study were highly related to their respective life-style variable yet only slightly correlated with the total pool of statements for the entire questionnaire. Therefore, each of the forty-five Likert statements appear to be differentiating in regard to life-style variables and were thus retained for the final questionnaire.

Statistical Analysis

Catalog shopping frequency was measured by respondents' perception of their "usual" shopping behavior for 39 products. The total pool of 39 products was studied simultaneously, utilizing multivariate statistical techniques in order to provide a more complete description of catalog shopping behavior. Specifically, respondents indicated shopping patterns by scoring, for each product listed, a scale ranging from one to six with "one" indicating the respondent never buys the product through the mail and "six" indicating that the respondent always buys the product through the mail.

The total sample of 280 respondents was randomly assigned to two sub-samples since computer capacity allowed for the grouping of a maximum of 150 subjects. Ward's (16, 17) hierarchial grouping technique was then applied to each of the sub-groups in order to maximize the homogeneity of profiles within the same clusters taking account of all profile variables and all clusters at the same time. More specifically, the hierarchial grouping logarithm starts with N one-member groups of individuals and combines the groups until two n-member groups are formed. At each level of the grouping process, the groups are combined so as to minimally increase the within group variance with each successive grouping. At any given stage in the process, a significant increase in the within group variance indicates that the grouping directly preceding that grouping is the optimal clustering of subjects.

TABLE 1

Questionnaire Statements Related to Life-Style Variables

Life-Style Variable	Statement	Corresponding Number in Questionnaire
Fashion		
Consciousness		
	1. An important part of my life and activities is dressing smartly.	19
	2. I try to keep my wardrobe up-to-date with the latest fashions	20
	3. When I must choose between the two, I usually dress for fashion, not for comfort	35
	4. I enjoy looking through fashion magazines.	12
	5. I love to shop for clothes	45
Price		
Consciousness		
	1. I shop a lot for "specials".	32
	2. I find myself checking the prices in the grocery store even for small items	44
	3. I usually watch the advertisements for announcements of sales.	9
	4. A person can save a lot of money by shopping around for bargains	15
	5. I do a lot of shopping during the after-Christmas sales.	17
Sociable		
	1. I often visit friends in the evening	2
	2. I do more things socially than do most of my friends	24
	3. An important part of my life is being with my friends.	16
	4. I would rather spend a quiet evening at home than to go out to a party.	22
	5. Television is a primary source of my entertainment	36

TABLE 1 (Continued)

Questionnaire Statements Related to Life-Style Variables

Life-Style Variable	Statement	Corresponding Number in Questionnaire
Credit User	1. I buy many things on credit or with a charge card.	26
	2. I like to pay cash for everything I buy.	38
	3. It's good to have charge accounts.	14
	4. To buy anything, other than a house or car, on credit is unwise.	18
	5. I use credit cards often	29
Self Confident	1. I am more self-confident than most people.	33
	2. I think I have a lot of personal ability	23
	3. When I set my mind to do something I usually can do it	4
	4. I like to consider myself talented in one or more respects	31
	5. I like to be considered a leader	8
Information Seeker	1. I often seek out the advice of my friends regarding which brand to buy	21
	2. I spend a lot of time talking with my friends about products and brands	39
	3. My neighbors or friends usually give me good advice on what brands to buy in the grocery store.	10
	4. When I find a new brand I like, I usually tell my friends about it	43
	5. I always read the advertisements in a magazine or newspaper.	37

TABLE 1 (Continued)

Questionnaire Statements Related to Life-Style Variables

Life-Style Variable	Statement	Corresponding Number in Questionnaire
Innovator	1. When I see a new brand on the shelf, I often buy it just to see what it's like.	3
	2. I often try new brands before my friends and neighbors do.	42
	3. I like to try new and different things	40
	4. I like to wait until a new product has been accepted by most of my friends before I try it.	34
	5. I had rather purchase the brands I usually buy than to try something new.	28
Time Conscious	1. I wish I had more time to do just the things I really want to do	27
	2. It takes too much time to shop downtown.	1
	3. I always shop where it saves me time	7
	4. The world is changing too rapidly.	5
	5. I don't like to shop in supermarkets where I have to spend a lot of time waiting in line to pay for my groceries.	25
Store Loyal	1. I do most of my shopping in the same stores I have always shopped in.	11
	2. Once I get used to where things are in a supermarket, I hate to change stores.	13
	3. Once I have made a choice on which store to buy clothes in, I am likely to shop in that store without trying other stores	30
	4. I usually shop for groceries in more than one store.	6
	5. I usually look in several stores before I make a purchase.	41

In order to determine the successfulness of the Ward's grouping technique, a coefficient of profile similarity was determined between every possible combination of catalog shopping groups (3). Catalog shopping groups formed a five cluster structure in which Group I, Group II, Group III, Group IV, and Group V represented most frequent catalog shoppers, frequent catalog shoppers, moderate catalog shoppers, occasional catalog shoppers, and infrequent catalog shoppers, respectively. When separation between groups is optimal the coefficient of profile similarity approaches -1.00, indicating that groups are less similar than would be expected by chance alone. Lower coefficients between any two groups would signify the need for further grouping.

For the purpose of comparing the previously formed catalog shopping groups with the nine life-style variables, responses related to each of the variables were summed for each subject thus giving nine scores to be utilized in the analysis. The life-style variables were then used to develop descriptive portraits of the identified catalog shopping groups using multiple discriminant analysis.

The objective of multiple discriminant analysis in this study was to produce an orthogonal function that would discriminate between frequent catalog shoppers and infrequent catalog shoppers. To accomplish this, weights were assigned to the life-style variables such that the standard deviation within groups is minimized and between group variance is maximized. Since the dependent variable, catalog shopping frequency, is discreet in nature, discriminant analysis rather than regression analysis, which assumes the dependent variable is a random variate, was chosen (1).

Findings

Identification of Catalog Shopping Groups

The 280 catalog shoppers who responded to the questionnaire appeared to cluster into five independent groups on the bases of their "usual" purchase behavior for certain catalog items. Mean shopping pattern profiles were determined for each of the five catalog shopping groups. Group I represents individuals who most frequently purchase merchandise from mail order catalogs. On the six point rating continuum for products in the questionnaire, Group I shoppers most frequently chose "3" which referred to the statement "I frequently buy through mail order catalogs" and "4" which referred to the statement "I occasionally buy through mail order catalogs." Similarly, Group II shopping means ranged from "2" to "3" indicating frequent catalog shopping behavior. Moderate and occasional catalog shoppers were delineated by Group III and Group IV means respectively. Group V represented a fifth segment, the infrequent shopper, who rarely places a catalog order. Means for the infrequent shoppers on each of the thirty-nine products were "one" indicating a tendency to seldom shop by mail order catalog.

Although shopping groups differed on the basis of purchase frequency, there was little difference in type of product purchased among the five groups. In general, however, less frequent catalog shoppers did tend to purchase more jewelry, gifts, and toys while frequent catalog shoppers ordered both gift items and staple goods from mail order catalogs.

Analysis of Catalog Shopping Groups

After the five catalog shopping groups had been identified an effort was made to determine if a relationship existed between shopping groups and a set of nine life-style variables, a mean life-style score was determined for each of the groups with regard to each of the life-style variables (Table 2). Considering mean scores alone, a rough profile could be developed for each of the five groups. Group I shoppers, the most frequent catalog shopping group, appeared to be "fashion conscious," "price conscious," "innovators" who are neither "credit users" nor "store loyal." Moreover, the most frequent shoppers, to a lesser extent, seemed to be more "price conscious" and "self-confident" than did less frequent catalog shoppers. On the other hand, less frequent shopping groups had a greater inclination toward "credit card usage" and "store loyalty."

Although mean scores are useful in indicating characteristics of shopping groups, reliability of the measures in separating the groups must be determined in order to provide meaningful contrasts. When univariate F-tests were performed between the five groups on each variable only "price conscious" and "innovator" proved statistically significant at the .05 level (Table 3). Therefore, catalog shopping frequency groups appear to be best profiled by responses to statements related to their attitudes toward price and their innovativeness.

In order to examine the ability of life-style variables to maximally separate catalog shopping groups, a discriminant analysis was performed on the data. One discriminant score was extracted which accounted for 57.26 percent of the variance. To determine the extent to which each life-style variable was associated with the first discriminant score, discriminant correlation coefficients were determined between each life-style variable and the discriminant score (Table 4). Correlation coefficients were also calculated for the other three discriminant scores extracted by the discriminant analysis; however, due to the limited amount of variance they explain, further analysis of these scores was abandoned.

Four of the nine life-style variables were strongly associated with the first discriminant score. More specifically, "price consciousness" correlated 0.593 with the first discriminant score, "sociable" correlated 0.5730, "innovator" correlated 0.7168, and "store loyal" correlated -0.5708. Since the proportion of variance accounted for by a variable is the correlation coefficient squared, "price conscious," "sociable," and "innovator" explained approximately 36 percent, 33 percent, and 54 percent, respectively, of the variance associated with the first discriminant score. "Store loyal," however, was negatively correlated with the discriminant score, indicating that shoppers who tend to be "price conscious," "sociable," and "innovative" frequently shop for goods and services in more than one store.

In addition, "price conscious" and "innovator" whose correlation with the principle discriminant score was highly positive were also most consistent in rankings across the five groups in the mean profile analysis. Similarly, "store loyalty" which has a high negative correlation with the discriminant score was also consistent in ranking of groups; however, the

TABLE 2

Mean Life-Style Profile of Catalog Shopping Groups

Variable	Group I Most Frequent Catalog Shoppers	Group II Frequent Catalog Shoppers	Group III Moderate Catalog Shoppers	Group IV Occasional Catalog Shoppers	Group V Infrequent Catalog Shoppers
Fashion Consciousness	19.4412	19.2222	18.5352	18.3636	19.2343
Price Consciousness **	23.3235	22.5555	21.1268	22.3636	20.7567
Sociable	17.2647	18.4444	16.2676	15.6909	17.0360
Credit User	16.0000	15.7778	18.0986	16.7091	16.7477
Self-confident	22.1765	21.3333	21.9577	22.3091	22.2072
Information Seeker	17.9118	17.6667	18.2958	17.5091	16.8829
Innovator*	20.6470	17.7778	17.2535	18.1818	17.4775
Time Conscious	20.6176	19.6667	21.5775	20.9091	21.5225
Store Loyal	16.7647	17.8889	19.1127	18.2364	19.3784

* $P \leq .01$

** $P \leq .05$

TABLE 3

Univariate F-tests for Each of the Nine Life-Style Variables

Variable	Mean Square Between	Mean Square Within	F-ratio	Probability
Fashion Consciousness	13.8906	27.0430	0.5137	0.72
Price Consciousness	58.7344	25.2470	2.3264	0.05*
Sociable	29.8594	20.6564	1.4455	0.21
Credit User	36.1250	52.1682	0.6925	0.60
Self-Confident	2.5781	16.4439	0.1568	0.95
Information Seeker	23.2812	21.0145	1.1079	0.35
Innovator	77.4375	23.0066	3.3659	0.01*
Time Conscious	14.6406	18.8502	0.7767	0.54
Store Loyal	52.0469	25.4266	2.0469	0.08

* $P \leq .05$

TABLE 4
Discriminant Scores for Nine Life-Style Variables

Variables	Discriminant Scores			
	I	II	III	IV
Fashion Consciousness	0.0452	-0.3775	0.1289	0.3019
Price Consciousness**	0.5930	-0.229	0.1183	-0.2987
Sociable	0.5730	-0.5730	0.6523	0.0912
Credit User	-0.2411	0.3102	0.1698	0.2338
Self-Confident	0.0322	-0.0173	-0.3690	0.1816
Information Seeker	0.0693	0.4884	0.5930	0.1413
Innovator*	0.7168	-0.0524	0.1338	0.5912
Time Conscious	-0.2986	0.0232	-0.1894	0.5978
Store Loyal	-0.5708	-0.1266	-0.2390	0.0263

* $P \leq .01$

** $P \leq .05$

ranking was inversely related to catalog shopping frequency. Therefore, "price conscious" and "innovator" related statements because of their statistical significance and because of their highly positive relationship with the discriminant score, appear to be most important in identifying catalog shopping groups.

To further examine the data, group centroids (multivariate means) on the first discriminant score were obtained (Table 5). The centroids positioned each of the groups in a one-dimension space by their relationships to the nine life-style variables. The relative distance between each of the groups on the vector directly relates to the centroid order. Therefore, Group III, moderate catalog shoppers, and Group V, non-catalog shoppers are lowest on the vector; Group II, frequent catalog shoppers, and Group IV, infrequent catalog shoppers are located relatively close to each other near the middle of the vector; and Group I, most frequent catalog shoppers, occupies the highest position on the scale. Positioning on the vector would tend to indicate that although Group II is different from Group IV and III is different from Group V in regard to catalog shopping behavior, little difference is exhibited in their life-style profiles.

Discussion

Although this study was limited to catalog shoppers in one community, the investigation does offer insight for mail order retailers. More specifically, the research findings indicated that residents in a trade area can be segmented on the basis of catalog shopping behavior and that these segments can be distinguished by certain aspects of the members' style of life. Therefore, analyses of the relationship between life-style variables and catalog shopping behavior in this study offer mail order retailers exciting possibilities for reaching various segments of the catalog market.

Thus, in light of this investigation, retailers desiring to capture the segment of the catalog market which most frequently utilizes mail order catalogs would be wise to stress the ease and time-saving aspect of catalog purchasing in promotional campaigns. Furthermore, since frequent catalog shoppers also tend to be more innovative, these shoppers would be expected to perceive less risk associated with catalog buying. However, frequent catalog buyers would also be inclined to demand more variety and novelty in product lines offered by mail order retailers.

On the other hand, since less frequent catalog buyers appear to be more store loyal and more likely to make credit purchases, retailers seeking to cultivate this market must develop marketing strategies unique to infrequent catalog shoppers. More specifically, mail-order retailers should concentrate on developing consumer loyalty since in most cases once an infrequent catalog shopper chooses a store or catalog from which to shop, most of his purchases are made there. Furthermore, since infrequent catalog shoppers have a high propensity to make credit purchases, catalog retailers interested in developing this segment should provide a wide variety of credit options in order to attract this catalog shopping segment.

TABLE 5

Group Centroids (Multivariate Means)

Group	Centroid
I. Most Frequent Catalog Shoppers	6.1799
II. Frequent Catalog Shoppers	3.7153
III. Moderate Catalog Shoppers	1.5918
IV. Occasional Catalog Shoppers	3.7546
V. Infrequent Catalog Shoppers	1.9573

Furthermore, life-style profiles of catalog shopping segments could provide insight for consumer educators particularly in the area of educational material planning. Moreover, knowledge of the aspects of consumer life-styles which affect catalog purchase behavior is essential in directing consumers toward more intelligent catalog purchases.

More specifically, since more frequent catalog shoppers are inclined to purchase less expensive, relatively new merchandise, these consumers are particularly susceptible to the risks associated with purchasing unseen catalog goods. Therefore, although larger mail order retailers have made great strides in standardizing and branding mail order goods, less reputable dealers often offer inexpensive, inferior merchandise in order to attract consumers. Thus, consumer educators should be especially concerned with developing educational materials which will alert catalog purchasers to the fact that the price and newness of a product are not always sufficient indicators of the quality of the merchandise.

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A TECHNIQUE FOR THE STUDY OF SPATIAL ACTIVITY

PATTERNS OF INTRA-MALL SHOPPERS

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With the increased mobility of the population after World War II, the shopping center became a retail and social phenomenon in America. Many Americans have been lured away from the CBD by the convenience and the variety of products and services offered in these business centers. Families are combining shopping trips and entertainment.

Although numerous studies have been made concerning shopping centers, little if any information is available concerning spatial activity patterns within the shopping center. These patterns are operationally defined as the routine patterns followed by shoppers as they attempt to maximize the marginal utility achieved from various kinds of shopping trips within a mall.

Purpose

The two-fold purpose of this study was first, to identify empirically the existence of spatial activity patterns within the shopping center, and second, to develop a method of identifying activity patterns of shoppers within a mall.

The value of this study lies not with established malls, but with the planning and organization of new malls and/or additions to existing malls. The information technique presented here has pragmatic application for the complex designer and/or the tenant in determining the best tenant mix/tenant selection.

Site and Situation

A. Location

This study took place at McFarland Mall, which at the present time is the largest center of its type in the Tuscaloosa urbanized area. Located at

the intersection of Skyland Boulevard and McFarland Boulevard, and also the interchange of Interstate 59, it covers approximately 40 acres of Section 31, township 21S, range 9W of Tuscaloosa County, Alabama.¹

Evaluating the general growth areas of Tuscaloosa, there is a strong trend toward the southeast. These major areas of development are within easy access to the activity. These physical location factors contribute to the overall activity at this center.

B. Type of Center

The classification of shopping centers has been discussed in the literature by Kelley,² Baker and Funare,³ Hoyt, and others. Although the definitions differ in detail, their basic tenets are similar.

Kelley defines the regional shopping center as, "one designed to serve from 100,000 to one million or more residing within 30 minutes driving time of the city. Included are one or two major department store branches in addition to convenience and specialty goods stores. Branches include 100,000 to 300,000 square feet of selling space." Kelley went on to describe these centers as offering the most variety of goods and services outside the CBD.⁴

McFarland Mall consists of 48 businesses occupying 400,000 square feet of store space.⁵ It is located on a 40-acre site in Tuscaloosa County, which had an estimated 1972 population of 117,700. Because of this close adherence to the Kelley definition, McFarland Mall will be classified as a regional center for the purpose of the study.

C. Populous Characteristics

The most commonly used and most valuable indicators of a community or urban area are the characteristics of the people who live there.

The general characteristics of the population of Tuscaloosa show that in almost every age group females outnumber males. There is also an indication of outmigration in the twenty- to twenty-four year age group. This was more pronounced for the male sector than for the female sector, as age, irrespective of sex, increases the importance to the retailer and the developer, especially if the results of this study continue to be substantiated.⁶

D. Internal Layout

The mall, which was completed in 1968, was designed by developer Ward McFarland, Inc., to incorporate the idea of retail affinity. The L-shape divides the area into three distinct segments. (Appendix A)

The section from Woolco to the corner was designed to serve a lower-income clientele. This will be referred to as the Woolco or the "low-end."

The other wing, from Gayfers to the corner, was arranged to serve a middle-to high-income group with the inclusion of some specialty stores. This will be called the "high-end." Another section that needs an identification is the area where the specialty stores are concentrated. This will be termed the "specialty area," and it features such stores as the Beehive, the Little Gallery, and Baskin Robbins. (Appendix A)

Statement of Hypotheses

The following four hypotheses were selected as the foci of the study:

- H₁: SAP's do exist for intra-mall shoppers
- H₂: SAP's are a function of Age, Income, Sex, Composition of Shopping Group, and Purpose of the Shopping Trip, or $SAP=f(A,I,S,C,P)$
- H₃: Some relationship does exist between (1) driving time to the mall, (2) time spent in the mall, and (3) SAP's
- H₄: Some relationship does exist between the individual's SAP and the physical arrangement of the stores.

These hypotheses provide the framework for the remainder of the study.

Methodology

A three-part instrument was developed to collect and record the data: (1) a scale drawing of the mall layout for consumers to plot their shopping pattern; (2) a questionnaire administered to the shoppers by an interviewer; and (3) an observation questionnaire completed by the interviewer. From the data generated by the interview/observation technique, some inferences could be made from the SAO's of intra-mall shoppers.

The instrument was designed to generate the information needed for testing the four hypotheses. The scale drawing of the mall layout was used to aid the respondent in communicating the pathway followed, as well as the stores visited during the trip. Each respondent was asked to retrace on the drawing the exact path the sequence he followed through the mall. This included the entrance and exit points, as well as the actual pattern of movement through the mall. With the scale drawing to aid recall, the process of plotting the spatial activity pattern was accomplished with little difficulty.

Next, the respondent was asked a short series of questions, including location of residence, travel time to the mall from the residence, purpose of the shopping trip, time spent at the mall, stores shopped most often, and approximate total family income.

As the respondent departed, the interviewer recorded a few observations of the shopper just interviewed -- approximate age, composition of the shopping group, sex, exit used, and number of bags the shopper was carrying.

The total interview/observation sequence was brief -- less than two minutes; consequently, shoppers were detained only momentarily, and thus there were no refusals.

A quota sample was used to select the respondents to be interviewed. These respondents were classified into groups according to age, income, sex, composition of shopping group, and purpose of shopping trip. The selection of respondents was made so that the proportion of sample members from each stratum would reflect the relative size and heterogeneity of that stratum in the population.

As a check against the results of the sample, the distributions of income and sex achieved in the sample were compared with the population proportions promulgated by census data. There was very little difference between sample distributions and those of the Tuscaloosa SMSA census data. A total of sixty-five interview/observations were completed during the time period at the mall.

To pretest the interview/observation technique, several respondents were followed from the time they entered the mall to the time of exit before the instrument was administered. Upon leaving the mall, the respondent was asked to recreate his pattern through the mall and answer the questions. Finally, the observations were made. This process tested the reliability of the responses given from recall by those shoppers stopped only as they left the mall.

To carry the testing of the instrument a step further, a group of thirty-five respondents was asked to recreate, with the aid of the scale drawing of the mall layout, the pattern followed on their last shopping trip to the mall. The respondents experienced little difficulty in recreating the travel pattern through the mall when shown the scale drawing to aid recall. Thus, a total of one hundred interview/observations was made using this instrument. However, the one hundred interview/observations contained the responses of more than one hundred individuals because some of the respondents were members of shopping groups. The sample consisted of a total of 198 individuals.

When the data were gathered, the next task was to analyze the spatial activity patterns. An acetate transparency was made for each map completed by all respondents. This transparency was placed on a scale drawing of the mall layout to reproduce the pattern followed by each shopper. Each of the transparencies was coded with a five-digit code to identify the socio-economic characteristics of the respondent mapped. By using this method of coding, the spatial activity patterns could be grouped by any of those socio-economic characteristics for analytical purposes. When all responses falling into one income range are grouped, a composite spatial activity pattern can be developed. The value of this procedure is unlimited and can be used to analyze visually the patterns of a common group.