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EVALUATION OF THE EFFECTIVENESS OF A CAMPING REFUND OFFER AND THE RELATIONSHIPS AMONG CAMPERS' CHARACTERISTICS

By

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ABSTRACT

EVALUATION OF THE EFFECTIVENESS OF A CAMPING REFUND OFFER AND THE RELATIONSHIPS AMONG CAMPERS' CHARACTERISTICS

By

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There is a lack of research in evaluating sales promotions (e.g., coupons, refund offers) utilized by the recreation and tourism industry. Furthermore, no research could be identified which delineates the characteristics of persons who are prone to utilize recreation-related sales promotions.

The primary objective of this study was to evaluate the effects of a refund offer on Campvention attendees' pre- and post-Campvention camping. The refund offer was $1 off per night of camping in Michigan state parks or commercial campgrounds. The second objective was to examine the relationships among intent to utilize the refund offer, income, education, and camping affiliation.

A systematic random sample of the 4,729 who preregistered for the 1988 National Campers and Hikers Association's (NCHA) Campvention (held in Michigan), was selected (n = 1,575). The pretrip and the posttrip questionnaires were mailed out to the sample. Response

rates for the pretrip and the posttrip questionnaires were 49.4% and 53.8%, respectively.

A t-test was used to determine whether or not the $1 refund offer influenced campers to spend more nights in state parks or commercial campgrounds. The proportion and the number of nights in these campgrounds were used as dependent variables. The proportion was obtained by dividing the number of nights camped in "refund eligible" campgrounds by the total camping nights in Michigan. The awareness of the refund offer and intent to utilize it were independent variables.

A log-linear analysis was employed to discover the relationships among the above-mentioned four categorical data. A backward elimination method was used to determine the best fitting model.

The t-test results indicate that the refund offer was not enough to induce Campvention attendees to camp more nights in "refund eligible" campgrounds. Log-linear analysis suggests that Campvention attendees who were strongly affiliated with camping were more likely to utilize the refund offer than those who were not. There was no significant relationships between intent to utilize the refund offer and income or education.

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CHAPTER I

INTRODUCTION

The use of various types of sales promotions is becoming more prevalent among tourism and recreation industries. Hotels, airlines, and restaurants provide their customers with free tickets, coupons, or price discounts in order to attract business. Recreation providers of activities such as skiing, camping, fishing, and golf similarly use these techniques.

In 1990, for example, the Michigan Association of Private Campground Owners (MAPCO) offered two nights of camping for the price of one night during the off-season. In 1989 the Michigan State Parks Division offered a one-day, free admission coupon to state parks when the consumer purchased a six-pack of Pepsi Cola during the promotion period. The intent of these sales promotions was to increase the purchase of services or products and/or influence the timing of the purchase. As tourism and recreation businesses become more competitive, sales promotions are used as important marketing tools to promote products and services to prospective consumers.

Spending on sales promotions in the United States was approximately $100 billion in 1987, which accounted for 64.4% of the total expenditure on promotion, while advertising only accounted for an expenditure of 35.6% in the same year (Johnson, 1988). Because of the increased use and spending on sales promotions, more attention is being directed to sales promotion as marketing and communication techniques.

Definition and Use of Sales Promotions

Sales promotions, as defined by Kotler (1984), are "short-term incentives to encourage purchase or sale of a product or service" (p. 603). Strang (1976) further defined sales promotions as those activities which provide an incentive, additional to the basic benefits provided by a product or service, and which temporarily change the perceived price/value relationship of that product or service. Sales promotions consist of a wide variety of techniques designed to stimulate a sales response from consumers, wholesalers, and/or retailers. Some techniques are directed at the sales force.

There are two primary types of sales promotions currently in use. Consumer-oriented sales promotions include free samples, coupons, refund offers, price discounts, premiums, contests, trading stamps, and product demonstrations. Trade-oriented sales promotions, on the

other hand, include free goods, merchandise allowances, cooperative advertising, dealer sales contests, buying allowances, and push money. Sales-force promotions, one of the trade-oriented sales promotions, include a variety of incentives, bonuses, contests, and sales rallies.

A majority of sales promotions are directed toward frequently purchased consumer goods. However, as noted before, tourism and recreation businesses are increasing their use of sales promotions. Because of a keenly competitive market, the tourism and hospitality industries have adopted both consumer-oriented and trade-oriented sales promotion techniques.

Consumer-oriented sales promotions offer the consumer various types of incentives for purchasing a product or service for the first time, purchasing more of a product or service at a time, or increasing the purchase frequency. For example, frequent traveler programs are used by most airlines as well as an increasing number of hotels (triple mileage offers by airlines; special rate for frequent users by hotels). Airlines also offer coupons, providing passengers with discount fares to specific destinations, with some restrictions. Restaurants, too, offer coupons or price discounts for food or beverages for a limited time.

Trade-oriented promotions are, on the other hand, incentives to businesses and organizations, i.e., retailers or wholesalers comprising distribution channels. Tourism

providers, such as hotels, airlines, and tourist destinations, utilize a variety of trade-oriented sales promotion techniques. Travel agents and tour wholesalers are also given special rates at hotels and resorts and free trips to a given destination as prizes. Airlines reward travel agents who sell a certain number of tickets on their airlines.

Although sales promotions can contribute to the accomplishment of a variety of different promotional objectives, the primary emphasis of most sales promotions is to increase short-term sales. A short-term sales increase can be achieved by encouraging current consumers to buy more of a product at one time than they normally would, or to increase purchase frequency for a certain period of time.

Another common objective sales of promotions is to attract nonusers of a product (Schultz & Robinson, 1982a). Many sales promotions are designed to encourage first-time purchases (trials) by nonusers. For example, Michigan ski areas cooperate in sponsoring a "free skiing day" designed to attract nonskiers by providing them with free lift tickets, equipment rentals, and lessons. The Michigan Department of Natural Resources sponsors a "free fishing weekend," at which time people can fish without purchasing fishing licenses. Various sport fishing organizations offer a variety of fishing programs during that particular weekend.

A third objective of sales promotions is to encourage new customers to repeat their purchase(s) of a product or service. If the consumer is initially satisfied with the product or service, sales promotions can be used to generate repeat purchase(s). For example, some campgrounds and ski businesses offer customers price discounts or coupons for additional services/products to be used during their next visit.

Finally, sales promotions are used to offset promotional activities of competitors. For example, if one ski area advertises on TV or radio, another ski area might use a counterbalancing sales promotion.

Statement of the Problem

Evaluating the effectiveness and efficiency of sales promotions is essential, given the increased spending and reliance on sales promotions. Although sales promotions are important in marketing products or services, many sales promotions are not evaluated. Studies of the effectiveness of sales promotions which have been performed, frequently have not been conducted in a scientific manner. Jolson, Wiener, and Rosecky (1987) assert that planning and evaluation of sales promotions have often been conducted by intuition and personal judgment rather than by scientific research methods. According to Reibstein and Traver (1982)

few firms are known to have conducted scientific evaluations of their sales promotion programs.

In addition, most research on the results from sales promotions has been narrowly focused on the effectiveness of coupons, and more specifically, on the relationship between redemption rates and different coupon values. However, the redemption rate, itself, is not a good measure of the effectiveness of refunds or coupons. The major objective of sales promotions is to increase purchases by new and/or repeat customers, not to maximize the number of coupons redeemed or refunds given. Thus, the real measure of the effects of promotional offers should be incremental sales induced by the promotional offers.

There is a deficiency of evaluation research on the effects of sales promotions for manufactured goods and even a greater deficiency in evaluating sales promotions utilized by recreation and tourism businesses, agencies and promotional organizations. A literature review (see Chapter II) identified approximately 30 evaluation studies of sales promotion techniques conducted since 1970. Only three dealt with the evaluation of sales promotions which were used in the hospitality industry and all three were restaurant-related promotions (Block, Brezen, & Schultz, 1986; Chapman, 1986; Varadarajan, 1984).

Although sales promotion techniques are being used more by recreation and tourism businesses, organizations, and

agencies, relatively few studies have evaluated the effects of recreation and tourism-related sales promotions. Without this type of evaluation, it is difficult to assess the cost effectiveness of these sales promotions or to identify ways of increasing their cost effectiveness. Furthermore, no research could be identified which identifies the characteristics of persons who are prone to utilize recreation/tourism-related sales promotions. This information would assist in designing, targeting, and promoting sales promotions. While studies of nonrecreation or nontourism sales promotions provide some important insight, there is a need to undertake research to determine whether these findings carry over to recreation/tourism sales promotions.

The National Campers and Hikers Association's Michigan Campvention and Sales Promotion

The National Campers and Hikers Association (NCHA) is one of the largest and most active camping organizations in the country with more than 25,000 members. Every year NCHA holds a Campvention in a different state. The 1988 Campvention was held in Michigan during July 8-14 at Highland State Recreation Area. Approximately 4,000 parties attended this event.

The Michigan Association of Private Campground Owners (MAPCO) and the Division of State Parks (Michigan Department

of Natural Resources) formed a promotional partnership to capitalize on the Campvention and the thousands of parties who would be attracted to Michigan. The partnership's strategy included a $1 money-back (refund) offer[1] for each night Campvention attendees camped in state parks or commercial (MAPCO) campgrounds before or after the Campvention (from June 24 to August 5). MAPCO and Division of State Parks jointly financed the promotion, including the refunds. The objective of the money-back offer was to encourage Campvention attendees to camp additional nights in state parks and/or commercial (MAPCO) campgrounds and, therefore, to increase their stay (spending) in Michigan. MAPCO and Division of State Parks requested that Michigan State University assist in evaluating the effectiveness of this promotion.

Study Objectives and Hypotheses

The primary objective of this study is to evaluate the effects of the $1 money-back offer on pre- and post-

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[1] A money-back (refund) offer is defined as "an offer by a manufacturer or a marketer to refund a certain amount of money when the product is purchased alone or in combination with some other products." (Schultz & Robinson, 1982b, p. 131). A refund offer is a small incentives of cash, checks, or coupons mailed back to consumer. The terms, "refund offer" or " money back offer" are used interchangeably in this study.

Campvention camping in Michigan state parks and/or commercial (MAPCO) campgrounds.

Another objective of this study is to examine the relationships among intent to utilize the $1 refund offer, income, education, and camping affiliation (subscriptions to camping magazines and attendance at camping or outdoor shows). Log-linear modelling was the primary method used to examine these relationships.

Objectives

The following objectives were established to assist in guiding the study:

Objective 1. To provide a marketing relevant descriptive profile of campers who intended to take advantage of the Campvention money-back offer.

Objective 2. To assess the effects of the money-back offer on pre- and post-Campvention camping, (i.e., number of camping nights) in Michigan.

Objective 3. To examine the relationships among intent to utilize the refund offer, income, education, and camping affiliation.

Objective 4. To estimate the probability of utilizing the refund offer by different segments of Campvention attendees.

Hypotheses

A thorough review of theoretical and applied studies of sales promotions, especially coupon and money-back offer, provided the basis for three primary hypotheses.

Hypothesis 1: Parties who intended to utilize the $1 refund offer differ from those who did not intend to seek a refund in terms of their socioeconomic characteristics, camping behavior, camping affiliation, or past experience with coupons or refund offers.

Hypothesis 2: The $1 money-back offer influenced campers to stay more nights in state parks and/or commercial (MAPCO) campgrounds.

a. Parties who <u>were aware of</u> the money-back offer camped (1) a greater proportion of their nights and (2) a greater number of nights in Michigan state parks and/or commercial (MAPCO) campgrounds than those who were not aware of the offer.

b. Parties who <u>intended to take advantage of</u> the money-back offer camped (1) a greater proportion of their nights and (2) a greater number of nights in state parks and/or commercial (MAPCO) campgrounds than those who did not intend to utilize the offer.

Hypothesis 3: Intent to utilize the $1 refund offer is strongly related to levels of income, education, and camping affiliation.

Organization of This Dissertation

The purpose of this chapter was to introduce the study, define the primary research problem, and specify the objectives and hypotheses. In Chapter II, a review of the literature on sales promotion with special focus on the importance and the increased use of sales promotions and methods for evaluating the effects (effectiveness) of sales promotion techniques was presented. Research methods including the sampling method, data collection procedures,

and methods used to evaluate the effects of the Campvention refund offer are described in Chapter III. In Chapter IV, a comparison of those who did and did not intend to utilize the $1 refund offer and results of tests of hypothesis 1 and 2 was provided. The results of tests of hypothesis 3 using log-linear analysis were presented in Chapter V. Finally, in Chapter VI, the summary, research recommendations, and marketing implications were provided.

CHAPTER II

LITERATURE REVIEW

This chapter begins with a review of literature on trends in the use of sales promotions and various types of sales promotions. It is followed by a section which focuses on literature concerning the use and role of sales promotion in an overall promotion strategy as well as the advantages and disadvantages of refund offers. In the third section, methods for evaluating the effectiveness of sales promotions (e.g., refund offers or coupons) were introduced and discussed. Literature pertaining to characteristics and behavior of coupon-prone consumers was reviewed in the final section.

Sales Promotion Trends

The most significant change in product/service marketing over the last two decades has been the transfer of promotion dollars from advertising to sales promotion activities (Rosenfeld, 1987). An increasing number of business managers realize the importance of sales promotion

as part of an effective marketing strategy. Even owners and managers of small businesses have increased their use of sales promotions (Varadarajan, 1984). Studies show that annual spending on promotion exceeded advertising expenditures every year since 1969 (Bowman, 1988). Donnelly Marketing's 1988 Annual Report shows that sales promotion's share of promotion budgets increased from 59% in 1980 to 69% in 1987, while the percent of promotional budgets spent on media advertising decreased from 41% to 31% during the same period (Bowman, 1988).

Although trade-oriented sales promotions account for a large part of sales promotional dollars, the trend is for manufacturers to place greater emphasis on consumer-oriented sales promotions (Higgins, 1986). Consumer-oriented sales promotion programs accounted for 32% of the money spent on promotion and coupons accounted for more than 70% of consumer-oriented sales promotion (Higgins, 1986). Dun and Bradstreet Corporation (1988) reported that seven billion manufacturers' coupons were redeemed by U.S. consumers out of the 200 billion coupons which were distributed in 1987.

Reasons for the Increased Use of Sales Promotions

Strang (1976) and Schultz and Robinson (1982a) discuss a number of reasons for the increasing use of sales promotions. First, consumers became more sensitive to the price of products and services during periods of inflation

and recession during the 1970s and early 1980s. This made consumers more responsive to sales promotion programs. For example, when the oil crisis occurred in the 1970s, almost two-thirds of the U.S. households used coupons in order to lower living costs. Second, the efficiency of advertising declined because of increasing media costs and media clutter.

Third, competition among the existing brands in most product categories has intensified. Because of the increasing number of new brands and the promotional cost associated with launching new products, most manufacturers of consumer goods heavily rely on sales promotion to introduce their new products (Kotler, 1984). Finally, more top managers now consider sales promotions as an acceptable marketing activity. In the past, many felt that sales promotions (e.g., coupons, refund offers, contests) cheapened the brand. This attitude has changed with the success of sales promotion programs.

Among various types of sales promotion techniques, coupons have become an important component in promoting frequently purchased consumer products. Coupons are defined by the American Association of Advertising Agencies (1978) as a certificate given to consumers which entitles them to an immediate price discount when they purchase the stated item. To get the benefit of coupons or refunds, users are required to make an effort to collect and redeem them. This

differs from other consumer-oriented sales promotion techniques such as bonus packs, contests, premiums, sweepstakes, or samplings. Coupons also have some advantages over simple price discounts. Studies have shown that coupons appear to generate a greater sales response than equivalent reductions in price (Cotton & Babb, 1978; Gardner & Strang, 1984; Schindler, 1984). Schindler (1984) discusses three psychological mechanisms which in part explain why coupons are more effective (in generating sales response) than simple price reductions. First, the attention and awareness mechanism explains why consumers are more likely to be aware of a coupon than a simple price discount. Consumers generally demonstrate a low level of price awareness. Second, the discount information mechanism explains that since consumers perceive price as an index of quality, a simple price reduction can lead consumers to believe that a product/service is worth only the reduced price. Conversely, a price decrease in the form of a coupon may make consumers feel that they are getting more (a product/service valued at the original price) for their money. Finally, the price choice mechanism demonstrates that when consumers obtain a discount through exercising their own judgment, they can take credit for the savings. And such feelings can increase the subjective value of a coupon.

Although coupons are still the most prevalent form of sales promotion, the wide-scale use of coupons has resulted in a decrease in redemption rate. As a result, there is a trend toward more selective coupons and sample mailings, multibrand (coupon) promotions, and refund offers instead of cents-off coupons (Schleier, 1985).

Recreation & Tourism Related Use of Sales Promotions

Sales promotions, as already mentioned, are also being used much more by hospitality businesses including restaurants, airlines, and hotels. Money-back offers, coupons, or premiums are used by restaurants primarily to generate short-term sales increases. Fast food restaurants are increasing sales promotions (e.g., give-away toys) aimed at the "young children" market. For example, McDonald's restaurants regularly offer different in-pack premiums (e.g., toys, games) as part of their effort to establish brand loyalty among children (Hume, 1989).

The airline and hotel industries employ continuity offers[2] as long-term promotion tools to develop brand loyalty. Continuity offers are designed for long-term action by encouraging customers to purchase the product at more frequent intervals in order to acquire additional or

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[2] They includes stamp plans (collecting a certain number of stamps that may later be traded for cash, merchandise or a combination of the two.

complementary units of the product as a premium (Boddewyn & Leardi, 1989). Airlines use frequent-flyer programs and hotels employ frequent-traveler programs in order to induce brand loyalty. For example, frequent flyers can earn free flights after accumulating points for total mileages flown. Hotels, such as Sheraton, Inter-Continental, and Omni International, have frequent traveler programs which provide frequent (loyal) customers with free merchandise and/or discounts on airfare and car rentals (Higgins, 1986).

Another trend is the increasing use of cooperative sales promotions[3] by tourism/hospitality businesses. Some hotel chains and car rental companies have established partnerships with airlines, enabling travelers to accumulate (travel/purchase) points and win awards (Higgins, 1986; Wright, 1989). For example, members of the Omni Select Guest Program can accumulate points (for nights spent in Omni hotels, for renting a car from Hertz, or buying a ticket on New York Air) which entitle them to discounts on airfare, car rental, and hotel room charges.

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[3] Cooperative promotions are also called tie-in or group promotions which involve two or more brands simultaneously. The consumer is offered an incentive to purchase all of the participating brands. This technique is usually linked to a common theme, and often uses other forms of sales promotion (Boddewyn & Leardi, 1989).

Refund Offers: Use, Advantages, and Disadvantages

Refund (money-back) offers became widespread sales promotion techniques in the 1980s (Jolson et al., 1987). Refund offers now challenge the dominance of couponing as a sales promotion tool (Telzer, 1987). Telzer reported that households using refund offers increased from 27% to 51% between 1977 and 1984.

Several factors contribute to the increasing use of refund offers. First, refund offers provide a relatively large value compared with coupons. Few refunds are less than 50 cents and many offer a substantial number of dollars, whereas most coupons usually offer less than $1 (A.C. Nielsen Company, 1983). Second, the redemption (refund) cost to the sponsor/promotor is relatively lower than for coupons because of a high slippage rate (the ratio of the number of consumers who purchase a product with the intent to claim the refund, but fail to do so, to the total number of consumers who purchase the product with intent to claim the refund). Usually only about 1% of refund offers distributed through media are redeemed (Schultz & Robinson, 1982b). Thus, the sponsor/promotor's average redemption cost per product unit is less than the refund value (Jolson et al., 1987).

However, there are a number of disadvantages associated with refund offers. The primary disadvantage to the

business offering the refund is that refunds often benefit those who are already brand loyal or have already decided to purchase a product rather than generating sales by nonusers (Schultz & Robinson, 1982b). Studies have shown that sales promotions are unlikely to influence brand loyal consumers to switch to other products (Brown, 1974; Massy & Frank, 1965; Montgomery, 1971; Neslin & Clarke, 1987; Neslin, Henderson, & Quelch, 1985; Raju & Hastak, 1979; Webster, 1965). To brand loyal consumers, a refund offer sometimes means a simple price reduction rather than an incentive for inducing a purchase. However, this drawback is common to other sales promotion techniques as well as to refund offers.

Another disadvantage of refund offers is that they include no immediate reward and require additional effort (inconvenience) from customers (Schultz & Robinson, 1982b). Unlike coupons or price reductions, consumers are often required to collect the proof(s) of purchase and/or receipts, mail them to a redemption center, and then wait several weeks or more for the refund.

Methods for Evaluating the Effectiveness of Sales Promotions

The effectiveness of sales promotions has been measured using a variety of methods and criteria including short-term sales increase, profitability, and redemption rate (Chapman,

1986; Gupta, 1988; Henderson, 1985; Irons, Little, & Klein, 1983; Klein, 1981; Neslin et al., 1985; Shoemaker & Tibrewala, 1985; Walters & McKenzie, 1988).

Sales Increase

As stated earlier, a primary objective of sales promotions is to generate short-term sales increases. The amount of increase in short-term sales is, therefore, widely used as a measure of the effectiveness of sales promotions. A sales increase is measured by comparing sales during the promotional period with sales during comparable periods prior to the sales promotions (Brown, 1974; Gupta, 1988). Sales increase results from purchase acceleration including larger quantity purchases, more frequent purchases, and brand switching during a promotion period (Blattberg, Eppen, & Lieberman, 1981; Neslin et al., 1985; Neslin & Shoemaker, 1983; Shoemaker, 1979). Neslin and Shoemaker assert that purchase acceleration could change market share, and consequently, impact the profitability of a sales promotion.

Recently, scanner panel data has been used to assess sales increases. Scanners read the Uniform Product Code (UPC) symbol and keep track of how many of a specific (promoted) item have been sold. These scanners also keep track of all the purchases of specific individuals when they show shopping identification cards. Scanner panel data can, therefore, provide accurate records of individual consumer purchases during the promotion period.

Neslin et al. (1985) showed that coupon sales promotions increased purchase quantity during the sales promotion period but also lengthened the purchase interval between the last purchase during the promotion period and the next purchase after the promotional period. Using a scanner panel over 28 weeks, it was found that a sales increase for products such as bathroom tissue and coffee was more likely to come from larger quantity purchases than from reducing between purchase interval.

Gupta (1988) examined sales increases resulting from three sales promotion techniques: promotional price cut, feature and display, and feature or display. Two-year's scanner panel data from 100 households was employed. The result showed that more than 84% of the total sales increase in ground coffee was accounted for by brand switching, 14% or less by shortened purchase interval, and less than 2% by larger quantity purchase.

However, these two studies failed to determine whether the sales increase was a direct result of coupons. As Strang (1976) asserts, sales comparison between the promotion period and the preceding period or the same period a year ago is not sufficient because many other factors such as weather, competition, and price changes influence sales. Also, Neslin et al.'s study (1985) showed that temporary sales increases during the promotional period are sometimes at the expense of future sales.

Instead, incremental sales are recommended as a more valid measure of effectiveness (Irons et al., 1983; Klein, 1981). Incremental sales are sales that take place as a result of a sales promotion that would otherwise not have occurred (Klein, 1981). They are measured by monitoring sales using an experimental treatment. The sales rate for a brand in a market with a sales promotion is compared to the rate in a similar market without it.

Klein measured the sales impact of nine different coupons for frequently purchased consumer goods by examining purchase differences between test and control markets. He used a supermarket scanner panel divided at random into three demographically equivalent cells and found statistically significant sales effects over a 4 to 16-week period.

Profitability

The profitability of sales promotions is often measured in conjunction with incremental sales and costs associated with a promotion campaign (Bawa & Shoemaker, 1987b; Chapman, 1986; Irons et al., 1983; Neslin & Shoemaker, 1983; Shoemaker & Tibrewala, 1985; Walters & McKenzie, 1988). The profit associated with a sales promotion is the sales volume times the gross margin per unit minus promotion costs. Promotion costs include production (e.g., printing), communication/distribution of the promotional offer, and redemption costs. Redemption costs are a function of face

value, retailer and clearing house handling charges, as well as the number of coupons redeemed.

Chapman (1986) analyzed the profitability of a $1-off coupon promotion for a take-out pizza restaurant. A sales response function was used to predict base and experimental sales over a six-week period. Profits from couponing were calculated by subtracting fixed costs (materials and labor costs) associated with conducting the couponing promotion from incremental profits. The predicted profitability of couponing was estimated to be approximately 5.2% of the normal gross margins derived from sales without a couponing effort.

Walters and McKenzie (1988) tested hypotheses on the effects of loss leaders (products temporarily priced at or below retailer cost), of in-store price specials, and of double coupon promotions on overall store sales, profit, and traffic. They found that: (1) most of loss leader promotions had no effect on overall store profit, (2) some loss leader promotions affected profit by increasing store traffic, not by increasing sales of the promoted items, (3) double-priced coupon promotions affected profit by increasing sales of couponed products rather than increasing store traffic, and (4) in-store price specials had no effect on store profit, sales, or store traffic.

Redemption Rate

Redemption rates are important to managers in budgeting and evaluating sales promotion programs, especially coupon offerings (Henderson, 1985). Coupon redemption rate, the ratio of the number of coupons redeemed to the number of coupons distributed, is the most frequently used criteria to evaluate the effectiveness of coupon offers (Bowman, 1980; Kuehn & Rohloff, 1967; Neslin & Clarke, 1987; Reibstein & Traver, 1982; Ward & Davis, 1978). Strang (1976) reported that redemption rates for coupon promotions range from 2% to 25% depending on the coupon face value and distribution methods. Neslin et al.'s study (1985) showed that coupon redemption rates for bathroom tissue ranged from 5.2% to 26.3%. A study by Nielsen Company (1983) disclosed an average coupon redemption rate of 4.5% for frequently purchased consumer goods.

Numerous studies have focused on how redemption rates are influenced by: (1) coupon or refund values (Bearden, Teel & Williams, 1981; Irons et al., 1983; Keon & Bayer, 1986; Shoemaker & Tibrewala, 1985), (2) purchase behavior, e.g., brand loyalty (Bawa & Shoemaker, 1987a; Brown, 1974; Henderson, 1985; Lee & Brown, 1985), (3) household characteristics, e.g., income, education, household size (Bawa & Shoemaker, 1987b), and (4) methods of coupon distribution (Reibstein & Traver, 1982; Ward & Davis, 1978).

Shoemaker and Tibrewala (1985) measured consumer's

self-reported likelihood of redeeming coupons with different face values. They found that higher face values produced a substantial increase in the likelihood of redeeming coupons among infrequent and nonusers of a brand, while increasing face value had relatively little effect on redemption rate among regular (loyal) buyers of the brand. Bearden et al. (1981) discovered that the amount of coupon value, reflecting percentage reduction of a product price, influenced the willingness to try a new brand. Between 20-25% and 70-75% of the respondents were willing to try a new brand for the 5% and 40% price reduction, respectively.

Other studies have examined the relationship of other factors and coupon redemption rates. Henderson (1985) found that frequent coupon users were more likely to redeem coupons than were infrequent users. Brown (1974) and Lee and Brown (1985) reported that brand loyal buyers were less likely to respond to sales promotions. A study by Ward and Davis (1978) determined that direct mail distribution of coupons was most effective for increasing redemption rates; on-package coupons was least effective.

Although redemption rate is a commonly used measure of coupon effectiveness, some researchers strongly question the use of redemption rate as an actual measure of the effectiveness of sales promotions. Irons et al. (1983) and Klein (1981) assert that redemption rate only measures the cost of a coupon promotion; it offers no information about

the magnitude of incremental sales resulting from the promotion. In reality, the higher the redemption rate, the greater the cost of a coupon promotion (Irons et al., 1983).

Characteristics and Behavior of Coupon-Prone Consumers

A number of studies have attempted to identify and profile the socioeconomic characteristics and/or shopping behavior of sales promotion prone consumers (Blattberg, Buesing, Peacock, & Sen, 1978; Dodson, Tybout, & Sternthal, 1978; Henderson, 1985; Kono, 1985; Montgomery, 1971; Neslin & Shoemaker, 1983; Teel, Williams, & Bearden, 1980; Ward & Davis, 1978; Webster, 1965). No published studies of the characteristics of persons who are prone to take advantage of recreation/tourism-related sales promotions were identified. However, the studies of sales promotion prone consumers which are reviewed provided useful insight and information to formulate a hypothesis for this study.

Blattberg et al. (1978) examined the relationship between deal proneness and household characteristics. A cross-classification analysis was applied to five frequently purchased consumer products, such as detergent and tissue. On an average, upper-income households were found to be more deal prone than lower-income households. Of the households owning a car and a home, 34.4% were deal prone, while only 20.5% of the households that did not own either a car or a

home were deal prone. In addition, working women were less deal prone than were nonworking women. It appeared that a housewife's employment status and the presence of children under six years of age affected deal proneness for frequently purchased consumer goods, but not as strongly as did car and home ownership.

Narasimhan (1984) observed that tendency to utilize coupons was higher for households with higher levels of education and with no children under 18, while it was lower for households with an employed wife. His study found that the number of coupon associated purchases increased to a point and then decreased as household income increased. Teel et al. (1980), on the other hand, discovered that households intending to try new grocery products with coupons were likely to have higher incomes, have larger families, and were younger than the households who did not utilize coupons to purchase new products. Finally, Bawa and Shoemaker (1987b) found that coupon-prone market segments tended to be somewhat younger, higher incomed, more educated, more likely to live in urban area, and less likely to have children than noncoupon-prone segments.

A number of studies have concluded that deal-proneness is inversely related to brand loyalty (Dodson et al., 1978; Kono, 1985; Montgomery, 1971; Webster, 1965). Kono (1985) noted, however, that brand loyal consumers were reluctant to switch from their favorite brand to unknown private brands

or generics to take advantage of a coupon offer. This study raises questions concerning the ability of a coupon to induce brand trials or switching among consumers who already have a preferred brand. On the other hand, Hackleman and Ducker (1980) found that deal proneness was highly correlated with the volume of a product purchased or used, that is, the more of a product consumers purchase, the more deal-prone they are.

Few studies have attempted to identify the characteristics of consumers who are prone to utilize refund offers (Jolson et al., 1987; Lincoln, 1978). In one study, Jolson et al. examined shopping attitudes of persons who purchased home appliances and found that consumers who recognized obvious bargains were more likely to take advantage of refund offers. Their study also showed that responsiveness to the refund offer was inversely associated with the perceived effort (e.g., time and cost) required for redemption.

Summary

Spending on sales promotions is increasing and now exceeds advertising expenditures. Couponing is still the most frequently used sales promotion technique. However, refund offers have been gradually adopted by marketers because of the relatively low redemption cost and the great potential to appeal to their customers. The effectiveness

of coupon sales promotions is most commonly measured in terms of sales increase, profitability, and redemption rates. Many studies identified the characteristics and shopping behavior of deal-prone consumers for frequently purchased consumer goods. In general, income and education are positively related to the use of sales promotions. No published research on the sales increase or profitability of recreation and tourism sales promotions could be identified.

CHAPTER III

RESEARCH METHODS

In this chapter, the methods employed to collect, prepare, and analyze the data gathered for this study were described. It is divided into eight sections dealing with: sampling design, data collection methods, survey administration, response rates, data preparation and file development, assessment of nonresponse bias, method used to evaluate the effect of $1 refund offer, and statistical methods.

Sampling Design

A computer file containing 4,729 NCHA (National Campers and Hikers Association) parties who preregistered for the 1988 Campvention on or before April 30, 1988, was used as a sampling frame. Parties who preregistered after April 30 or who registered at the Campvention site were excluded from the sampling frame. Fewer than 100 parties who did not preregister attended the Campvention.

The NCHA staff responsible for Campvention registration were instructed to select every third party with a random start from their computer file of preregistrants. A total sample of 1,575 (33%) of the 4,729 preregistrants was selected. A systematic random sampling method was used because it was convenient for the NCHA personnel to implement. Since preregistrants were randomly arranged on the computer file, each party had an equal opportunity to be selected.

The relatively large sample size was needed for the following reasons.

1. One of the study objectives was to develop a marketing-relevant profile of persons who intended to take advantage of the $1 money-back offer. A review of sales promotion literature showed that coupon/refund redemption rates for many products were less than 10%. It was assumed that, at the very most, 20% of the parties attending the Campvention would take advantage of the offer. This, coupled with expectations of a 50% response rate to the questionnaire, necessitated a large sample size.

2. Another objective was to identify and analyze different market segments, e.g., off-season campers, attributes sought segments, residents and nonresidents (see Mahoney, Oh, & Ou, 1989). A large sample size was deemed necessary to capture an adequate number of observations for each distinct market segment.

3. Finally, another objective of the overall study (see Mahoney et al., 1989) was to compare pre-Campvention trip and posttrip perceptions of Michigan campgrounds. This required a sufficient number of respondents for both the pretrip and posttrip questionnaires. The literature review indicated that an insufficient number of responses to successive rounds of pretrip and posttrip questionnaires is a common problem.

Data Collection Methods

Data needed to achieve the study objectives were collected using two different self-administered mail survey instruments administered before (pretrip questionnaire) and after (posttrip questionnaire) the Campvention.

Survey Design

Meetings were held with representatives from MAPCO, Michigan State Parks, and NCHA in March 1988 to determine their informational needs and Campvention logistics to be incorporated in the study design. Drafts of the questionnaire were sent to these representatives for comments and suggested changes. The final four-page pretrip questionnaire was completed in April, 1988 (see Appendix A).

The pretrip questionnaire included a brief introduction which indicated the study's purpose, sponsors, and guaranteed confidentiality. It also indicated that

respondents would receive another questionnaire after they returned home from their Campvention trip. This prenotification had the purpose of improving the response rate.

The following information was collected on the pretrip questionnaire.

1. Camping behavior: campground preference for public or private campgrounds (See Q16, Appendix A); number of nights camped annually (Q18); off-season--before Memorial Day (Q21), and after Labor Day (Q22)--camping.

2. Socioeconomic characteristics: age (Q4); zip code of permanent residence (Q26); gender (Q27); work status (Q28); marital status (Q29), and presence of children living at home (Q30).

Other information was also collected on: attendance at the 1987 Iowa Campvention, pre-Campvention trip plans including number of nights, nights planned at the Campvention site, and additional nights of camping in Michigan, number of Michigan campgrounds already selected and reserved, likelihood that they would take advantage of the $1 per night money-back promotional offer, the importance assigned different attributes in selecting campgrounds, and pretrip perceptions of Michigan campgrounds. This information is reported in Mahoney et al. (1989).

Some of the same data (e.g., camping equipment, party size, ages) collected on the pretrip questionnaire were also collected on the posttrip questionnaire. Overlapping data were needed to assess possible response biases including

difference between those who completed both the pretrip and the posttrip questionnaires, and those who did not complete either of the two questionnaires. Data collected on the posttrip questionnaire included:

1. Number of persons in travel party and the age of party members (Q3).

2. Length of their Campvention trip (Q7a), nights at the Campvention site (Q7b), additional nights in Michigan--at campgrounds, in hotels/motels, at friend/relative's home(s) (Q7c & d).

3. Distribution of the additional (pre- and post-Campvention) nights camped in Michigan--state parks, local/county, state forests, national parks or forests, and commercial (MAPCO) campgrounds--across four regions in Michigan (Q8b).

4. Sources of information used to select Michigan campgrounds (Q12).

5. Whether or not respondents were aware of the $1 refund offer (Q16).

6. Whether or not they would likely take advantage of the $1 refund offer (Q17), amount of refund (number of nights) they intended to apply (Q17a), whether the refund offer influenced people to camp more nights in state parks or commercial (MAPCO) campgrounds (Q17b), and whether they would have utilized a refund with a differing amount of value (Q17c).

7. Whether or not they have utilized money-back offers or coupons for camping, other recreational activities, and nonrecreational goods (Q18-20).

8. Subscriptions to camping-related magazines, memberships in camping organizations other than the NCHA, and whether or not they attended camping or outdoor shows (Q22-24).

9. Annual household income in 1987, and education level (Q26-27).

The posttrip questionnaire also included questions with respect to trip spending, importance assigned different attributes in selecting a campground, perceptions of Michigan campgrounds, and evaluation of the overall Campvention and Campvention facilities (see Appendix B).

Persons who indicated that they would likely not take advantage of the $1 money-back offer were asked whether or not they would likely have taken advantage of a higher (larger) money-back offer. Seven higher offers ranging from $2 to $8 were tested. The question (17c) reads, "If the refund had been $_____ per night, would you have taken advantage of the offer?" Questionnaires with a refund value of $2, $3, $4, $5, and $7 inserted into the blank were mailed to 215 people/parties each. Questionnaires with refund value of $6 and $8 were sent to 250 people each. Persons asked about their likely response to different "higher" refunds were randomly chosen.

Survey Administration

A combined money-back offer promotion and refund application form (see Appendex C) was mailed, as part of the Campvention registration package, to all parties who preregistered. The refund offers were valid for nights camped in Michigan state parks and/or commercial (MAPCO) campgrounds from June 24 through the night of August 5, 1988. Parties attending the Campvention were requested to

return the application form and proof of purchase (camping permits/receipts) to MAPCO headquarters by September 1, 1988.

NCHA provided three sets of mailing labels for each person/party who comprised the sample. Each label included name and mailing address as well as their unique Campvention registration number. Two labels were used for the pretrip questionnaire: one for mailing the questionnaire and postage-paid return envelope; the other was attached directly to the questionnaire. The label attached to the questionnaire was needed to match the pretrip and posttrip questionnaires completed by the same respondent. The remaining label was used to mail the posttrip questionnaire.

The pretrip questionnaire and postage-paid return envelope were mailed by the NCHA on May 9, 1988, eight weeks before the Campvention, as part of the Campvention registration package. The registration package also included: (1) information about Campvention activities and programs, (2) a combined $1 money-back offer promotion and refund application form, (3) a form to be used to apply for refunds, and (4) Michigan Campground Directory. Because of the time constraints, no nonresponse follow-up was attempted for the pretrip questionnaire.

One week after the Campvention (July 21), the same 1,575 parties who had received pretrip questionnaires were sent the four-page posttrip questionnaire and postage-paid

return envelopes by Michigan State University (see Appendix B). Instructions on the top of the questionnaire stressed that it was important that the same person who completed the pretrip questionnaire also complete this (the posttrip) questionnaire. Since more than half of the posttrip questionnaires had not been returned by August 15, follow-up letters were mailed on August 16 to the 350 persons/parties who had returned pretrip questionnaires but had failed to respond to the posttrip questionnaires. The primary reason for focusing on obtaining the posttrip questionnaires from respondents to the pretrip questionnaires was to acquire complete (pre and posttrip) information from as many respondents as possible. The budget for this study did not permit a comprehensive follow-up of all nonrespondents.

In order to assess and adjust for nonresponse bias, on September 8, a reduced version of the posttrip questionnaire with a letter requesting cooperation was mailed to a random sample of 100 (20.8%) of 481 parties who had failed to return both pretrip and posttrip questionnaires.

Response Rates

The cut-off date for receiving the pretrip questionnaires was July 7, one day prior to the start of the Campvention. A total of 794 (50.4%) were returned, of which 778 were usable (Table 1).

The response rate was somewhat higher (54.6%) for the posttrip questionnaire. This was due in part to the fact that reminders were sent to late respondents (see survey administration). Of the 860 posttrip questionnaires returned by the cut-off date (September 30), 847 were complete enough to be used in the analysis.

Approximately 35% (560) of the 1,575 persons/parties comprising the sample completed and returned both the pretrip and posttrip questionnaires.

Table 1. Response Rates to the Pretrip, Posttrip, and Non-Response Questionnaires.

Questionnaire	Sample Size	Returns	Response Rate
Pretrip	1,575	794 (778)[a]	50.4% (49.4%)[b]
Posttrip	1,575	860 (847)	54.6% (53.8%)
Nonresponse	100	50	50%

[a]Number in parentheses indicates the number of usable questionnaires.

[b]Number in parentheses indicates response rate of usable questionnaires.

Data Preparation and File Management

All questionnaires were returned directly to Michigan State University. When received, the questionnaires were checked for completeness and edited in preparation for data entry. The SPSS PC+ Data Entry program made it possible to

enter the questionnaire data directly into the micro-computer without precoding. The Data Entry program significantly reduced the number of data entry errors by controlling for out-of-range entries. It also facilitated file development (e.g., SPSS system file) and data analysis.

Three different data files were developed and used for different analyses. Data from the pretrip and posttrip questionnaires formed two of the files. The matched pretrip and posttrip data from respondents who completed both questionnaires comprised the third file.

A series of frequency distribution were run to identify possible data entry problems. Potential errors were checked against the original questionnaires and data entry problems were corrected.

Assessment of Nonresponse Bias

Fifty of the 100 nonrespondents returned the "nonresponse bias" questionnaire they were sent (Appendix D). Possible nonresponse bias was assessed by comparing characteristics of nonrespondents to both questionnaires with those of respondents who returned both questionnaires.

Table 2 shows that there is little difference between respondents and nonrespondents on: their rating of the Campvention, size of Campvention party, length (number of nights) of their Campvention trips, likelihood of camping again in Michigan, work status, marital status, and presence

of children living at home. However, nonrespondents were less likely to have attended the Campvention. Of the non-respondents, 14% did not attend the Campvention, compared to less than 5% who responded to both of the questionnaires. This, in part, explains the discrepancy between the number of parties preregistered and the number of parties which actually attended the Campvention. However, this did not require a nonresponse bias correction since the actual attendance numbers were used as the expansion numbers (see Mahoney et al., 1989).

Fewer nonrespondents were aware of (66%) or intended to take advantage (6.1%) of the $1 money-back offer. One reason for the difference in the intent to utilize the offer between respondents and nonrespondents was that the nonresponse questionnaires were mailed much later than the posttrip questionnaires, and much closer to the deadline for applying for a refund. By this time, most persons had, or had not, applied for a refund. Whereas, many persons who indicated they would seek a refund on the posttrip questionnaire evidently failed to follow through on their plans. This, in part, explains the difference between the percentage (14.8%) of those who indicated in the posttrip questionnaire that they intended to seek a refund and the percentage (6.3%) of Campvention attendees who actually applied for the refund.

Table 2. Comparisons of Characteristics of Respondents and Nonrespondents.

Characteristics/Behavior	Respondents	Nonrespondents
Participated in Campvention	95.3%	86.0%
Average Campvention Party Size	2.6 persons	2.8
Rating of Campvention Facilities[a]	3.4	3.3
Rating of Campvention[b]	3.5	3.4
Total Campvention Trip Nights	12.9 nights	12.9
Nights at Campvention Site	5.8 nights	5.8
Additional Nights Camped in Michigan	4.5 nights	4.3
Aware of the $1 Offer	84.4%	66.0%
Likely Would Utilize the Refund Offer	14.8%	6.1%
Retired	60.7%	52.0%
Married	94.6%	93.3%
Have Children Living at Home	28.9%	24.4%

[a]On a 5 point scale (1=excellent, 5=poor).

[b]On a 5 point scale (1=much better, 5=much worse).

Methods Used to Evaluate the Effect of the Refund Offer

Two different potential effects of the refund offer were measured and evaluated: (1) refund effect and (2) redemption effect.[4] The refund effect was measured by the proportion of nights camped in "refund eligible" campgrounds (state parks and/or commercial campgrounds) to the total number of nights camped in Michigan before and/or after the Campvention.

If the refund offer had effectively induced campers to decide to stay more nights in state parks or commercial (MAPCO) campgrounds, persons who had been aware of the offer would have camped a greater proportion of their nights in state parks and/or commercial campgrounds (refund effect). Conversely, it would be expected that those who had not been aware of the offer would have camped fewer of their before and after Campvention nights in state parks and/or commercial campgrounds.

The total number of camping nights in state parks and/or commercial campgrounds was also used to assess the refund effect. It was hypothesized that persons who were aware of the offer camped more nights in state parks and/or commercial campgrounds.

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[4] It does not indicate actual redemption. It represents the intent to seek a refund.

Tests were also conducted to determine whether persons who indicated their intentions to seek a refund camped a greater proportion of their before and after Campvention nights in "refund eligible" campgrounds (redemption effect). It was hypothesized that persons who intended to seek a refund camped a greater proportion of nights in state parks and/or commercial campgrounds.

The existence of refund effect means that the refund offer actually induced additional camping in these campgrounds. However, if there is a redemption effect but no refund effect, it means that persons who camped more nights in these campgrounds were more likely to seek a refund, but the offer did not influence their selection of "refund eligible" campgrounds.

Table 3 shows the different proportions which were used to test for the refund effect. If **A/(A + B)** is

Table 3. Format for Calculating the Refund Effect.

Type of Campground	Aware	Not Aware
	Number of Nights	
Refund Eligible Campgrounds (State Parks, Commercial)	A	C
Other Michigan Campgrounds (County/Local, State Forests, National Parks or National Forests)	B	D
Total Nights Camped in MI	A + B	C + D

significantly greater than C/(C + D), a refund effect exists. The same formulation was used to test for the redemption effect.

Statistical Methods

As previously stated, the study had four objectives, with each requiring different statistical procedures. The first objective was to provide a descriptive profile of persons/parties who intended to take advantage of the $1 refund offer. Percentages and means were used to develop a general descriptive profile--socioeconomic characteristics, Campvention trip characteristics, camping behavior, camping affiliation, and experience with coupons or refund offers--of persons/parties who attended the Campvention. The differences between those who indicated on the posttrip questionnaire that they did and did not plan to seek a refund was examined using t-tests. ANOVA tests were conducted to discover whether the percentage of respondents who intended to take advantage of the refund offer was different by income, education, and the length of camping nights in Michigan.

The second objective was to assess the effects of the $1 refund offer on the amount of pre- and post-Campvention camping in Michigan. T-tests were used to determine differences in the number of camping nights in Michigan before and/or after the Campvention between persons who were

and were not aware of the offer, and between persons who intended and did not intend to seek a refund.

The third objective was to test for relationships among income, education, camping affiliation, and intention to utilize the $1 refund offer. A log-linear analysis was used to discover the relationships among these multi-dimensional cross-classified data. A more in-depth discussion of the log-linear procedure is included in Chapter V.

Finally, the fourth objective was to estimate the probability of utilizing the refund offer by different segments (e.g., income, education, and camping affiliation) of Campvention attendees. The percentage of persons who intended to utilize the refund offer was calculated for each segment.

Findings relevant to Objective 1 and 2 are presented in Chapter IV. Chapter V exclusively deals with Objective 3 and 4.

CHAPTER IV

FINDINGS AND RESULTS

This chapter presents (1) the characteristics of persons/parties who attended the Campvention, (2) a comparison of persons/parties who intended and who did not intend to take advantage of the $1 refund offer, and (3) results of tests of hypotheses regarding the effects of $1 refund offer on pre- and post-Campvention camping in Michigan. Additional information on the characteristics and behavior of Campvention attendees is presented in Mahoney et al. (1989).

Characteristics of Persons/Parties Attending the Campvention

This section describes the characteristics of persons who completed and returned both the pretrip and posttrip questionnaires. This includes: (1) socioeconomic characteristics, (2) camping behavior, (3) Campvention trip characteristics, (4) experience with coupons/refund offers, and (5) intent to utilize $1 camping refund offer. Only

persons/parties who completed both questionnaires were used for data analysis.[5]

Socioeconomic Characteristics

The socioeconomic characteristics of Campvention attendees are shown in Table 4. Only about 20% of the attendees were Michigan residents. Of non-Michigan residents attending the Campvention, 37% had never camped in Michigan prior to the Campvention. The average age was 59. Approximately 70% of the attendees were 55 or older and the majority (60.7%) were retired. This was somewhat older than the average age of campers surveyed in other Michigan camping studies (Stynes & Mahoney, 1986; Fridgen et al., 1986). Almost all (95.6%) were married. Fewer than 30% had children living at home with the respondent, which was not surprising given the mean age. About 50% of the respondents had an annual household income between $20,000 and $39,999 in 1987. Fewer than half (43.3%) attended some colleges or had undergraduate or advanced degrees. The majority (57.3%) of respondents to the questionnaires were male.

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[5] Some questions about demographic characteristics (e.g., gender, marital status) and camping behavior were included in the pretrip questionnaire, whereas income, education, trip characteristics, experience with coupons/refund offers, and intent to utilize $1 refund offer were included in the posttrip questionnaire. To describe these characteristics of the sample and to meet one of overall study objectives (comparison of pretrip and posttrip perceptions of Michigan campgrounds), the use of these samples was indispensable.

Table 4. Socioeconomic Characteristics of Respondents.

Characteristics	Percent
Michigan Resident	19.6
Nonresidents Camping for the First-time in Michigan	37
Average Age	59 years
Less Than 55	29.8
55 or older	70.2
Married	95.6
Retired	60.7
Have Children Living at Home With Them	28.9
Income	
Under $20,000	22.8
$20,000-$39,999	49.7
$40,000 or more	27.5
Education	
High School Degree or Less	56.7
Some College or More	43.3
Male	57.3[a]

[a] This indicates that a greater proportion of male members of camping families/couples completed the questionnaire. In part, this was due to the fact that male members were more likely to be the registrants of record. The questionnaires were mailed to the registrants of record.

Camping Behavior

Campers who attended the Campvention are, on the average, very active, high-volume campers. As shown in Table 5, they camped 52 nights during the previous year (1987). They are also very active off-season campers with a high percentage of the attendees camping before Memorial Day (87.9%) or after Labor Day (94.2%). About 86% camp both before Memorial Day and after Labor Day. More than half (56.1%) have no preference for either public or private (commercial) campgrounds. A quarter (24.6%) have a preference for private (commercial) campgrounds.

Table 5. Camping Behavior of Campvention Attendees.

Nights	Percent
Camping Nights in 1987[a]	52 nights
Off-Season Camping	
Camp Before Memorial Day	87.9
Camp After Labor Day	94.2
Camp Both Before Memorial Day and After Labor Day	86.0
Campground Preference	
Public Campgrounds	19.2
Private (Commercial)	24.6
No Preference	56.1

[a]Does not include persons who lived in their camping equipment. Approximately 1% of respondents reported camping 365 days in 1987. They were excluded from the calculation.

The attendees were asked a series of questions to ascertain their degree of camping involvement. This information was also considered important and was used in assessing their predisposition to utilize camping-related sales promotions. Approximately three quarters (74.8%) of the respondents subscribed to a camping-related magazine(s) (Table 6). Almost half (48.4%) belonged to camping organizations in addition to NCHA. Around 70% attended at least one camping or outdoor show the previous year (1987).

Table 6. Camping Affiliation: Subscription to Camping Magazines, Membership in Camping Clubs, and Attendance at Camping/Outdoor Shows.

Camping Affiliation	Percent
Subscribe to Camping Magazines	74.8
Belong to Camping Organizations	48.4
Attend Camping/Outdoor Shows over the Previous Year (1987)	69.1

Characteristics of Campvention Trip

Party size, and Campvention trip length and behavior are presented in Table 7. The average Campvention party consisted of 2.5 persons. The average party spent 14 (13.7) nights on their Campvention trip. Approximately half (52%) of the parties camped additional nights before and/or after the Campvention in Michigan. The average party spent nine (9.1) nights in Michigan on their Campvention trips.

Table 7. The Characteristics of Michigan Campvention Trips and Sources of Camping Information.

Trip Characteristics	Percent/Nights
Camped in Michigan Before and/or After the Campvention	52.3%
Party Size	2.5 persons
1	1.5%
2	70.0%
3	11.4%
4	10.8%
5 +	6.3%
Total Trip Nights	13.7 nights
Nights Spent in Michigan	9.1 nights
At Campvention Site	5.9 nights
At Campgrounds in Michigan	2.7 nights[a]
Hotels/Motels, Friends/Relatives	.5 nights
Pre- and Post-Campvention Camping Nights in Michigan	4.8 nights[b]
State Parks Campgrounds	1.0 nights
Commercial (MAPCO) Campgrounds	3.2 nights
Local/County, State Forests National Parks/Forests	.6 nights
Sources of Information Used to Select Michigan Campgrounds[c]	
Michigan Campground Directory[d]	34.2%
Woodalls Camping Directory	19.9%
Recommend. from Friends/Campers	19.6%
Trailer Life	17.1%
Kampground of America (KOA)	13.9%
Camping Experience in MI	12.1%

[a]The average camping nights of parties who attended the Campvention (Parties who did not camp before and/or after the Campvention are included).

[b]The average camping nights of parties who camped in Michigan before and/or after the Campvention (Parties who did not camp additional nights are excluded).

[c]Respondents were allowed to indicate more than one source of information, so percent does not add to 100%.

[d]All preregistrants were direct mailed a copy of the Michigan Campground Directory.

Of these, six (5.9) nights were spent at the Campvention site. On the average, Campvention attendees camped three (2.7) additional nights in Michigan. Some parties spent a portion of their Michigan nights at hotels/motels or visiting friends/relatives.

Campvention attendees who camped additional nights in Michigan camped an average of five (4.8) nights. On the average, three of these camping nights were spent in commercial campgrounds and one in state parks campgrounds.

Campvention attendees who camped in Michigan before and/or after the Campvention relied on a variety of different informational sources to select the campgrounds where they stayed. The Michigan Campground Directory (which was direct-mailed to all preregistrants) was used by the greatest number of parties (34.2%), followed by Woodalls Camping Directory (19.9%) and recommendations from friends, relatives, or campers (19.6%). Trailer Life (17.1%) and Kampgrounds of America (13.9%) were the next frequently used informational sources.

Experience with Coupons/Refund Offers

Whether or not Campvention attendees have utilized coupons/refund offers for camping, other recreational opportunities, or nonrecreational products was presented in Table 8. Fewer than half (42.8%) of the attendees have utilized camping-related coupons or refund offers (Table 8). Most (67.7%) of these only occasionally utilized camping-

related coupons/refund offers, and only 13.6% often utilized coupons or refund offers related to camping.

Nearly 25% have utilized coupons/refund offers to purchase other recreational opportunities, but 62% only occasionally utilized these offers. Almost all (90.9%) have used coupons or sought refunds in the purchase of other nonrecreational products. The majority (56%) indicated that they often utilized coupons/refund offers to purchase other nonrecreational products.

Table 8. Experience with Coupons or Refund Offers for Camping, Other Recreational Opportunities, and Nonrecreational Products.

Experience Utilizing Coupons/Refund Offers	Percent
For Camping	42.8
Seldom Utilize	18.7
Occasionally Utilize	67.7
Often Utilize	13.6
For Other Recreational Opportunities	24.9
Seldom Utilize	22.6
Occasionally Utilize	62.3
Often Utilize	15.1
For Nonrecreational Products	90.9
Seldom Utilize	5.4
Occasionally Utilize	38.8
Often Utilize	55.8

Intent to Utilize the $1 Refund Offer

Although 90% of parties indicated that they were aware of the $1 Campvention money-back offer, only 14.8% indicated

on the posttrip questionnaire that they were planning to apply for a refund (Table 9). As previously stated, correction for nonresponse bias--a higher percent of nonrespondents did not intend to seek a refund--reduced the estimate of the percent of Campvention attendees who intended to apply for a refund to 11.5%. In actuality, only 6.3% applied.

Parties who intended to apply for a refund for one to three nights ($1 - $3) comprised 45% of the parties who indicated their intentions to apply for a refund. The

Table 9. Awareness of and Intent to Utilize the $1 Refund Offer.

Awareness/Intent	Percent
Were Aware of the Offer	89.6
Planned to Apply for a Refund	14.8(11.5)[a]
Number of Nights Intended to Apply for a Refund	
1 - 3	45.4
4 - 5	25.3
6 or more	29.3
Mean	5.1 nights
The $1 Offer Influenced Them to Camp More Nights in State Parks and/or Commercial (MAPCO) Campgrounds	15.3

[a]Estimate of the percent of respondents who planned to apply for a refund after adjusting for nonresponse bias.

average refund applied for was 5.1 nights ($5.10). Only 15.3% of those who intended to apply for a refund indicated

that the refund offer influenced them to camp more nights in state parks and/or commercial (MAPCO) campgrounds.

As was discussed in the Chapter III, Campvention attendees who indicated that they would not likely seek a refund (of $1 per night) were asked whether or not they would likely have taken advantage of a higher refund offer ranging from $2 to $8. As was expected, the percentage of those who would have utilized a higher refund offer increased as the value of refund offer increased (Table 10). An increase in the refund value from $1 to $2 doubles the percent of persons who would have utilized a refund offer. Only 27.7% of respondents to $2 offer and 48.3% of respondents to $8 offer indicated they would have utilized the offer. On the average, 36% would have taken advantage of a higher refund offer ranging from $2 to $8.

Comparisons of Parties Who Indicated that They Would, and Would Not Apply for a Refund

This section describes and compares both parties who indicated on the posttrip questionnaire their intentions to apply for a refund and those who did not intend to apply. Again, it is important to emphasize that some of the persons who indicated they would apply for a refund did not actually follow through and apply. Since it was not possible to identify persons who did not actually apply for a refund,

Table 10. The Percent of Campvention Attendees Who Indicated that They Would Likely Have Utilized a Higher Refund Offer.

Refund Amount	n[a]	Percent That Would Have Utilized a Refund
		Percent
$1	527	14.8
$2	70	27.7
$3	65	29.3
$4	78	34.0
$5	77	35.3
$6	88	38.2
$7	78	42.3
$8	90	48.3

[a]The number of persons who returned a posttrip questionnaire which asked whether they would have likely utilized a refund offer of this amount.

the intent to seek a refund was used instead of actual redemption.

Persons who did not intend to utilize the refund offer included parties who were and were not aware of the offer. Parties who were not aware of the offer comprised only 10% of those who did not intend to seek a refund and statistical analyses showed that they did not differ significantly from those who were aware of the offer.

One of this study's objectives was to provide a marketing- relevant descriptive profile of campers who intended to take advantage of the Campvention money-back offer. A null hypothesis was formulated to test for differences between those who intended and who did not intend to utilize the refund offer.

Null Hypothesis 1: Parties who intended to utilize the $1 refund offer do not differ from those who did not intend to seek a refund in terms of their socioeconomic characteristics, camping behavior, camping affiliation, or past experience with coupons or refund offers.

The results of t-tests for differences are reported in Table 11. Statistically significant differences were found between those who intended and did not intend to seek a refund with respect to the following:
(1) state of residence, (2) length of Campvention trip, (3) nights camped in Michigan before and/or after the Campvention, (4) the use of the Michigan Campground

Directory to decide on where to camp in Michigan, (5) preference for public campgrounds, (6) subscription to camping magazines, and (7) membership in camping organizations.

A higher percentage of out-of-state residents intended to seek a refund. In part, this is due to the fact that a higher proportion of nonresidents camped in Michigan before and/or after the Campvention and on the average they camped more nights in Michigan than Michigan residents. Persons who indicated they intended to seek a refund spent significantly more nights on their Campvention trips and spent more nights camping (6.2 nights) in Michigan before and/or after the Campvention than persons who did not intend to seek a refund.

As hypothesized, persons who intended to seek a refund were more likely to subscribe to camping magazines (84%) and belong to camping organizations other than the NCHA (60%) than persons who did not. In other words, they were more actively involved campers. Persons who intended to apply for a refund were also more likely to have utilized the Michigan Campground Directory when selecting Michigan campgrounds.

There were no significant differences between those who did and did not intend to seek a refund with respect to their gender, work status (e.g., retired), family status (e.g., married, presence of children living at home),

Table 11. A Comparison of Those Who Intended and Did Not Intend to Utilize the $1 Refund Offer

Categories	Intended to Use	Did Not Intend to Use	T-test Probability
Socioeconomic Characteristics			
Male	59%	58%	.797
Age (mean)	59 years	59 years	.699
Retired	56%	61%	.403
Married	97%	94%	.182
Out-of-State Resident	91%	78%	.001 **
Have Children Living at Home	30%	29%	.887
Education			
High School or Less	53%	57%	.482
Some College or More	47%	43%	.487
Income			
Under $20,000	23%	22%	.837
$20,000-$39,999	46%	50%	.539
$40,000 or More	31%	28%	.621
Campvention Trip Nights			
Total Trip Length	17 nights	13 nights	.001**
Nights At the Campvention Site	5.7	6.0	.165
Nights Camped in Michigan	6.2	4.1	.003**
Used MI Campground Directory to Plan Campvention Camping	48%	10%	.001**

(continued on next page)

Table 11 (cont'd.).

Categories	Intended to Use	Did Not Intend to Use	T-test Probability
Camping Behavior			
Off-season Camping	87%	86%	.966
Campground Preference			
Public	31%	16%	.012*
Private	22%	25%	.551
Average Number of Nights Camped a Year	57 nights	52 nights	.354
Camping Affiliation			
Subscribe to Camping Magazines	84%	73%	.021*
Belong to Other Camping Clubs	60%	46%	.017*
Attend Camping/Outdoor Shows	78%	68%	.067
Experience with Coupons/Refund Offers			
Camping	37%	44%	.244
Other Recreational Opportunities	29%	24%	.325
Nonrecreational Products	94%	91%	.384

* indicate a significance at $p < .05$.

** indicates a significance at $p < .01$.

education, income, whether or not they camp in the off-season (both before Memorial Day and after Labor Day), campground preference, number of nights they camp a year, whether or not they attend camping/outdoor shows, and past experience with coupons/refund offers for camping, other recreational activities, and nonrecreational products.

In particular, ANOVA and T-tests were performed to determine specifically whether or not intent to utilize the refund offer varied with income, education, or the number of nights camped in Michigan before and/or after the Campvention. Intent to utilize the $1 refund offer (which was expressed as a percentage) was not significantly different among persons with different income or education levels (Table 12). However, a statistically significant difference was found among persons reporting different number of nights camped in Michigan (Table 13). The t-test results indicated that Campvention attendees who camped eight or more nights in Michigan before and/or after the Campvention were more likely to take advantage of the offer than people who camped fewer nights. Although persons who camped 4 - 7 nights were more likely to utilize the refund offer than those who camped fewer than four nights, the difference was not statistically significant.

Table 12. ANOVA and T-Tests for the Differences in Intention to Utilize the Refund Offer by Income and Education Levels.

ANOVA	n[a]	Percent[b]	F Probability
Income:			.819
Below $20,000	108	15	
$20,000-$39,999	241	14	
$40,000 or More	134	16	

T-TEST	Percent[b]	T-Value	D.F.	Probability
Education Level:				
High School Degree or Less	14	- .70	511	.482
College or More	16			

[a]The number of persons in the income category.

[b]Indicates the percentage of parties who intended to utilize the $1 refund offer.

Table 13. ANOVA and T-Tests for the Differences in Intention to Utilize the Refund Offer by the Number of Nights Camped in Michigan Before and/or After the Campvention.

ANOVA	n[a]	Percent[b]	Probability
Number of Nights Camped in Michigan			.009**
1 - 3	136	21	
4 - 7	84	31	
8 or More	41	51	

T-TEST	Percent[b]	T-value	D.F.	Probability
Number of Nights Camped in Michigan				
(1 - 3) x (4 - 7)	21 x 31	-1.60	218	.110
(4 - 7) x (8 +)	31 x 51	-2.22	123	.028*

[a]The number of persons in the category of the number of nights camped in Michigan before and/or after the Campvention.

[b]Indicates the percent of parties who intended to utilize the refund offer.

* indicates a significance at $p < .05$.

** indicates a significance at $p < .01$.

Tests of the Effects of the $1 Refund Offer

A principal objective of this study was to evaluate the effects of the $1 refund offer on before and/or after Campvention camping in Michigan. Both the proportion and the number of nights camped in Michigan state parks and/or commercial campgrounds were used to assess the refund and redemption effects. The proportion, the number of nights camped in state parks and/or commercial (MAPCO) campgrounds to the total number of nights camped in Michigan campgrounds (e.g., state parks, commercial, county, state forests, national parks, and national forests), was analyzed to determine whether the $1 money-back offer influenced pre- and post-Campvention camping behavior in Michigan. For obvious reasons, only parties who actually camped in Michigan before and/or after the Campvention were included in the analysis.

Hypothesis 2: The $1 money-back offer influenced campers to stay more nights in state parks and/or commercial (MAPCO) campgrounds was formulated to test both the refund and redemption effect of the refund offer. It has two subhypotheses. Subhypothesis (2a) tests the refund effect and subhypothesis (2b) tests the redemption effect.

Null hypothesis (2a): Parties who <u>were aware of</u> the money-back offer did not camp (1) a greater proportion of their nights and (2) a greater number of nights in Michigan state parks and/or commercial (MAPCO) campgrounds than those who were not aware of the offer.

Null hypothesis (2b): Parties who intended to take advantage of the money-back offer did not camp (1) a greater proportion of their nights and (2) a greater number of nights in state parks and/or commercial (MAPCO) campgrounds than those who did not intend to utilize the offer.

The independent variable for subhypothesis (2a) is the awareness of the refund offer. Whether or not the attendees were either aware or unaware of the refund offer was determined on the posttrip questionnaire. The independent variable for subhypothesis (2b) is intention to utilize the refund offer. Again, respondents were asked on the posttrip questionnaire whether or not they intended to seek a refund.

The dependent variables for both subhypotheses are (1) the proportion of nights camped in state parks and/or commercial (MAPCO) campgrounds and (2) the number of camping nights in these campgrounds before and/or after the Campvention. The proportion of nights camped in state parks or commercial campgrounds is obtained by dividing the number of nights camped in "refund eligible" campgrounds by the total camping nights in Michigan.

One-tailed t-tests were used to test subhypothesis. First, the assumption of equal variance was tested for each subhypothesis. The F value was explored to test the homogeneity of variance. Table 14 reports the results of

Table 14. Tests of Homogeneity of Variance and Decisions on the Use of Different Types of T-test.

Groups	F Value	Probability	Decision on T-test
Average Proportion[a]			
Aware vs Not Aware of the Refund Offer	1.39	.323	Pooled-Variance
Intended vs Did Not Intend to Seek a Refund	3.07	.001*	Separate-Var.
Average Number of Nights[b]			
Aware vs Not Aware of the Refund Offer	2.30	.013*	Separate-Var.
Intended vs Did Not Intend to Seek a Refund	2.47	.001*	Separate-Var.

[a]Ratio of the number of nights camped in "refund eligible" campgrounds to the total number of nights camped in Michigan before and/or after the Campvention.

[b]Number of nights camped in "refund eligible" (state parks and/or commercial) campgrounds.

* indicates a significance at $p < .05$.

homogeneity of variance tests and the decision on whether to use the pooled variance or the separate variance t-test.[6]

Test Results

Null hypothesis (2a) was not rejected at $p=.05$ level of significance (Table 15). Those who were aware of the offer did not camp a significantly greater proportion (92%) of nights in state parks and/or commercial (MAPCO) campgrounds. In fact, those who were not aware of the offer camped a greater proportion (95%) of their Michigan camping nights in "refund eligible" campgrounds than those who were aware of the offer. Although those who were aware of the offer camped more nights (4.2) in state parks or commercial (MAPCO) than those who were not aware of it (3.5 nights), the difference was not statistically significant. Therefore, the awareness of the offer did not appear to significantly increase the proportion or the number of pre- and post-Campvention nights camped in Michigan state parks and/or commercial campgrounds. However, this may be in part due to the fact that all participants received the Michigan Campground Directory which gives most attention to

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[6] Norusis (1986) notes that "if the pooled-variance t test is used when the population variances are not equal, the probability level associated with the statistic may be in error. The amount of error depends on the inequality of the sample sizes and of the variances. However, using the separate-variance t value when the population variances are equal will usually result in an observed significance level somewhat larger than it should be" (p. 122).

Table 15. T-Tests of the Proportion and Number of Camping Nights between Those Who Were Aware and Not Aware, and Those Who Intended and Did Not Intend to Seek a Refund.

Proportion/Nights	Groups[a]		T-Value	Probability
	Aware[b]	Not-Aware[b]		
Average Proportion	.92	.95	- .53	.597
Average Nights	4.2	3.5	1.19	.241
	Intended[b]	Did Not Intend[b]		
Average Proportion	.96	.91	2.06	.040 *
Average Nights	6.0	3.4	4.07	.001 **

[a]Parties who camped in Michigan before and/or after the Campvention during the Michigan Campvention trip.

[b]n = 238, aware; n = 27, not aware; n = 78, intended; n = 187, did not intend.

* indicates a significance at $p < .05$.

** indicates a significance at $p < .01$.

commercial (MAPCO) campgrounds. Also commercial campgrounds and state parks provide the majority of Michigan's developed (e.g., electricity, water) campsites which are desired by recreation vehicle campers.[7]

Null hypothesis (2b) was rejected. Parties who indicated their intentions to seek a refund spent a greater proportion (96%) of their pre- and post-Campvention camping nights, and a greater number of nights (6.0) in state parks and/or commercial campgrounds than parties who did not intend to seek a refund (91%, 3.4 nights).

The test of subhypothesis (2a) indicates that $1 refund offer was not effective in inducing Campvention attendees to camp more nights in "refund eligible" campgrounds. A significant refund effect was not found. However, persons who intended to seek a refund camped significantly more nights in state parks and/or commercial campgrounds. Thus, there was a significant redemption effect. Therefore, the offer did not induce more camping in state parks or commercial (MAPCO) campgrounds, but persons who camped more nights in "refund eligible" campgrounds were more likely to seek a refund.

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[7] The vast majority of full service campgrounds are listed in the Directory and most of these were "refund eligible".

Summary

In this chapter, (1) a profile of persons/parties attending the 1988 Michigan Campvention, (2) comparisons of persons who intended and who did not intend to seek a refund, and (3) test results regarding the effect of the $1 refund offer on camping in Michigan state parks and commercial campgrounds were presented. Special emphasis was directed at laying a foundation for the log-linear analysis which is presented in the next chapter.

Out-of-Michigan residents were more likely to utilize the refund offer. A higher percentage of persons who intended to utilize the $1 refund offer subscribed to camping magazines and belonged to camping organizations other than the NCHA. Intent to utilize the refund offer increased as the amount of pre- and post-Campvention camping in Michigan increased. Significantly, more of the persons who camped eight or more nights in Michigan indicated they would take advantage of the offer. No significant difference in the intent to utilize the offer was found across annual household income and education levels. The $1 refund offer does not appear to have had influenced persons/parties to camp more nights in state parks and/or commercial campgrounds (MAPCO). However, the analysis revealed a potential redemption effect.

CHAPTER V

LOG-LINEAR ANALYSIS AND PROBABILITY OF UTILIZING THE MONEY-BACK OFFER

Log-linear analysis was used to examine the relationships among intent to utilize the $1 refund offer, income, education, and camping affiliation. This chapter begins with a brief but necessary description of log-linear analysis, including its advantages and disadvantages.

Log-Linear Analysis

Log-linear models describe the structure of multi-dimensional contingency tables (Fienberg, 1977). The natural logarithms of expected cell frequencies[8] are predicted by log-linear models, using linear equations as in regression.

This section describes advantages and disadvantages of log-linear analysis, applications of log-linear analysis,

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[8] Reynolds (1977) notes that whether a model is built for probabilities, expected frequencies, or the logarithm of expected cell frequencies is mainly a matter of taste and convenience because a model for one can easily be translated into models for the others.

comparisons of log-linear analysis with alternative statistical methods, types of log-linear models, parameters in log-linear models, estimation of parameters, and model building and selection.

Advantages and Disadvantages of Log-linear Analysis

As Fienberg notes, most researchers analyze multi-dimensional, cross-classified data using a series of chi-square tests. But chi-square tests of independence have limitations when analyzing multi-dimensional cross-classified data. Fienberg points out that chi-square tests do not allow for simultaneous examination of relationships among three or more variables. Therefore, it ignores the possibility of three-factor and higher-order interactions. Log-linear analysis overcomes this shortcoming. Log-linear models provide information about which variables are related and how they are related. Moreover, the absolute value (or coefficient) of interaction effect indicates the strength of the relationships.

The disadvantage of log-linear analysis is that the numerical values (coefficients) of effects are difficult to interpret because there is no underlying physical scale (Reynolds, 1977). Furthermore, when each variable has several categories, a large number of effect coefficients should be calculated and interpreted. Finally, log-linear analysis deals with nominal or ordinal data. However, when

interval or ratio data are used, information about the data may be lost in the process of categorizing/ordering the data.

Applications of Log-linear Analysis

The use of log-linear analysis has been increasing in social science research, marketing, and advertising. In sociology, log-linear models have been used to discover relationships among job attitude, education, time, and geographical region (Goodman, 1972); occupational relationships between father's occupation and son's occupation (Duncan, 1979); interaction between husband's behavior and wife's behavior (Allison & Liker, 1982); dyadic interaction between parents' political preferences and children's preferences (Feick & Novak, 1985); social relationship between sex (boy, girl) and frequency of toy offering (Iacobucci & Wasserman, 1987); and prediction of occupational aspirations as a function of socioeconomic status, residence, gender, and IQ (Elliott, 1988).

In the fields of advertising and marketing, log-linear models have been used to assess promotional efficiency. They have been used to develop a magazine exposure distribution (ED) model (Boyd, 1985; Danaher, 1988); and to predict the adoption of innovations (Green, Carmone, & Wachspress, 1977). Green, Carmone, and Wachspress also

suggest that log-linear models can be used for analyzing brand switching.

Categorical and/or ordinal data (e.g., demographic characteristics, presence or absence of a disease, and treatment outcome) have been used in biomedical studies. Log-linear models have been frequently used for survival study in biomedical research (Bishop, 1969). Psychologists have utilized log-linear models to analyze psychological behavior using cross-classified data (e.g., agree/disagree or pass/fail) (Bonnet & Bentler, 1983; Kriska & Milligan, 1982).

Comparisons of Log-linear Analysis with Alternative Statistical Methods

Other statistics, such as dummy-variable regression, ANOVA, discriminant analysis, or logit analysis, are often used as alternatives to log-linear analysis. But in this study, all variables used for examining the relationships are categorical. When the criterion variable is binary, the application of dummy-variable regression or ANOVA has some limitations. These techniques are used with the assumption that population are normally distributed with constant variance. Either dummy-variable regression or ANOVA requires interval or ratio data for the dependent (criterion) variable. Categorical data can not satisfy this critical assumption.

Discriminant analysis is used to classify respondents into different categories of the dependent variable using several metrically-scaled, independent variables (Hair, Anderson, Tatham, & Grablowsky, 1979). Discriminant analysis investigates relationships between a criterion variable and some predictor variables as in multiple regression. It does not identify interdependencies among a number of independent variables. Linear discriminant functions are often utilized in the case of dichotomous variables (Gilbert, 1968; Moore, 1973). However, Dillon and Goldstein (1984) noted that the linear discriminant function is not appropriate when the independent variables are all binary or a mixture of continuous and discrete variables.

Logit models are used to examine the relationships between a dichotomous dependent variable and one or more independent variables.[9] A log-linear model focuses on the joint probabilities of a set of qualitative variables, whereas a logit model examines the conditional probability of a single qualitative variable, given a set of other variables (Aldrich & Nelson, 1984). Furthermore, interaction terms among independent variables in a log-linear model are not easily included in a logit model. Another disadvantage of a logit model is loss of information

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[9] In this respect, a logit model is closely analogous to ordinary regression.

on the relationships among the independent variables (Fienberg, 1977).

In this study, one objective was to examine relationships among various categorical data (e.g. intent to utilize the $1 refund offer, income, education, and camping affiliation). The multivariate normality assumption that is necessary for regression, ANOVA, and discriminant analysis, is not required for log-linear analysis. Logit models are not appropriate for analyzing the relationships of more than three variables. Therefore, log-linear analysis was determined to be the most appropriate method to analyze the relationships among multi-dimensional categorical data.

Types of Log-linear Models

Log-linear models are categorized as saturated vs. unsaturated, hierarchical vs. nonhierarchical, and independence models.

Saturated vs Unsaturated Models: A saturated log-linear model contains all possible parameters (or effects).[10] It has as many independent parameters as there are cells in the table. Saturated models always fit the observed data, but they are not parsimonious and have little value in and of themselves. They serve as an excellent

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[10] Parameters indicate effects which represent the increments or decrements from the base value (u) for particular combinations of values of variables.

starting point (model) for exploring other, more parsimonious, log-linear models that fit the data.

When an independent parameter equals zero (i.e., no effect), a log-linear model does not contain that parameter. A log-linear model is unsaturated when the model has fewer parameters than the number of cells in the contingency table (Reynolds, 1977).

Hierarchical vs Nonhierarchical Models: The hierarchical principle is that the inclusion of a higher order interaction effect requires the inclusion of all lower order interaction effects as well as main effects. For example, if an ABC interaction effect is in the model, AB, BC, and AC interaction effects and A, B, and C effects should be included in the model (a generating class [ABC] includes [A], [B], [C], [AB], [BC], and [AC]). Alternatively, if A is not included in the model, then neither are AB, AC, and ABC interaction terms. Nonhierarchical models do not follow this rule.

Most, but not all (Knoke & Burke, 1980) log-linear models are hierarchical. The restriction to hierarchical models is a characteristic of the iterative proportional fitting algorithm for estimating the expected cell frequencies in the log-linear models. The primary reason for avoiding nonhierarchical models is that hierarchical

models are easier to interpret than are nonhierarchical models (Fienberg, 1977).[11]

Independence Models: The model representing independence among variables contains main effects as well as a grand mean. In independence models, there is no interaction among the variables.

Parameters in Log-linear Models

To help understand parameters in a log-linear model, a two-factor interaction model is presented below. The log-linear model is

$$L_{ij} = Ln(F_{ij}) = u + u_{a(i)} + u_{b(j)} + u_{ab(ij)}$$

where,

F_{ij} = the expected cell frequency for the $(i,j)^{th}$ cell of variable in the model (i= 1,.....I, j= 1, ...,J).

Ln (F_{ij}) = the natural logarithm of the expected cell frequency for the $(i,j)^{th}$ cell in the table.

u = grand mean which is defined as the average of the logarithms of all expected cell frequencies.

$u_{a(i)}$ = main effect of the i^{th} category of variable A.

$u_{b(j)}$ = main effect of the j^{th} category of variable B.

$u_{ab(ij)}$ = interaction effect for the i^{th} category of variable A and the j^{th} category of variable B.

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[11] Refer to Knoke and Burke (1980, p. 74) for the reason why hierarchical models make sense.

Therefore,

$$u = \sum_{I} \sum_{J} \frac{L_{ij}}{IJ} = \frac{L_{++}}{IJ}$$

$$u_{a(i)} = \sum_{J} \frac{L_{ij}}{J} - u = \frac{L_{i+}}{J} - \frac{L_{++}}{IJ}$$

$$u_{b(j)} = \sum_{I} \frac{L_{ij}}{I} - u = \frac{L_{+j}}{I} - \frac{L_{++}}{IJ}$$

$$u_{ab(ij)} = L_{ij} - u - u_{a(i)} - u_{b(j)}$$

$$= L_{ij} - \frac{L_{i+}}{J} - \frac{L_{+j}}{I} + \frac{L_{++}}{IJ}$$

L_{++} is the sum of the logs of frequencies in the all cells. The "+" signs denote summation of frequencies over the appropriate subscript. $u_{a(i)}$ is the average log of the frequencies in the J categories of variable B at the i^{th} level of variable A minus the grand mean u, while $u_{b(j)}$ is the average log of the frequencies in the I categories of variable A at the j^{th} level of variable B minus the grand mean. $u_{a(i)}$ or $u_{b(j)}$ reflects the extent to which the number of cases in the i^{th} or j^{th} category of variable A or B is different from the average across all categories of A or B. The larger the absolute value of the coefficient, the more the distribution of A or B deviates from the average across all categories of A or B.

The value for the interaction effect, $u_{ab(ij)}$, is estimated by subtracting the grand mean and main effects of A and B from the log of the expected frequency in the $(i,j)^{th}$ cell. $u_{ab(ij)}$ indicates that the marginal distribution of A depends on levels of B and vice versa. In other words, the distribution of A for a given level of B differs from the distribution of A across all levels of B. If there is no association between the two variables, the interaction parameter would be zero.

Since $u_{a(i)}$ and $u_{b(j)}$ represent deviations from the grand mean of the logarithms of the all expected cell frequencies,

$$\sum_i u_{a(i)} = \sum_j u_{b(j)} = 0, \text{ also } \sum_i u_{ab(ij)} = 0 \text{ and } \sum_j u_{ab(ij)} = 0.$$

The u terms (or effects)[12] must sum to zero across the categories of a variable. For each variable, similar constraints are imposed on the interaction terms.

Estimation of Parameters

There are two basic approaches to estimating the parameters in a log-linear model: Maximum Likelihood Estimate (MLE) and Weighted Least Square (WLS). MLE is based on individual observations and is obtained by either the iterative proportional fitting algorithm or the Newton-

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[12] The u-terms are generally referred to as effects. u is called a zero-order effect or grand mean, $u_{a(i)}$ and $u_{b(j)}$ are first-order or main effects, and $u_{ab(ij)}$ is second-order effect or first-order interaction.

Raphson algorithm. The iterative proportional fitting algorithm estimates the expected cell frequencies for a hierarchical model, and the Newton-Raphson algorithm yields a parameter vector.[13]

On the other hand, WLS is based on the group observation (Flath & Leonard, 1979; Malhotra, 1984). WLS is concerned with deriving parameter estimates that yield the smallest sum of squared errors in the fit between the model and data. A WLS estimation proceeds in a similar way as Ordinary Least Square (OLS) approach, except that it uses the weighted sum of squared errors (Flath & Leonard, 1979). Because MLE procedure produces consistent and efficient statistical estimates (Knoke & Burke, 1980), most studies (Benedetti & Brown, 1978; Bishop et al., 1977; Bonett & Bentler, 1983; Elliott, 1988; Fienberg, 1977; Green et al., 1977; Knoke & Burke, 1980; Norusis, 1986) employ MLE with an iterative proportional fitting algorithm .

Model Building and Selection

A general strategy for the analysis of cross-classified categorical data involves tests of several models, including not only an independence model, but also models containing various interaction terms among the variables. The process of model building begins with the selection of a base model,

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[13] Bishop, Fienberg, and Holland (1977, pp. 83-102) and Haberman (1978, pp. 64-69) explain the procedures of calculating these algorithms.

followed by addition of effects to the base model (forward procedure) or deletion of effects (backward procedure). Each model generates expected frequencies, and then the expected frequencies are compared with observed frequencies. Models where expected frequencies fit the observed frequencies are compared on different criteria--goodness-of-fit, parsimony--to identify the most appropriate model for the analysis.

There are two methods to evaluate goodness-of-fit of a model, which indicates how well the model fits the observed data. One is to use either the likelihood-ratio chi-square or the Pearson chi-square statistic, and the other is to examine the standardized residuals (Green, 1988; Kriska & Milligan, 1982; Norusis, 1986). The likelihood ratio chi-square statistic (L^2) is defined as

$$L^2 = 2 \Sigma f_{ij} \ln (f_{ij}/F_{ij})$$

where, f_{ij} indicates the observed cell frequency and F_{ij} represents the expected cell frequency.

The larger the L^2 relative to the number of degrees of freedom, the more the cell expected frequencies depart from the actual cell frequencies. Degrees of freedom to be associated with various goodness-of-fit test statistics are determined by subtracting the number of independent parameters fitted for the model from the total number of cells in the table.

d.f. = # cells - # parameters fitted.

The total number of independent parameters for a specific model is 1 (for the grand mean), plus the number of independent parameters pertaining to the u terms included in the model. For the I X J interaction model, the number of degrees of freedom for $u_{a(i)}$, $u_{b(j)}$, and $u_{ab(ij)}$ are I-1, J-1, and (I-1)(J-1), respectively.

For large sample sizes[14] the likelihood-ratio chi-square and the Pearson chi-square statistics are usually very close (Norusis, 1986). However, the likelihood ratio chi-square is preferable to Pearson's chi-square because (1) the expected cell frequencies are estimated by maximum likelihood methods, and (2) L^2 can be partitioned for more powerful tests of conditional independence in multiway tables (Knoke & Burke, 1980). L^2 follows the chi-square distribution with degrees of freedom equal to the number of independent parameters which have no effect on the expected cell frequencies.

The other criterion for evaluating log-linear models is parsimony (Benedetti & Brown, 1978; Knoke & Burke, 1980; Reynolds, 1977). A parsimonious model refers to a model that contains as few parameters as possible but still fits the data.

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[14] As a result of thumb, a large sample size refers to at least ten times the number of cells in the table (Fienberg, 1976, p. 37).

Examination of Relationships

The second objective of this study was to discover the relationships among Campvention attendees' intentions to utilize the $1 refund offer, income, education, and camping affiliation.

Hypothesis and Variables

Null hypothesis 3 was formulated to test the relationships as follows:

Null hypothesis 3: Intent to utilize the $1 refund offer is not strongly related to levels of income, education, and camping affiliation.

The variables, education, income, and camping affiliation were included in the log-linear analysis based on past studies and statistical tests. Income and education were included in the model even though univariate statistical analyses showed no significant relationship between intent to utilize the refund offer and either variable for two reasons.

First, the literature review of sales promotion studies revealed that income and education were almost always used for describing the characteristics of coupon-prone consumers. Income and education were often found to be strongly (e.g. positively or negatively) related to coupon redemption rate for manufactured goods. People with higher income were more likely to utilize coupons than people with

lower income (Bawa & Shoemaker, 1987b; Blattberg et al., 1978; Teel et al., 1980). However, the coupon redemption rate was not always positively related to income and education (Narasimhan, 1984). Although no studies have examined whether or not income and education are strongly related to the use of recreation/tourism/ camping-related sales promotions, a decision was made to include these variables given the results of studies of non-recreation sales promotions.

Second, the univariate statistical tests in Chapter IV did not examine the relationships between different levels of income/education and intent to utilize the refund offer. These relationships can be determined using log-linear analysis.

The inclusion of camping affiliation as one of the log-linear variables was made on the basis of previous camping studies (Fridgen et al., 1986; Mahoney et al., 1989; Stynes & Mahoney, 1986). Also, subscription to camping related magazines was statistically related to intention to use the refund offer (see Chapter IV). There was no significant difference between those who intended and who did not intend to utilize the refund offer with respect to whether they attended camping or outdoor shows. However, since attending these shows is considered an information-seeking effort, this variable was included with subscriptions to camping magazines, as a measure of camping affiliation. It was

assumed that persons who were inclined to seek information about camping would be more likely to utilize coupons or refund offers because they would have more opportunities to find these offers than those who are less inclined to seek this information. Also, these information-seeking campers are generally more active campers. Camping affiliation--magazine subscriptions and attendance at camping/outdoor shows also provides a means of reaching deal-prone campers.

The final stage was to test association between stated intentions to utilize the refund offer and the three variables. The results are shown in Table 16.

Table 16. Results of Chi-Square Tests of Association Between Intent to Utilize the $1 Refund Offer and Income, Education, and Camping Affiliation.

Variables	Chi-Square	D.F.	Significance
Income	.401	2	.818
Education	.336	1	.562
Camping Affiliation	.633	1	.012 *

* indicates a significance at $p < .05$.

The chi-square tests showed that only camping affiliation was significantly related to intent to utilize the refund offer ($p = .012$). Income and education were not significantly associated with intent to utilize the refund offer.

Although there was no statistically significant association between income or education and intent to utilize the refund offer, they were included in the model because it was expected that there would be some significant interactions when all four variables were incorporated in the model. Also, since relationships of multi-dimensional cross-classified data cannot be discovered with a chi-square test, chi-square test results were not sufficient reason to delete income and education variables for log-linear analysis. It was expected that some relationships would exist among these four variables.

Each of the three variables was reported by respondents in two or three categories:

Annual household income was expressed in three categories:[15]

1. Less than $20,000 (low)
2. $20,000 to $39,999 (middle)
3. $40,000 or more (high)

Education background was expressed in two categories:[16]

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[15] There were 12 income categories. Median of income was $25,000 - $29,999. Persons with low and income consisted of 22.8% and 27.5%, respectively.

[16] There were seven education categories. Median of education was high school degree.

1. Low : high school degree or less

2. High: college or more

Camping affiliation was also expressed in two categories:

1. Strong: those who both subscribed to a camping related magazine(s) and attended camping or outdoor shows.

2. Weak : those who subscribed to a camping related magazine(s) or attended a camping/outdoor show or did neither.

The intent to utilize the $1 refund offer was expressed in two categories:[17]

1. Yes: those who intended to take advantage of the $1 refund offer.

2. No : those who did not intend to take advantage of the $1 refund offer.

Selection of a Log-linear Model

STATGRAPHICS microcomputer software was used to develop the log-linear model. A two-step procedure was employed. First, a backward elimination method was employed starting with a saturated model containing a four-factor interaction among intent to utilize the $1 refund offer, income, education, and camping affiliation. The least significant three-factor u-terms were first eliminated and then the least significant two-factor u terms were eliminated until only significant effects ($p < .05$) remained. Second, the

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[17] In this study, the intent to utilize the $1 refund offer was used instead of actual redemption.

effects in the model selected by the backward elimination method were tested to confirm whether or not they were substantially significant.

Models Generated Using
the Backward Elimination Method

Table 17 reports the likelihood ratio chi-square statistic, the associated degrees of freedom, and the significance level for the goodness-of-fit test for 13 different log-linear models, including independence and saturated models. These models were some of the models generated during the backward elimination process. They were developed in order to explain the goodnees-of-fit, to test significance of effects, and finally to select a parsimonious model.

A saturated four-factor interaction model, Model 1: [EICA][18], served as the starting point. A saturated model always fits the data with the significance level of 1.0 and zero degrees of freedom. However, as stated previously, saturated models do not provide meaningful information since all, even insignificant effects, are included. The backward elimination process identified Model 8: [AC][EI][19] as a model which best fits the data. Four other models with

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[18] E: education, I: household income, C: camping affiliation, A: intent to utilize the $1 off per night refund offer.

[19] [AC][EI] model indicates two 2-factor interactions between intent to utilize the refund offer and camping affiliation and between income and education.

Table 17. Models Fitted to Four-Way Crosstabulation of Education, Income, Camping Affiliation, and Intent to Utilize the $1 Refund Offer.

Models	Likelihood Ratio Chi-Square	Degrees of Freedom	Significance
1. [EICA]	0.000	0	1.000
2. [ACI][EI]	9.839	9	.364*
3. [AEI][AC]	16.566	10	.085*
4. [ACI]	81.787	12	.000
5. [AEI]	26.584	12	.009
6. [AC][AI][EI]	17.030	13	.198*
7. [AC][CI][EI]	15.094	13	.301*
8. [AC][EI]	17.755	15	.276*
9. [EI][A]	27.774	17	.048
10. [EI][C]	269.694	17	.000
11. [AC][E]	136.520	19	.000
12. [AC][I]	89.703	18	.000
13. [E][I][C][A]	90.249	18	.000

Abbreviations: E: Education
I: Annual household income
C: Camping affiliation
A: Intent to utilize the refund offer

* indicates that the model fits the data well at $p < .05$.

significant likelihood ratio chi-square statistics were also identified (Model 2, 3, 6, and 7). Hypotheses that these models fit the data were not rejected at $p=.05$ level of significance.

The size of Type I error is one criterion for selecting a model that fits the data. If Type I error is small, effects of the model which exist in the population are likely to be omitted. However, increasing the chances of Type I error may result in effects in the model which are not true in the population (Bishop et al., 1977). Knoke and Burke (1980) contend that if the probability of a Type I error lies between about .10 and .35, the model fits the data well. The probability of Type I error for Model 2 ($p=.364$) and Model 3 ($p=.085$) almost meets this criterion. However, Models 6, 7, and 8 were between .10 and .35, and simpler and easier to interpret than Model 2 and 3. Therefore, Model 2 and 3 were eliminated for consideration as possible final models.

Test of the Significance of the Effects in Models that Best Fit the Data

The next step in the model selection process was to test the significance of the effects in each of the remaining three models (Model 6, 7, and 8). To test the significance of each effect, the value of the likelihood ratio chi-square of one model including an effect (or term) was compared with that of the other model that does not

include that effect. The significance of an effect is determined by the difference in the likelihood ratio chi-square value with the difference in degrees of freedom. The difference in L^2 approximately follows the chi-square distribution with the difference in degrees of freedom between the two models (Knoke & Burke, 1980).

The analysis revealed that even though Model 6 and 7 fit the data, both include an effect which is not significant. Model 8: [AC][EI] was compared with Model 6: [AC][AI][EI] and Model 7: [AC][CI][EI]. The difference in L^2 between Model 6 and 8 is .725 (17.755-17.030), and the difference in the number of degrees of freedom is 2 (15-13). The chi-square value with 2 d.f. is 5.99 at p=.05 level. The hypothesis that [AI] effect equals zero was not rejected.

Model 7: [AC][CI][EI] was compared with Model 8. The difference in L^2 between the models is 2.661 (17.755 - 15.094) and the difference in the number of degrees of freedom is 2. Thus, the hypothesis that [CI] effect equals zero was not rejected. Even though these models fit the data, they have insignificant effects. In addition, they are not simpler than Model 8.

Simpler models having fewer generating classes (or fewer combinations of main and interaction effects), were then formulated and compared with Model 8 because sometimes models developed using the backward elimination method

contain effects that are not significant. A stepwise method does not automatically provide the best fitting model that is parsimonious.[20] Model 9, 10, 11, and 12 (see Table 17 for details) were formulated to determine whether or not any simpler models than Model 8 were available. However, the hypotheses that the models fit the data were rejected for each of the four models. The independence model, Model 13: [A][C][E][I], does not fit the data either. Therefore, no simpler models were identified.

Significance of the Effects in the Final Log-linear Model

The [AC][EI] model consists of two interaction effects: interaction between intent to utilize the refund offer [A] and camping affiliation [C], and interaction between income [I] and education [E]. The hypothesis was that: the [AC][EI] model fits the data well. Respectively, there are 2, 2, 2, and 3 categories for the variables: intent to utilize the refund offer, camping affiliation, education, and income. Therefore, degrees of freedom for this model, are equal to 2x2x2x3-[1+(2-1)+(2-1)+(2-1)+(3-1)+(2-1)(2-1) +(2-1)(3-1)]=15. The hypothesis was not rejected at $p < .05$ ($p=.276$). Thus, this model fits the data.

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[20] Fienberg asserts that "various stepwise methods should not be thought of as automatic devices for deciding up on appropriate log-linear models. At best they can be of aid in limiting attention to a reduced set of models that give a reasonable fit to the data" (1977, p.68).

The significance of [AC] effect was tested by comparing Model 5: [AEI] with Model 3: [AEI][AC]. Both models have the [AEI] effect in common, and the difference in the likelihood ratio chi-square between the two models is due to the [AC] effect. The difference in the likelihood ratio chi-square between the models is 10.018 (26.584 - 16.566), and the difference in degrees of freedom is 2 (12 - 10). The critical value of chi-square with 2 degrees of freedom at p= .05 level is 5.99. Therefore, the hypothesis that the [AC] effect equals zero was rejected. Thus, the interaction effect between intent to utilize the refund offer and camping affiliation was statistically significant.

The significance of [EI] effect was tested by comparing the significance of the difference in likelihood chi-square ratios of Model 2: [ACI][EI] and Models 4 [ACI]. The hypothesis that [EI] effect is zero was also rejected; the interaction effect between income and education was also statistically significant.

Model 8 was selected as the best model because: (1) the likelihood chi-square ratio is significant; (2) the probability of Type I error is .276 (between .10 and .35); (3) the two interaction effects are statistically significant; and (4) it is also parsimonious and easy to interpret.

Residual Analysis

Residuals were analyzed to determine how well Model 8: [AC][EI] fits the data. In residual analysis, the difference between the observed and expected cell frequency in the model is examined. The standardized residual is calculated using the following formula.

$$\text{Standardized residual} = \frac{\text{(Observed - Expected) frequency}}{\text{Expected frequency}}$$

Standard residuals greater than 1.96 ($p < .05$) in absolute value suggest important differences between the observed and expected frequencies in the model which indicates the model does not fit the data. If the model fits the data, the standardized residuals are approximately normally distributed with a mean of zero and standard deviation of one (Norusis, 1986).

Table 18 reports the results of residual analysis on Model 8: [AC][EI]. All but one of the standardized residuals are smaller than 1.96 in absolute value, indicating that [AC][EI] model fits the data well and, the mean of standardized residuals is .027, which is not significantly different from a mean of zero.

Table 18. Four-Dimensional Contingency Table with Observed, Expected, and Standardized Residuals for the [AC][EI] Model (N=459).

Intent to Utilize	Education	Camping Affil.	Income	Obs. Count	Exp. Count	Std. Resid.
Yes	Low	Strong	Low	10	9.5	.16
			Middle	12	12.5	-.15
			High	6	4.9	.49
		Weak	Low	4	4.4	-.17
			Middle	4	5.8	-.73
			High	1	2.3	-.83
	High	Strong	Low	1	1.5	-.38
			Middle	13	11.3	.51
			High	6	8.3	-.79
		Weak	Low	1	.7	.40
			Middle	3	5.2	-.96
			High	9	3.8	2.68*
No	Low	Strong	Low	35	39.3	-.68
			Middle	48	51.8	-.52
			High	23	20.3	.61
		Weak	Low	42	37.9	.67
			Middle	56	49.9	.86
			High	17	19.6	-.58
	High	Strong	Low	3	6.0	-1.24
			Middle	53	46.6	.94
			High	36	34.1	.33
		Weak	Low	9	5.8	1.32
			Middle	39	44.9	-.89
			High	28	32.9	-.85

* indicates a significant difference between the observed and expected frequency (Z-value > 1.96).

Parameter Tests

Parameter tests were performed to examine which and to what degree the independent parameters were related. Table 19 presents the parameter coefficients and standardized parameter coefficients for each effect in the final model, [AC][EI]. The ratio of the coefficient to its standard error, which is the standardized coefficient or Z-value, was used to test the null hypothesis that the effect is not significant. Standardized coefficients parameters greater than 1.96 in absolute value are considered significant at $p<.05$.

The interaction between intent to utilize the refund offer and camping affiliation was significant with the standardized coefficient of 1.975 in absolute value. The standardized coefficient for the interaction of strong camping affiliation and intention to seek a refund was 1.975, indicating a significant interaction effect. Therefore, persons who exhibited a strong affiliation with camping were more likely to utilize the $1 refund offer than were persons who exhibited a weak camping affiliation.

The interaction between education and income was also significant with a Z-value of 4.473 and 3.793 for low and high income levels. That is, as would be expected, people with less education are more likely to have lower income (Z-value =4.473). People with a high education levels are more likely to have a high income (Z = 3.793). Standardized

Table 19. Estimates for Parameters Coefficients Relevant to the [AC] and [EI] Interaction Effects.

Parameter	Coefficients	Standard Error	Standardized Coefficient
Likelihood of Utilizing Offer(A)			
Yes	-.894	.096	-9.340 *
No	.894	.096	9.340 *
Education (E)			
Low	.243	.096	2.537 *
High	-.243	.096	-2.537 *
Camping Affiliation (C)			
Strong	.204	.096	2.130 *
Weak	-.204	.096	-2.130 *
Income (I)			
Low	-.565	.155	-3.646 *
Middle	.595	.116	5.124 *
High	-.030	.133	-.227
A*C			
Yes Strong	.189	.096	1.975 *
Yes Weak	-.189	.096	-1.975 *
No Strong	-.189	.096	-1.975 *
No Weak	.189	.096	1.975 *
E*I			
Low Low	.693	.155	4.473 *
Low Middle	-.190	.116	-1.639
Low High	-.503	.133	-3.793 *
High Low	-.693	.155	-4.473 *
High Middle	.190	.116	1.639
High High	.503	.133	3.793 *

* indicate a significance with a Z-value greater than 1.96.

coefficients for education, income, camping affiliation, and intent to utilize the refund offer were also significant except for the high income category.

When the frequency in a particular category is larger than the average frequency across all categories, the parameter coefficient appears positive. In case of intent to utilize the refund offer, the parameters for "Yes" and "No" categories were -.894 and .894, respectively. The standardized parameters were -9.340 for "Yes" and 9.340 for "No", showing that the effect of intent to utilize the refund offer was significant. The negative coefficient indicated that the number of people who answered "Yes" was fewer than the average number of two categories. In actuality, 70 and 389 Campvention attendees answered "Yes" and "No", respectively.

The coefficient for strong camping affiliation was .204 with the standardized coefficient of 2.130. The positive coefficient indicated that there was a significant difference in the number of respondents who showed strong affiliation and the average number of two categories (strong and weak). That is, the number of respondents who subscribed to camping magazines and attended camping or outdoor shows (strong affiliation) was much greater than the number (213) of respondents who either subscribed to camping magazine or attended camping/outdoor shows or neither.

The number (258) of respondents with a high school degree or less was greater than the average number of two categories. The number of respondents with some college education or advanced degrees was 201. The parameter for the lower level of education was .243, with the Z-value of 2.537.

The number (105) of respondents with an annual household income less than $20,000 was far fewer than the average number of respondents across the three categories of income. The coefficient was -.565 and Z-value was -3.646. The coefficient for the middle income group between $20,000 and $39,999 was .595 with Z-value of 5.124. A relatively large number of respondents (228) belonged to the middle group. Fewer than the average number of campers (126) had an annual household income of $40,000 or more. No relationships between intent to utilize the refund offer and income or education were found.

Probabilities of Utilizing the $1 Refund Offer

The findings of the log-linear analysis provided a basis for estimating the probabilities that different segments would take advantage of the refund offer. The probabilities of utilizing the offer were estimated for segments formulated using different segmentation bases, including different levels of camping affiliation,

education, and income, and the combinations of these three variables. These variables were all included in the final log-linear model.

Table 20 shows the percentage of segments who indicated their intention to seek a refund. Some segments are more refund-prone. Segments exhibiting strong camping affiliation and low education are more prone to utilize the refund offer. Persons with weak camping affiliation and low education are unlikely to seek a refund. These differences across segments suggest that organizations should target sales promotions at segments which show a relatively higher likelihood of utilizing the $1 refund offer.

Table 20. The Percentage of Persons Who Indicated They Would Seek a Refund by the Different Characteristics of Campers.

Characteristics/Segments			Percent
Camping Affiliation			
	Strong		19.5[a](246)[b]
	Weak		10.3 (213)
Education			
	Low (High School or Less)		14.3 (258)
	High (College or Advanced Degrees)		16.4 (201)
Income			
	Low (Below $20,000)		15.2 (105)
	Middle ($20,000-$39,999)		14.0 (228)
	High ($40,000 or More)		17.5 (126)
Education * Income			
Low	Low		15.4 (91)
	Middle		13.3 (120)
	High		14.9 (47)
High	Low		14.3 (14)
	Middle		14.8 (108)
	High		19.0 (79)
Camping Affiliation * Education			
Strong		Low	20.9 (134)
		High	17.9 (112)
Weak		Low	7.3 (124)
		High	14.6 (89)

(continued on next page)

Table 20 (cont'd.).

Characteristics/Segments			Percent
Camping Affiliation * Income			
Strong		Low	22.4 (49)
		Middle	19.8 (126)
		High	16.9 (71)
Weak		Low	8.9 (56)
		Middle	6.9 (102)
		High	18.2 (55)
Camping Affiliation * Education * Income			
Strong	Low	Low	22.2 (45)
		Middle	20.0 (60)
		High	20.7 (29)
	High	Low	——— [c]
		Middle	19.7 (66)
		High	14.3 (42)
Weak	Low	Low	8.7 (46)
		Middle	6.7 (60)
		High	5.6 (18)
	High	Low	10.0 (10)
		Middle	7.1 (42)
		High	8.1 (37)

[a]The table entry is the percentage of parties/persons who indicated their intentions to seek a refund.

[b]Numbers in parentheses are total within-cell sample sizes on which each percentage is based.

[c]Only four persons are included in this segment.

Summary

The variables used in the log-linear analysis were selected using a multi-step procedure. Income and education were incorporated because they were almost always used in previous studies describing the characteristics of coupon-prone segments for frequently purchased consumer goods. Statistical tests showed a significant relationship between camping affiliation and whether or not Campvention attendees intended to seek a refund.

The backward elimination method resulted in a log-linear model with two statistically significant interaction effects between intent to utilize the refund offer and camping affiliation, and between income and education. People who were strongly affiliated with information-seeking efforts for camping were more likely to take advantage of the refund offer. Although some interaction effects among income, education, camping affiliation, and intent to utilize the refund offer were expected, no statistically significant higher-order interaction effects (e.g., 3-factor interaction effects) were found. Thus, the intent to utilize the refund offer was not likely to be influenced by the combined levels of income and education, camping affiliation and education, or camping affiliation and income.

CHAPTER VI

SUMMARY, RESEARCH RECOMMENDATIONS, AND MARKETING IMPLICATIONS

This study had four objectives: (1) to provide a marketing-relevant profile of people who intended to utilize the $1 money-back offer, (2) to assess the effects of the money-back offer on pre- and post-Campvention camping in Michigan, (3) to examine the relationships among the intent to utilize the refund offer, income, education, and camping affiliation, and (4) to estimate the probabilities of utilizing the $1 refund offer by different segments of Campvention attendees. In this chapter, (1) summary of the major findings, (2) limitations/weaknesses of the study and recommendations focusing on the use of log-linear analysis, and (3) marketing implications were provided and discussed.

Summary of Findings

Persons atttending the 1988 NCHA's Michigan Campvention were very active, heavy-volume campers. They camp an average of 52 nights per year. Approximately 86% usually camp before Memorial Day and after Labor Day, while 82% camp each year in states other than where they reside. Almost

three quarters subscribed to camping magazines; about half belonged to other camping organizations; and 70% attended camping or outdoor shows.

More than half of Campvention attendees camped an average of 4.8 nights in Michigan before and/or after the Campvention. On the average, they spent one night in state parks and three nights in commercial campgrounds. Approximately 90% of those who attended the Campvention were aware of the $1 refund offer. However, only 11.5% of the attendees intended to take advantage of the offer. Out-of-staters were more inclined to utilize the refund offer than were Michigan residents. In part, this was due to the fact that out-of-Michigan residents camped more nights before and/or after the Campvention, and the results showed that persons who camped more nights were more likely to apply for a refund. A higher percentage (51%) of parties who camped eight or more nights in Michigan other than at the Campvention site had intentions to take advantage of the $1 refund offer than those who camped four to seven nights (31%) and one to three nights (21%).

Persons who indicated their intentions to seek a refund were more likely to subscribe to camping magazines and belong to camping organizations other than the NCHA. However, unlike a number of other sales promotion studies which were reviewed, there was no statistically significant

relationship between income or education levels and intentions to utilize the money-back offer.

The results indicate that the $1 refund offer was not enough to induce Campvention attendees to camp more nights in state parks or commercial campgrounds (no refund effect). Only 11.5% of the parties who camped additional nights in Michigan before and/or after the Campvention intended to seek a refund for 4.5 nights ($4.50). In actuality, only 6.3% of the parties who camped additional nights in Michigan applied for the refund, and the average refund applied for was 5.3 nights ($5.30). There was a significant discrepancy (slippage) between those who indicated their intentions to seek a refund and those who actually applied.

Log-linear analysis was used to determine the relationship among intent to utilize the refund offer, income, education, and camping affiliation (e.g., subscriptions to camping magazines and attendance at camping or outdoor shows). A backward elimination method resulted in a two-factor interaction model. Significant interactions were found between intent to utilize the refund offer and camping affiliation. Campvention attendees who were strongly affiliated with camping were more likely to utilize the offer than those who were not. There were no significant relationships between intent to utilize the refund offer and income or education. The findings of the log-linear analysis were used as the base to estimate the

probabilities of utilizing the refund offer by different segments of Campvention attendees.

Limitations/Weaknesses

The major weakness of this study is that intent to utilize the refund offer was assumed to be equal to their actual redemptions. The intention to utilize promotional offers is not a perfect indicator of actual redemption due to the slippage effect. There are always some discrepancies between actual behavior and intention to take advantage of promotional offers. However, the results of this study are still useful because self-reported intentions have been correlated with actual behavior (Kalwani & Silk, 1982; Morrison, 1979). Although this measurement issue may not limit the results of this study, future studies should use actual redemption instead of intentions to obtain accurate results.

A second and much more minor weakness resulted from the sampling method. The sample was selected only from preregistrants for the 1988 Campvention. NCHA members who did not preregister for the Campvention were not included in the sample. Persons/parties who did not preregister but participated in the Campvention were not included in the sample. So these results cannot be generalized to all NCHA members. NCHA members who preregistered but did not attend the Michigan Campvention were included in the sample, but

the questionnaire identified them as nonattendees. These sampling problems are not viewed as significant since the primary purposes of this study were to profile Campvention attendees and to evaluate the effectiveness of the refund in increasing pre- and post-Campvention camping.

Since no previous studies were identified which evaluated camping-related sales promotions, the questionnaires, hypotheses, and variables included in the log-linear analysis were based on studies of sales promotions for nonrecreational products. Although these studies provided information on the characteristics and behavior of sales promotion prone consumers, there were no studies which confirmed that the same characteristics were relevant to the use of recreation/tourism-related sales promotions. Therefore, this study was for the most part exploratory in nature. Other variables (e.g., differing amount of refund) should have been examined and included in the log-linear model.

Research Recommendations

Log-linear analysis an appropriate statistical technique when simultaneously examining the relationships among multi-dimensional cross-classified data. A series of chi-square tests can not be used to investigate the relationships between a number of categorical variables.

In order to find a linear association between two categorical variables, similar future research should incorporate the ordering of the categories into log-linear analysis. The extention of log-linear models (e.g., the linear row-effects, linear column-effects, or linear by linear association models) can be used to test a linear association between two variables that are ordinal.

Although log-linear parameters are relatively easy to analyze in four and higher-dimensional contigency tables, researchers who conduct similar analyses should also consider using odds ratio (cross-product ratio) to interpret the types and degree of association in 2x2 tables (e.g., the relationship between intent to utilize the refund offer and camping affiliation). An odds is the ratio of the frequencies that an event occurs and does not occur. However, the intuitive appeal of an odds ratio declines when a higher order interaction (more than three-way interaction) exists because the odds ratio must be calculated for each level of the other variable(s) involved in the interaction (Elliott, 1988; Gilbert, 1981).

As the literature shows, coupon-prone segments for one product are inclined to display similar tendencies for other products. According to Bawa and Shoemaker (1987), households were found to be consistent in coupon usage across product classes. This study focused on camping only. Therefore, the relationships found in this study could be

tested for other recreational activities or tourism services (e.g., fishing, boating, skiing, foods, or lodging).

Marketing Implications

This study has provided significant marketing information. It provided the first comprehensive marketing-oriented profile of persons who attended the National Campers and Hikers Association's (NCHA) annual Campvention. Not only can this information be used by NCHA more effectively to market Campventions to its members, it can also be used by states, where Campventions are held. For example, the findings (e.g., trip length, trip planning, trip information) can be used to design marketing strategies to increase the amount of before and/or after Campvention camping. In fact, about half of the persons who attended the Campvention had not camped in Michigan previously. Thus, the Campvention offers host states a unique opportunity to market recreation and tourism, especially camping opportunities to first-time visitors, and by doing so promote repeat visits.

The findings provided current marketing relevant insight about a "heavy-volume" segment of the camping market. This segment is identifiable, reachable and exploitable, especially for sales promotion campaigns. The information generated by this study can be used by states (e.g., travel bureaus, agencies) and campground businesses,

to design strategies to attract and better serve heavy-volume campers.

The findings indicate that the $1 money-back offer did not significantly affect the proportion of camping nights or the amount of pre- and post-Campvention camping in Michigan state parks or commercial campgrounds. In part, this is due to the relatively low refund compared to the overall cost of a night of camping, and the limited time Campvention attendees had available to camp additional nights in Michigan (beyond the seven nights at the Campvention site). It is likely that other factors (e.g., time available, trip itinerary, overall trip costs) constrained the number of nights which were available to camp in Michigan.

It is important to recognize that the cost of campsite rental is only a small portion of the overall costs of a camping trip. A recent study reported that the average camping party spent $163 per trip, not including campsite rental costs (Mahoney & Yu, 1988). The findings also show that the refund value would have to have been substantially greater to affect the number of nights camped in Michigan. However, even if the refund had been $8, fewer than half would have taken advantage of the refund. Whether or not a higher refund would have generated sufficient, additional camping to offset the refund costs is doubtful.

The percentage of persons who would likely have taken advantage of a higher refund offer during their Campvention

trips increased as the refund value increased. However, as Gupta (1988) points out, unless the promotional offerings are beyond a threshold level, it is not likely to affect choice probabilities.

The implication is that money-back offers, such as this one, must be only one component of an overall promotional effort, including other types of sales promotions (e.g., contests, premiums). It is likely that the money-back offer would have been more effective in generating camping nights before and/or after the Campvention if Campvention attendees had received information about the offer and recreational opportunities in Michigan more in advance of the Campvention and before they had decided on the length of their trip and trip itinerary. A number of persons volunteered that they would not utilize the offer because they had already planned to stay at some other campgrounds (e.g., KOA) or at campgrounds in other states prior to receiving information about the offer. Therefore, recreation/tourism sales promotions such as this refund offer should commence before the targeted customers have decided on trip itinerary.

Only 30% of persons who camped additional nights in state parks and/or commercial campgrounds had intentions (at least at the time when they received the posttrip questionnaire) to utilize the $1 refund offer. Fewer than a half of those who intended to seek a refund actually applied. Although it was estimated that persons who

attended the Campvention camped approximately 9,000 nights in Michigan state parks and commercial campgrounds before and/or after the Campvention, only $1,300 was refunded.

The 6.3% redemption rate is in line with response rate to similar sales promotions. However, it was lower than the Division of State Parks or MAPCO (the sponsors) expected. In part, the lower than expected redemption rate was due to the cost and time required to apply for a refund relative to the refund amount. Undoubtedly many parties, especially those who camped only a few nights in state parks and/or commercial campgrounds, decided that it was not worthwhile to apply for a refund. Others may have misplaced the application form or the necessary proof of purchase. Some failed to return the required materials prior to the refund cut-off date. The relatively short time period for applying for a refund may also have discouraged some busy people from applying for the refund.

Each sales promotion technique has strengths and weaknesses. For example, coupons offer the convenience of payment at purchase time, whereas refunds are not so immediate. A more customer-convenient refund procedure (e.g., coupon books with immediate refunds) at the participating/eligible campgrounds, would likely have increased the number of persons who sought a refund. However, the small refund value ($1 off per night) and camping parties' already-fixed schedule before Campvention

would tend to indicate that it is unlikely that a more convenient refunding procedure would have significantly increased the number of nights camped in Michigan state parks or commercial campgrounds.

The result of log-linear analysis indicates that campers who both subscribed to camping-related magazines and attended camping/outdoor shows were more likely to utilize the refund offer. Those who did only one of the preceding activities, or neither of the activities were less likely to utilize the refund offer.

The relationship between intent to utilize the refund offer and camping affiliation has two important marketing implications and uses. First, recreation marketers should consider degree of affiliation/involvement as a base for segmenting markets for the purpose of designing and targeting sales promotions. This information also suggests a way of reaching sales promotion prone campers. Second, it is equally important to consider sales promotions as only one component of the promotion aimed at achieving a specific objective. The insignificant refund effect indicate that a package of complementary sales promotions would have likely been more effective.

Although the findings indicate that the $1 refund offer did not significantly increase before and/or after Campvention-related camping in Michigan, it was still a cost effective promotion. The offer generated approximately 305

additional nights of camping in Michigan state parks or commercial campgrounds. The average campsite fee in Michigan was approximately $8.50 and the average spending per night/party was $78.70, including campsite fee. So the money-back offer generated an additional $24,000 in revenues or spending that would not have accrued without the refund offer. The total cost associated with the refund offer was almost $4,000. Approximately $1,300 was paid out in the form of refunds. Printing, mailing (refunds to the applicants), and handling costs were around $2,700. MAPCO paid all refunds associated with nights camped in commercial campgrounds and the Division of State Parks covered refunds for nights camped in state parks campgrounds.

In addition, the offer sent the message that Michigan wanted the attendees to camp and spend additional time in Michigan. This is important since Campvention attendees are high-volume campers which Michigan needs to target and attract.

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APPENDICES

APPENDIX A

1988 MICHIGAN CAMPVENTION STUDY

Michigan State University, Michigan Division of State Parks, Michigan Association of Private Campground Owners, and the National Campers and Hikers Association are conducting a comprehensive study of persons who attend the 1988 MICHIGAN CAMPVENTION being held at Highland Recreation Area. The study will provide information which will be useful in decisions regarding future campventions.

We will also be sending you another brief questionnaire after you return home from your trip to gather information on your satisfaction with the 1988 Campvention and camping in Michigan.

If you are planning to attend the 1988 Campvention PLEASE COMPLETE the following questionnaire and RETURN it to us in the attached postage paid envelope. PLEASE take the time to complete the questionnaire. Without your help the study will not be successful. We guarantee that your response will remain strictly confidential.

---

1. DATE YOU COMPLETED this QUESTIONNAIRE _____/_____/_____(MONTH/DAY/YEAR)

2. Will the 1988 Michigan CAMPVENTION be the FIRST National Campers and Hikers CAMPVENTION you have attended?

___ Yes (the 1988 will be my FIRST CAMPVENTION) (GO TO QUESTION 4)

___ No → Did you attend the 1987 IOWA CAMPVENTION? ___ Yes ___ No (GO TO QUESTION 4)

3. ON YOUR 1987 IOWA CAMPVENTION TRIP how many nights did you spend on:

3a) On your entire CAMPVENTION TRIP (This includes nights at the Campvention, nights in Iowa before and after the Campvention, and nights in other states traveling to and from the Campvention)
_____ Number of total nights away from home

3b) At the Iowa CAMPVENTION SITE: _____Number of nights

3c) At campgrounds in Iowa (OTHER THAN THE CAMPVENTION SITE): _____ Number of nights at other campgrounds

3d) At campgrounds OUTSIDE Iowa: _____ Number of nights
*** (3a should equal the SUM of 3b, 3c, and 3d) ***

********** 1988 MICHIGAN CAMPVENTION QUESTIONS **********

4. At the 1988 MICHIGAN CAMPVENTION how many persons including yourself will STAY ON YOUR SITE with you ? _____

4a) What are the AGES of the persons who will stay on your site? YOURSELF _____ , Person 2 _____ , Person 3 ___, Person 4 _____ , Person 5 _____ , Person 6_____, Person 7 _____.

5. On your MICHIGAN CAMPVENTION TRIP what type of camping equipment will you utilize?

___ Tent  ___ Camping Trailer  ___ Travel Trailer 

___ Motor Home  ___ Van/Bus Conversion  ___ 5th wheeler 

___ Other

6. On your MICHIGAN CAMPVENTION TRIP how many TOTAL NIGHTS AWAY FROM HOME will you spend? This includes: nights at the Campvention, nights in Michigan before and after the Campvention and, nights in other states traveling to and from the Campvention.

_____ Total 1988 CAMPVENTION TRIP nights

7. How many nights are you planning to camp at the (Michigan) CAMPVENTION SITE located in Highland Recreation Area? (The CAMPVENTION will last 7 nights)

_____ Number of nights at the Michigan CAMPVENTION SITE

8. Other than the nights at the CAMPVENTION SITE are you planning to camp additional nights in MICHIGAN either before or after the Campvention?

___ No (GO TO QUESTION 15)

___ Yes → How many ADDITIONAL nights (not counting nights at the CAMPVENTION SITE) are you planning to camp in Michigan ? _____ Number of additional nights (GO TO QUESTION 9)

9. Will you likely SELECT THE CAMPGROUND(s), or have you already selected the campground(s) (OTHER THAN CAMPVENTION SITE) you will stay at in Michigan BEFORE LEAVING HOME on the trip?

___ No (GO TO QUESTION 11) ___ Yes (GO TO QUESTION 9a)

9a) Have you already selected the campground(s) (OTHER THAN CAMPVENTION SITE) you will stay at in Michigan ?

___ No
___ Yes → How many Michigan campgrounds have you already selected ? _____ number of campgrounds

10. WILL you make, or have you already made, reservations at these campgrounds (OTHER THAN CAMPVENTION SITE) before leaving home on the trip?

___ No

___ Yes → 10a) Have you ALREADY made reservations at campgrounds in Michigan ? ___ No ___ Yes

11. In your registration package there is an offer for a $1.00 OFF REFUND for each night you spend camping at a Michigan State Park or campground which is a member of Michigan Association of Private Campground Owners (MAPCO). The refund offer will not apply to other Michigan campgrounds OR nights at the campvention site.

WILL YOU LIKELY TAKE ADVANTAGE OF THIS OFFER?

___ No Why not?_____

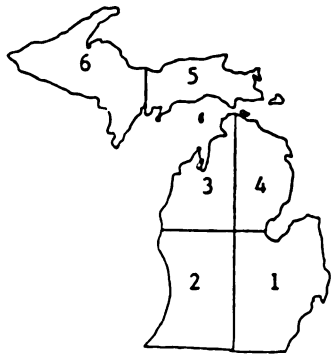
___ Yes _____

12. What PRIMARY SOURCE(S) information will you rely on most to select the campground(s) OTHER THAN THE CAMPVENTION SITE you will stay at in Michigan? (Please check all that apply)

___ Rand McNally Camping Directory
___ Woodalls Camping Directory
___ Michigan Campground Directory
___ Trailer Life
___ Highway signs
___ Campground brochures
___ Recommendations from other campers at CAMPVENTION
___ Recommendations from campers you meet in Michigan campgrounds
___ Recommendations of friends & relatives
___ Past camping experience in Michigan
___ Other (specify) _____

13. CIRCLE THE NUMBERS (1-6) on the map at the right TO SHOW THE REGIONS of Michigan YOU PLAN TO CAMP IN while on YOUR 1988 CAMPVENTION TRIP. CIRCLE the numbers of ALL REGIONS you are planning to camp in.

*ONLY CIRCLE REGION 1 IF YOU PLAN TO CAMP AT CAMPGROUNDS (OTHER THAN CAMPVENTION SITE) in this region.



14. Have you already written or called, or do you plan to write or call, for additional Michigan travel/recreational information?

___ No

___ Yes → 14a) Which Organization(s) have you written or called, or will you write or call for more information?

___ Michigan Travel Bureau	___ West Michigan Tourism Association
___ Michigan Dept. of Natural Resources	___ Southwest Michigan Tourism Association
___ East Michigan Tourism Organization	___ Upper Peninsula Tourism Association
___ Southeast Michigan Tourism Organization	___ Other (Specify) _____

15. Please rate the IMPORTANCE of the following CAMPGROUND ATTRIBUTES AND/OR FACILITIES WHEN SELECTING A CAMPGROUND?

CAMPGROUND ATTRIBUTES	Crucial	Very Important	Important	Somewhat Important	Not Important
Large sites	___	___	___	___	___
Shaded Sites	___	___	___	___	___
Cleanliness	___	___	___	___	___
Quietness	___	___	___	___	___
Site Privacy	___	___	___	___	___
Security	___	___	___	___	___
Hospitality of campground staff	___	___	___	___	___
Low Price	___	___	___	___	___
Flush toilets	___	___	___	___	___
Electricity	___	___	___	___	___
Showers	___	___	___	___	___
Laundromat	___	___	___	___	___
Campground store	___	___	___	___	___
Water hookups	___	___	___	___	___
Sewer hookups	___	___	___	___	___
Natural surrounding	___	___	___	___	___
Situated on a lake/stream	___	___	___	___	___
Hiking trails	___	___	___	___	___
Pool	___	___	___	___	___
Playgrounds	___	___	___	___	___

16. Do you USUALLY prefer to camp in public or private (commercial) campgrounds?

_____ Public campground ____ Private (commercial) campground _____ No preference

17. Who is USUALLY MOST INFLUENTIAL in deciding which campgrounds you stay at?

_____ Myself _____ My spouse _____ Children _____ Family (Group) decision _____ Other

18. Approximately how many nights did you camp LAST YEAR (1987)? _____ (If you didn't camp, write "0" on the line)

19. How many of these nights were OUTSIDE THE STATE WHERE YOU LIVE? _____ (If none, write "0" on the line)

20. How many states (not including your home state) did you camp in during 1987? ____ (If no other states write "0")

21. Do you USUALLY camp BEFORE Memorial Day ? ___ No ___ Yes

22. Do you USUALLY camp AFTER Labor Day? ___ No ___ Yes

23. Have you EVER camped in Michigan ? ___ No ___Yes → When was the last year you camped in MICHIGAN? 19___

24. Based on your impressions, experience, information from others, or travel/camping literature, please complete the following perception of MICHIGAN CAMPGROUNDS which include public and private campgrounds.

Michigan campgrounds:	Strongly Agree	Agree	Disagree	Strongly Disagree	No Impression
are very large (number of campsites)	___	___	___	___	___
are inexpensive	___	___	___	___	___
are crowded	___	___	___	___	___
have hospitable campground staff	___	___	___	___	___
offer many (in-campground) recreation facilities	___	___	___	___	___
provide large campsites	___	___	___	___	___
are clean	___	___	___	___	___
are quiet	___	___	___	___	___
are family oriented	___	___	___	___	___
offer modern hookups (electric,sewer,water)	___	___	___	___	___
are secluded	___	___	___	___	___
provide modern restroom/shower facilities	___	___	___	___	___
are safe/secure	___	___	___	___	___
are well maintained	___	___	___	___	___

25. Are you a RESIDENT of MICHIGAN? ___ Yes ___ No → 25a) Have you EVER LIVED in Michigan ? ___Yes ___No

25b) Do you have family/friends LIVING in Michigan? ___Yes ___No

25c) Will you VISIT them on Your Campvention trip? ___Yes ___No

26. What is the zip code of YOUR PERMANENT RESIDENCE? _____

27. Are YOU male or female? ___ Female ___ Male

28. Are YOU retired? ___ No ___ Yes

29. Are you currently: ___ Single ___ Divorced/widowed ___ Separated

___ Married → Is your spouse retired? ___ Yes ___ No

30. Do you have children LIVING AT HOME WITH YOU ?

___ No ___Yes→What are their ages ? Child 1 ___ Child 2 ___ Child 3 ___ Child 4 ___ Child 5 ___

APPENDIX B

1988 MICHIGAN CAMPVENTION POSTTRIP SURVEY

Michigan State University, Michigan Division of State Parks, Michigan Association of Private Campgrounds (MAPCO) and MCHA are conducting a study of the 1988 Campvention. Now that the 1988 Campvention is over we are interested in obtaining information about where and how long you camped, and your evaluation of the Campvention and camping in Michigan.

If someone in your household DID NOT complete the questionnaire we sent you BEFORE the Campvention. Please complete this one. We desperately need your assistance.

If someone in your household COMPLETED AND RETURNED the questionnaire we sent BEFORE the Campvention, it is important that the PERSON WHO COMPLETED THAT QUESTIONNAIRE also COMPLETE THIS ONE.

1. Did you participate in the 1988 Campvention at Highland Recreation Area in Michigan?

_____ Yes No _____ (Go to Question 22)

2. When did you leave home for the Michigan Campvention? _____/ _____ (Month/Day e.g., July / 10)

3. At the 1988 MICHIGAN CAMPVENTION how many persons including yourself STAYED ON YOUR SITE? _____ persons
(If you were alone, write "1" on the line)

3a) What are the AGES of the persons who stayed on your site? _____ Yourself, _____ Person 2, _____ Person 3
_____ Person 4, _____ Person 5, _____ Person 6, _____ Person 7

4. What type of camping equipment did you utilize on your CAMPVENTION TRIP?

_____ Tent  _____Camping trailer  _____ Travel trailer 

_____ Motor home  _____ Van/bus conversion  _____ 5th wheeler  _____ Other

5. How would you rate the facilities at the Campvention site in Highland Recreation? Circle the appropriate number.

Excellent 1 2 3 4 5 Poor

6. How would you rate the 1988 Campvention compared to other Campventions you have attended?

_____ Much better _____Better _____ About the same _____Worse _____ Much worse _____ Not attended others

7. On your MICHIGAN CAMPVENTION TRIP how many NIGHTS AWAY FROM HOME did you spend on:

7a) Your ENTIRE Michigan CAMPVENTION TRIP (This includes nights at the Campvention, nights in Michigan before and after the Campvention, and nights in other state traveling to and from the Campvention) _____ Number of nights

7b) At the MICHIGAN CAMPVENTION SITE: _____ Number of nights

7c) Camping in MICHIGAN (OTHER THAN THE CAMPVENTION SITE): (If none, write "0") _____ Number of nights

7d) Hotels/motels, second home, friend/relative's home(s) in MICHIGAN:(If none, write "0") _____ Number of nights

7e) Camping in OTHER STATES (Including in your home state): (If none, write "0") _____ Number of nights

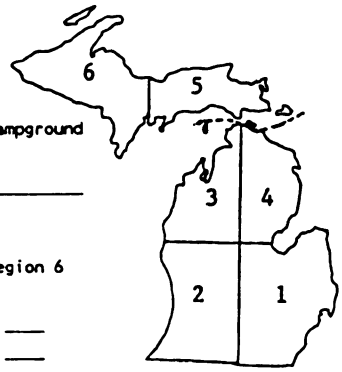
7f) Hotels/motels, second home, friend/relative's home(s) in OTHER STATES (If none, write 0)_____Number of nights

******(7a should equal the total of 7b, 7c, 7d, 7e and 7f) ******

8. Did you camp at MICHIGAN CAMPGROUNDS other than the Campvention Site?

_____ Yes (Go to Question 8a) No _____ (Go to Question 13)

8a) First CIRCLE THE NUMBERS (1-6) ON THE Map at the right to show the regions you camped in. Only circle Region 1 if you camped at campgrounds in this region other than the Campvention site.



8b) Then in the TABLE BELOW indicate HOW MANY NIGHTS you camped at each type of campground (NOT INCLUDING CAMPVENTION SITE) in each region you circled on the map.

	********** Number of nights **********					
	Region 1	Region 2	Region 3	Region 4	Region 5	Region 6
Michigan State Parks	___	___	___	___	___	___
Commercial (private) campgrounds	___	___	___	___	___	___
County/Local Campgrounds	___	___	___	___	___	___
State Forest Campgrounds	___	___	___	___	___	___
National Park or National forest	___	___	___	___	___	___

******** Do not include the nights you camped at the Campvention site ********

9. HOW MANY CAMPGROUNDS in Michigan (not counting the Campvention Site) did you camp at on your CAMPVENTION trip?

_____ Number of Campgrounds

10. How many of these campgrounds had you SELECTED BEFORE leaving home on your trip? _____ Number of campgrounds

11. How many of these campgrounds did you RESERVE a site in BEFORE you left home? _____ Number of campgrounds

12. Which PRIMARY SOURCE(S) of information did you rely on MOST TO SELECT the Michigan campgrounds (other than the campvention site) you camped at?

___ Michigan Campground Directory
___ Woodalls Camping Directory
___ Trailer Life
___ Rand McNally Camping Directory
___ Kampground of America (KOA)
___ Coast to Coast
___ AAA
___ Highway Map(s)
___ Highway signs
___ Campground brochures
___ Recommendations from other campers at the Michigan Campvention
___ Recommendations from camper you met in Michigan campgrounds
___ Recommendations from friends & relatives
___ Past Camping experience in Michigan
___ Camping Organization/Club
___ Other (specify) _____

13. Was your CAMPVENTION TRIP the first time that you camped in Michigan? _____ Yes No _____

14. For your CAMPVENTION TRIP did you write or call for additional Michigan travel/recreational information?

_____No _____ Yes → Which organization(s) did you write or call for more information?

___ Michigan Travel Bureau
___ Michigan Dept. of Natural Resources
___ East Michigan Tourism Organization
___ Southeast Michigan Tourism Organization
___ West Michigan Tourism Association
___ Southwest Michigan Tourism Association
___ Upper Peninsula Tourism Association
___ Other (specify) _____

15. Please indicate your perception(s) of Michigan campgrounds which include public and private campgrounds.

Michigan campgrounds	Strongly Agree	Agree	Disagree	Strongly Disagree	No Impression
are very large (number of campsites)	___	___	___	___	___
are inexpensive	___	___	___	___	___
are crowded	___	___	___	___	___
have hospitable staff	___	___	___	___	___
offer many (in-campground) recreation facilities	___	___	___	___	___
provide large campsites	___	___	___	___	___
are clean	___	___	___	___	___
are quiet	___	___	___	___	___
are family oriented	___	___	___	___	___
offer modern hookups (electric, sewer, water)	___	___	___	___	___
are secluded	___	___	___	___	___
provide modern restroom/shower facilities	___	___	___	___	___
are safe/secure	___	___	___	___	___
are well maintained	___	___	___	___	___

16. Were you aware of the SPECIAL CAMPVENTION OFFER of $1.00 OFF per night of camping in Michigan State Parks or campgrounds which are member of Michigan Association of Private Campground Owners (MAPCO) ?

_____ Yes No _____ → Would you have taken advantage of the $ 1.00 off per night offer if you had been aware of it? _____ Yes No _____

17. Did you take advantage of the $ 1.00 Off REFUND OFFER ?

_____ Yes → 17a) For how many nights will(have) you apply for a refund? _____ Number of nights

17b) Did the $1.00 per night refund influence you to camp MORE NIGHTS in Michigan State Parks or MAPCO campgrounds than you otherwise would have? _____ Yes No _____

_____ NO → 17c) If the REFUND had been $ _____ PER NIGHT, would you have taken advantage of the offer?

_____ No → Why not?_____

_____

_____ Yes → On your campvention trip would you have camped more nights in Michigan State Parks or MAPCO campgrounds if you had received $ _____ off per night?

___ Yes No_____ Why not? _____

18. Have you ever utilized money back offers or coupons for camping?

_____ No Yes _____ → How often? _____ Seldom _____Occasionally _____Often

19. Have you utilized money back offers or coupons for <u>other recreational activities</u>?

_____ Yes → 19a) For what type of recreation activities have you taken advantage of a money back offer or coupon?

_____

19b) How often did you utilize these offers? _____ Seldom _____ Occasionally _____ Often

_____ No

20. Do you or your spouse utilize money back offers or coupons when purchasing other products?

_____ No Yes_____ ⟶ How often? _____ Seldom _____ Occasionally _____ Often

21. We'd like to know how much your PARTY spent on your CAMPVENTION TRIP. It's important that you provide us with PARTY SPENDING, so please consult other persons who stayed with you at your campvention site. If your party did not spend anything in a particular category, write "0" on that line. Do not include campvention REGISTRATION FEE.

21a) Total PARTY spending on your ENTIRE CAMPVENTION trip: ..... $_____

21b) PARTY spending while camping AT THE CAMPVENTION site: ..... $_____

21c) PARTY spending in MICHIGAN (Not including spending while camping at the campvention site): ... $_____

21d) PARTY spending in OTHER STATES except Michigan (Include spending at home preparing for this trip): .....$_____

**********(21a should equal the total of 21b, 21c, and 21d)**********

22. Are you likely to camp in Michigan in the future? _____ Yes No _____ Why not? _____

_____

23. Do you currently subscribe any camping related magazines?

_____ No Yes_____ ⟶ Name(s) of magazine(s): _____

24. Do you currently belong to any camping organization other than National Camper and Hiker Association (NCHA)?

_____ No Yes_____ ⟶ Which one(s)? _____

25. Did you attend any camping or outdoor shows in 1987? _____ Yes No _____

THE REMAINING QUESTIONS ON YOURSELF ARE NEEDED SO THAT WE CAN GENERALIZE OUR FINDINGS TO ALL CAMPVENTION PARTICIPANTS. AGAIN, BE ASSURED THAT THE INFORMATION WILL REMAIN STRICTLY CONFIDENTIAL.

26. In 1987, what was your household's annual gross income (before tax)?

___ Under $ 10,000	___ $20,000 to $24,999	___ $35,000 to $39,999	___ $50,000 to $59,999
___ $10,000 to $14,999	___ $25,000 to $29,999	___ $40,000 to $44,999	___ $60,000 to $69,999
___ $15,000 to $19,999	___ $30,000 to $34,999	___ $45,000 to $49,999	___ $70,000 or more

27. What is the highest level of education you have completed?

___ Elementary (1-8)	___ Some college	___ Advanced degree (M.S, Ph.D., M.D., D.D.S. J.D)
___ Some high school	___ College degree	
___ High school diploma	___ Some graduate school	

MICHIGAN STATE PARKS & M.A.P.C.O. WELCOMES

See Michigan and **SAVE** $1.00 PER NIGHT by camping in any Michigan State Park or in any participating Michigan private MAPCO campground.

We offer this opportunity to thank you for visiting Michigan in 1988 as a part of the Campvention. Take this opportunity to explore this beautiful water-wonderland as you travel to and from the Campvention. This offer is valid for nights camped from June 24 through the night of August 5, 1988 only.

This offer is subject to the availability of campsites at each park. Contact the parks of your choice soon to confirm your reservations. Consult your MAPCO Michigan Campground Directory to help make your selections.

TO QUALIFY YOU MUST:

- Attend the 1988 NCHA Campvention, at the Highland Recreation Area.

- Camp in any Michigan State Park or participating private Michigan campground from June 24 through the night of August 5, 1988. (Does not include camping nights at the Campvention. This discount is void for nights where you were already given discounts when you camped at a park. Double discounts are not permitted.)

- Keep your copy of your camping permits. Return this brochure and your Michigan Camping Permits from June 24 to August 5 by September 1, 1988 for your $1.00 per night refund. Send to: MAPCO, P.O. Box 3384, Ann Arbor, MI 48106-3384.

- The name on this coupon and on all redeemable camper permits must be the same (registered camper) as at the NCHA Campvention.

NAME _____

NCHA REGISTRATION # _____

ADDRESS _____

PHONE # _____

SS# _____

YOUR REFUND CHECK WILL BE MAILED TO YOU!

Total nights camped in Michigan between June 24 and August 5, not including Campvention:

State Park _____ nights
MAPCO Private _____ nights

(Attach your copy of camper permits before mailing.)

MICHIGAN STATE UNIVERSITY

DEPARTMENT OF PARK AND RECREATION RESOURCES
NATURAL RESOURCES BUILDING

EAST LANSING • MICHIGAN • 48824-1222

August 16, 1988

Dear NCHA Member:

We would like to thank you for completing and returning the pre-trip Campvention questionnaire we sent you in May. The study we are conducting with NCHA, Michigan Association of Private Campground Owners and Michigan State Parks is very important. As you know, NCHA is strongly supporting the study.

Several weeks ago we mailed you a follow-up post-trip questionnaire. So far, we have received back less than half of these questionnaires. We desperately need a higher response rate. It is especially important that persons who completed the pre-trip questionnaire also complete the post-trip survey. The success of our study depends on your response!!

The study, if successful, will provide very important information needed by NCHA. We have a considerable amount of money invested in the study and are now dependent on your cooperation.

Please FILL OUT the POST-TRIP questionnaire and RETURN it to us as soon as possible. We plan to begin analyzing the data in September so it is important that you return your questionnaire soon.

Again, we greatly appreciate your help.

Thank you!

Sincerely yours,

Ed Mahoney

Edward Mahoney
Associate Professor
Department of Park & Recreation Resources
Michigan State University

APPENDIX D

1988 Campvention Follow-up Survey

1. Did you participate in the 1988 Campvention in Michigan?

   _____ Yes No _____ (Go to question 6)

2. At the 1988 Michigan Campvention how many persons <u>including yourself stayed on your site</u>?

   _____ persons

3. How would you rate the facilities at the Campvention site in Michigan? (Circle the appropriate number)

   Excellent 1 2 3 4 5 Poor

4. How would you rate the 1988 Campvention compared to other campventions?

   _____ Much better _____ Better _____ About the same

   _____ Worse _____ Much worse _____ Have not attended other campventions

5. On your 1988 CAMPVENTION TRIP how many NIGHTS AWAY FROM HOME did you spend:

   5a) On your <u>entire</u> Michigan Campvention trip (This includes nights at the Campvention, nights in Michigan before and after the Campvention, and nights in other states traveling to and from the Campvention): _____ Number of nights

   5b) At the Michigan <u>CAMPVENTION SITE</u>: _____ Number of nights

   5c) CAMPING <u>in MICHIGAN</u> (<u>OTHER THAN THE CAMPVENTION SITE</u>): _____ Number of nights

6. Were you aware of the SPECIAL CAMPVENTION OFFER of $1.00 OFF per night of camping in Michigan State Parks or campgrounds which are member of Michigan Association of Private Campground Owners (MAPCO)? _____ Yes No _____

7. Did you take advantage of the $1.00 off refund offer? _____ Yes No _____

8. Are you likely to camp in Michigan in the future? _____ Yes No _____

9. Approximately how many nights did you camp <u>LAST YEAR</u> (1987)? _____ Number of nights

10. Are you retired? _____ Yes No _____

11. Are you currently: _____Married _____Divorced/widowed _____Single _____Separated

12. Do you have children <u>living at home with you?</u> _____ Yes No _____

MICHIGAN STATE UNIVERSITY

DEPARTMENT OF PARK AND RECREATION RESOURCES
NATURAL RESOURCES BUILDING

EAST LANSING • MICHIGAN • 48824-1222

September 8, 1988

Dear NCHA Members:

As you are aware, Michigan State University is cooperating with NCHA in a comprehensive study of the 1988 Campvention. We have invested considerable time and money and we desperately need your assistance to complete the study. Without your help the study will not be successful.

We have sent out two questionnaires and still have not received enough back from NCHA members. It may have been that the questionnaire was too long, so we decided to develop an abbreviated version and try again. This abbreviated version is designed to gather important information needed to assess the positive impacts of the 1988 Campvention

If you did not complete the last questionnaire we sent PLEASE take the time to complete and return this abbreviated questionnaire to us in the enclosed postage paid envelope. It should take less than 5 minutes to complete. PLEASE complete and return the questionnaire even if you did not attend the CAMPVENTION. PLEASE complete the questionnaire regardless of how long you stayed at the CAMPVENTION. PLEASE complete the questionnaire even if you illegally smuggled Michigan dust back home with you. PLEASE COMPLETE THE QUESTIONNAIRE EVEN IF YOU WILL NEVER CAMP IN MICHIGAN AGAIN. I know you all receive a great deal of junk mail and unsolicited questionnaires from companies and different organizations. <u>But this is different!</u> We are attempting to help NCHA and camping in general. We are not charging NCHA to conduct this study. But, we can't help NCHA unless you help us !!!!!

With gratitude,

Ed Mahoney

Edward Mahoney
Associate Professor
Department of Park & Recreation Resources
Michigan State University