

Privacy Concerns and Consumer Willingness to Provide Personal Information

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The authors examine potential relationships among categories of personal information, beliefs about direct marketing, situational characteristics, specific privacy concerns, and consumers' direct marketing shopping habits. Furthermore, the authors offer an assessment of the trade-offs consumers are willing to make when they exchange personal information for shopping benefits. The findings indicate that public policy and self-regulatory efforts to alleviate consumer privacy concerns should provide consumers with more control over the initial gathering and subsequent dissemination of personal information. Such efforts must also consider the type of information sought, because consumer concern and willingness to provide marketers with personal data vary dramatically by information type.

Fifteen years ago, direct marketers were among the few businesses to track and analyze individual consumer purchases and characteristics using computer databases. Today retailers, manufacturers, service providers, and nonprofit organizations routinely collect and use individual-specific consumer information. However, serious questions exist regarding the extent to which marketers should be allowed to gather and use personal information about specific consumers (Culnan 1995; Nowak and Phelps 1995). Numerous surveys conducted in the past ten years indicate that consumers are concerned about what companies know about them, how companies obtain and use personal information, and the accuracy of the information used (e.g., Equifax-Harris 1995, 1996; Harris-Equifax 1992; Katz and Tassone 1990). Furthermore, many consumers support privacy protection measures, including restrictions on information exchanges (Nowak and Phelps 1992; Wang and Petrisson 1993).

Paradoxically, the high level of consumer privacy concern appears to have had little discernible impact on consumers' shopping behaviors. Most consumers are willing to give up some of their privacy to participate in a consumer society. Studies have found, for example, that many people would be upset if they were denied the marketing and credit opportunities made available through the use of personal information (Goodwin 1991). Thus, although some have identified privacy as an issue that threatens the foundations of direct marketing and retailing, uncertainty surrounds the depth of privacy concerns as well as the utility of proposed solutions. Much of the uncertainty results from the com-

plexity of consumer information issues. Developing policy that balances marketers' information needs and consumers' concerns requires taking into account information gathering and use contexts as well as acknowledging the many trade-offs that occur in marketing transactions (Milne and Gordon 1993; Nowak and Phelps 1995).

Purpose of the Study

The goal of this study is to assist public policymakers and marketers identify specific information practices and situations that foster consumer privacy concerns. The study is guided by the recognition that examining and addressing privacy issues requires identifying the root causes of privacy concerns (Jackson and Wang 1994; Wang and Petrisson 1993) as well as taking into account the multidimensional nature of information exchanges (Milne 1997; Milne and Boza 1999; Milne and Gordon 1993). Therefore, the present research examines consumers' information concern-behavior consistency and their perceptions regarding the exchange relationships with marketers that gather and use personal information.

More specifically, we sought to identify (1) the types of personal information consumers are most and least willing to provide to direct marketers and other retailers, (2) consumers' beliefs regarding the benefits of providing personal information to catalog firms and other merchants, (3) specific factors and situations that affect consumers' willingness to provide personal information to direct marketers and other merchants, and (4) the trade-offs consumers are most and least willing to make when they exchange personal information for shopping benefits.

Personal Information and Consumer Privacy Concerns

Public opinion polls routinely find that the majority of American citizens are concerned about threats to their personal privacy (Equifax-Harris 1995, 1996; Harris-Equifax 1992). Not surprisingly, the number of major newspaper stories involving direct marketers' information practices and consumer privacy continually increased between 1984 and 1991 (Phelps, Gonzenbach, and Johnson 1994), as did leg-

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islative attempts to regulate the gathering and use of consumer information. According to the Direct Marketing Association (DMA), "the issue of privacy is receiving unprecedented attention in Washington, D.C.—the most of any time in our 30 years with this issue" (Crowe 1998). At the state level, the number of privacy bills exceeded 8500 in 1997 (O'Harrow 1998) versus 1000 in 1992 (Miller 1993).

Sentiment toward regulating the collection and use of individual-specific consumer information is usually tempered, however, by the recognition of the benefits provided by information access. With personal data, marketers are better able to identify the best prospects, create promotions and reward programs that build customer loyalty, customize advertising and promotion strategies, implement highly targeted direct-mail programs, and evaluate the effectiveness and cost efficiency of advertising and promotions (Hughes 1994; Jackson and Wang 1994). Marketers' ability to access personal data also enables consumers to purchase products and services on credit, gain access to a wider variety of merchandise, and make purchases directly from the convenience of their home or business.

As a result, the situational characteristics and trade-offs present during a marketing exchange are likely to affect privacy concerns. Thus, a comprehensive approach to personal information issues requires (1) identifying and distinguishing the types and categories of personal information involved in the marketing process, (2) defining the privacy construct and its most relevant dimensions, and (3) identifying the marketing practices and factors that mediate privacy concerns.

Types of Personal Information

Most marketers have used consumer information to guide their marketing and promotion efforts for decades. However, the information and databases they have relied on typically have been market-level information or modeled data, not individual-specific data. Market-level or modeled data are consumer information that reflects the generalized characteristics of a consumer group, market segment, media audience, or geographic region. Market-level information, however, is not the primary source of concern in issues involving consumer privacy (Nowak and Phelps 1995).

The primary source of consumer concern revolves around personal, or individual-specific, data. Individual-specific information includes data such as names, addresses, demographic characteristics, lifestyle interests, shopping preferences, and purchase histories of identifiable individuals (Nowak and Phelps 1995). Direct marketers have long used such data, but today advances in computer technology, fragmented consumer markets, shrinking mass media audiences, and demands for greater economic efficiency have spurred much broader use of personal data (e.g., Henschen 1997; Klues and Spittler 1994). Growing numbers of marketers are assimilating information from (and about) individual consumers, renting or exchanging data files or lists that describe the habits and characteristics of individual consumers, segmenting consumers on the basis of their characteristics or behaviors, using highly targeted and "one-to-one" marketing strategies, and establishing loyalty programs based on individual customers' purchases (Hughes 1996; Jackson and Wang 1994; Peppers and Rodgers 1993).

The privacy literature, along with direct marketing and retailing practices, suggests that most of the individual-specific consumer information used for marketing purposes falls into the five broad categories of demographic characteristics, lifestyle characteristics (including media habits), shopping/purchasing habits, financial data, and personal identifiers (e.g., names, addresses, social security numbers) (Hughes 1994; Jackson and Wang 1994; Nash 1993). More important, the categories vary in the degree to which each evokes consumer privacy concerns (Milne 1997; Nowak and Phelps 1992).

Information Requests and Consumer Concern

Many studies have found that most consumers have refused to give a business some personal information at one time or another (e.g., Westin 1995). However, few studies have delved deeper into consumers' willingness to provide different types of personal data to marketers. Aside from assessing issues related to financial and credit data, most surveys have simply assessed consumers' overall willingness to provide personal information.

The few studies that have considered information categories suggest that consumers are protective of financial data, personal identifiers, and personal data that are perceived as likely to lead to more marketing offers (Nowak and Phelps 1992; Vidmar and Flaherty 1985; Wang and Petrisson 1993). These same regional studies find that consumers are much more willing to provide demographic and lifestyle-related information. The only evidence to contradict the notion that most consumers are reluctant to grant marketers access to personal identifiers is Milne's (1997) field experiment. He finds that more than 90% of the participants provide their telephone numbers to a clothing retailer—even when the response card indicates that the information might be made available to other marketers. However, Milne notes that the high compliance may have resulted from the use of a lottery as an inducement to complete the card.

Given the current evidence, we predict that

H₁: Consumers will be more willing to provide marketers with demographic and lifestyle information than with financial, purchase-related, and personal identifier information.

The Privacy Construct

Today, more than 100 years after Warren and Brandeis (1890) articulated the notion that privacy referred to "the right to be left alone," there is no agreed-on definition of privacy. Nor is the right to privacy explicitly granted in the U.S. Constitution. Rather, privacy is a legal privilege whose foundation lies in the First, Fourth, Ninth, and Fourteenth Amendments to the Constitution (i.e., freedom of speech, protection against unreasonable searches and seizures, the notion that the enumeration of specific rights in the Constitution does not preclude the existence of other rights, due process, and equal protection) (McWhirter and Bible 1992; Tuerkheimer 1993).

The uncertain constitutional standing, along with a century of court rulings, scholarly and legal discussions, and legislative actions, has codified the notion that privacy is not a unified or singular concept but instead is a term that encompasses at least four different dimensions or discrete legal torts: (1) intrusion (i.e., physically invading a person's

solitude or seclusion), (2) disclosure (i.e., publicly disclosing embarrassing private facts), (3) false light (i.e., false public portrayals), and (4) appropriation (i.e., use of a person's image or identity without permission) (Prosser 1960). This four-dimensional perspective, which has been embraced by most courts and has guided much federal and state legislation (McWhirter and Bible 1992), has at least two major implications for marketing. First, it severely limits, if not completely eliminates, the legal applicability of the privacy concept to information practices that use market-level, or non-individual-specific, data (Nowak and Phelps 1995). Second, the judicial evolution of this perspective suggests that most marketing uses of personal data do not constitute a tort of invasion of privacy. Legal interpretations, combined with the difficulty of showing actual harm, suggest that intrusion, public disclosure, and false light have little judicial relevance to direct or database marketing practices (Nowak and Phelps 1995).

Although the judicial support is good news for marketers, they must not ignore public sentiment and consumer desires, which are the major determinants of information practices and regulations. In this light, Prosser's (1960) framework retains much of its relevance. For example, both consumers and marketers frequently perceive privacy issues in terms of information control—namely, control over who has access to personal data (i.e., disclosure), how personal data are used (i.e., appropriation and false light), and what volume of advertising and marketing offers arises from the use of personal data (i.e., intrusion). A high degree of information control means that consumers can meaningfully influence how information about them is used. Little or no information control means that consumers have a negligible influence on decisions regarding how personal data will be used and who will have access to it. Not surprisingly, marketing practices that grant consumers little input or control, such as list rental or information sharing, often evoke the highest levels of privacy concerns (Larsen 1992; Nowak and Phelps 1992).

The apparent relationship between control and privacy concerns has prompted the DMA to recommend that marketers provide consumers the opportunity to restrict the exchange of their personal information (DMA 1994). It has also led many to define and operationalize privacy in terms of information control and data protection (i.e., access limitations). Turn (1985), for example, proposes that privacy refers to the rights of individuals with respect to the collection, storage, processing, dissemination, and use of personal information about them. More recent definitions have refined this approach by focusing on the two primary dimensions of control—information dissemination and use (Foxman and Kilcoyne 1993; Goodwin 1991). In this way, privacy, when considered in terms of the consumer marketplace, refers to the ability to affect the dissemination and use of personal information that is collected during, or as a result of, marketing transactions, as well as control over unwanted telephone, mail, or personal intrusions in the consumer's home.

Privacy as a Social Contract

Dunfee, Smith, and Ross (1999, p. 14) propose that social contract theory can provide a moral foundation for marketing because of "its clear correspondence to the exchange rela-

tionships central to marketing thought and practice." The belief that information control is a key mediator of consumer privacy concerns has led many to suggest that marketers should view consumers' exchange of personal information as an implied social contract (Culnan 1995; Milne 1997; Milne and Gordon 1993). Under this perspective, a social contract is held to occur any time a consumer provides a marketer with personal information. This contract is considered breached if consumers are unaware information is being collected, if the marketer rents the consumer's personal information to a third party without permission, or if consumers are not given an opportunity to remove their names from lists or otherwise restrict the dissemination of personal data about them (Culnan 1995). Consumer privacy exists when people can limit their accessibility and control the release of information about themselves, and invasions of privacy occur when control is lost or unwillingly reduced as a result of a marketing transaction (Culnan 1993; Milne and Gordon 1993; Simitis 1987). The two key underlying assumptions are that (1) most consumers would like to have more control and (2) giving consumers more control over how information about them is used will alleviate their privacy concerns.

The Harris-Equifax privacy studies (e.g., Westin 1995) find that 75% to 80% of consumers desire more control over the type of advertising offers they receive, and Goodwin's (1991) conceptual model proposes that most consumers desire two types of information control—dissemination control and environmental control. Dissemination control refers to the ability to influence how marketers use personal information. Environmental control involves influencing the types and volume of solicitations that result from marketers' use of personal data. Overall, this leads to the following:

- H₂: Most consumers are concerned about the ways companies use personal information about them.
- H₃: Most consumers want more control over (a) the way personal information about them is used by marketers (i.e., dissemination control), (b) the kinds of advertising mail and catalogs they receive (i.e., environmental control), and (c) the volume of advertising mail they receive (i.e., environmental control).

Information Control and Consumer Harm

One of the primary difficulties in applying the privacy construct to marketing practices is establishing and documenting the harm that results from invasions of consumer privacy. For example, successful false-light claims require plaintiffs to show actual harm (e.g., document how disclosure of false information hurt their reputation or damaged their ability to earn a living), whereas at a minimum, disclosure claims must demonstrate that the personal information that has been publicly released would be highly offensive and objectionable to a person of "ordinary sensibilities" (McCarthy 1990). Intrusion claims must establish that a marketing practice has intruded on a person's physical being, but consumers' ability to remedy the unwanted intrusion quickly (e.g., throw unwanted mail away or hang up the telephone) typically renders such claims moot.

However, the emphasis on information control provides a logical, and perhaps legal, basis for expanding Prosser's (1960) appropriation dimension to encompass marketers' uses of personal data, especially those that involve list rental or information sharing. Just as people have some control

over the reproduction of their physical likeness and the ways it can be used by others, they also should be able to exercise control over database representations (Nowak and Phelps 1995). Not only are these statistical representations frequently more informative than physical representations, but also their existence has caused some (e.g., Larsen 1992) to identify a potentially significant consumer harm—marketplace decisions that otherwise would not have been made. This harm results any time consumers do not respond to a marketing offer in order to avoid giving information that can be used to identify and classify them. It would also arise any time a consumer uses cash rather than some other preferred payment method (e.g., credit cards) to avoid providing personal information. Whether or not the legal approach suggested here is accepted, the idea that consumers are rejecting some marketing offers to avoid revealing personal information reiterates the importance of consumer desires as a determinant of information practices. Whether viewed from a legal or consumer-driven perspective, this suggests that

H₄: Consumers' purchase decisions will be affected by the amount of information control they are given (e.g., full control versus limited versus none) and the type of information requested (e.g., financial versus demographics). Specifically, (a) consumer purchase intentions will be greater in situations that give consumers more rather than less information control, and (b) consumer purchase intentions will be less when marketers request financial or personal identifier information than when they request demographic or lifestyle information.

Other Factors Related to Consumer Privacy Concerns

Privacy concerns also appear to be related to consumers' perceptions and shopping habits.

Direct Mail Beliefs and Perceptions

Consumers vary in their beliefs and perceptions regarding direct marketing, particularly catalog and advertising mail. These perceptions, in turn, can influence whether and how much consumers are concerned about privacy. Milne and Gordon (1993), for example, find that respondents possess favorable attitudes toward direct mail but many desire lower mail volume and improved targeting efficiency. Attitude toward direct mail reflects consumers' interest in receiving and reading catalogs and advertising mail (Milne and Gordon 1994). The more favorable consumers' attitude toward direct mail, the greater is their acceptance of direct mail advertising as a useful and helpful source of product and service information (Milne and Boza 1999; Schneider and Rodgers 1993). As a result, the following is offered:

H₅: Consumers who are relatively unconcerned about the ways companies use personal information should exhibit more positive attitudes toward direct mail than consumers who are very concerned about the ways companies use personal information about them.

Direct/At-Home Shopping Habits

Direct marketing users differ from nonusers in their personal information and privacy concerns. Westin's (1995)

analysis of the 1994 Harris-Equifax data, for example, indicates that people who made a direct mail purchase in the preceding year are slightly more concerned about threats to their privacy, more likely to have refused to provide a business with personal information, and more likely to have privacy concerns if a profile of their viewing and buying patterns is developed. Accordingly, we predict that

H₆: Consumers who use catalog and direct marketing shopping channels heavily will be more concerned about the ways companies use personal information than consumers who are light users or nonusers of catalog and direct marketing shopping channels.

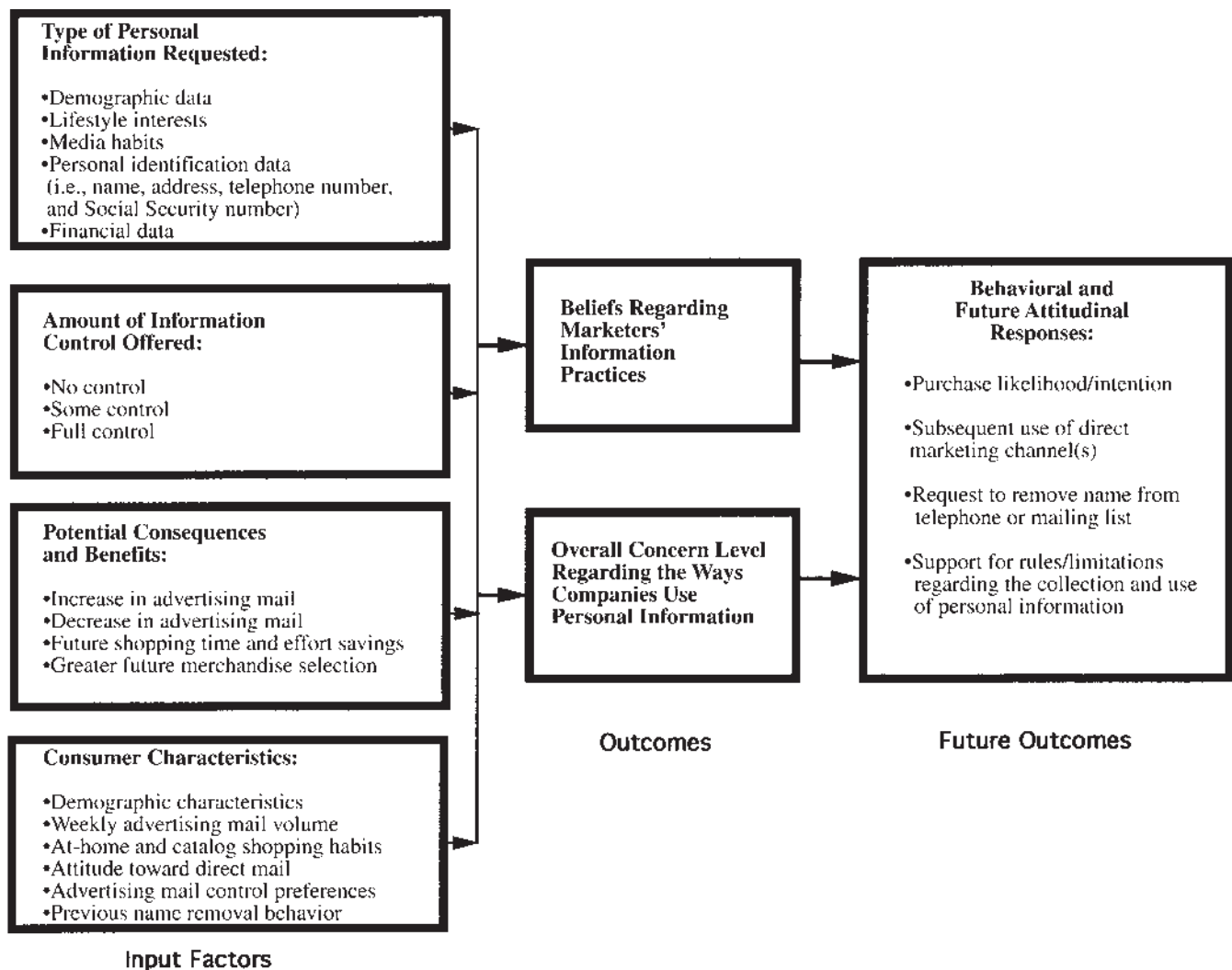
The in-home shopping literature suggests that direct marketing shopping habits are likely to be related to privacy concerns and that the benefits offered to consumers may play an important role in alleviating concern levels. These studies suggest that consumers' primary motivations for purchasing products from home are convenience and access to a greater variety of merchandise (Klassen, Glynn, and Porter 1994; McCorkle, Planchon, and James 1987). Consumers' willingness to provide personal data likely is affected by the benefits they obtain from purchasing the product directly. Because convenience (i.e., time and effort savings) and greater selection are among the primary reasons for buying direct, consumers should be more willing to provide personal data when those benefits are present. However, consumers already have access to a wide selection of most goods, and access has increased with the emergence of online shopping (which was not a factor when the benefit studies cited previously were conducted). Although access may have increased, consumers still have only a limited amount of time. Thus, we predict that

H₇: Consumer willingness to purchase merchandise from a marketer that requests personal information as part of the exchange will be greater when (a) consumers are promised future shopping time and effort savings than when promised future access to a greater selection of the items they like to purchase and (b) consumers are promised that they will receive less advertising mail rather than more.

An Organizing Conceptual Framework

The literature and hypotheses suggest that there are likely many interdependent and situation-specific relationships among the major variables. Although no published studies have examined the exact set of variables outlined here, it is possible to put forth a tentative organizing framework. Such an organizing framework is useful for summarizing and illustrating relationships hypothesized in the current study. More important, as Figure 1 illustrates, this framework goes beyond the individual hypotheses to propose a sequence of input and outcomes. Specifically, the conceptual framework suggests that consumers' overall concern about the ways companies use personal information is determined by four general factors: (1) the type of personal information requested, (2) the amount of information control offered, (3) the potential consequences and benefits offered in exchange, and (4) consumer characteristics. Determining which factors have the greatest impact would help public and self-regulatory policymakers more readily address the underlying reasons driving consumer concerns. We propose

Figure 1. Conceptual Model for Understanding Consumer Privacy Concern



that these factors not only influence the overall concern level but also affect consumer beliefs regarding marketers' information practices. In turn, the outcomes of overall concern and beliefs regarding marketers' information practices are proposed to influence consumers' future behavioral and attitudinal responses. For example, there should be a relationship between consumers' concern and their purchase behaviors: They will buy from marketers that pay attention to their concerns and avoid those that do not.

Research Method

A national mail survey was conducted to collect data for this study. The first survey mailing was sent out in June 1995, and a second mailing was sent in August.

Sampling Frames

Two sampling frames were used in the study. One represented known and recent catalog shoppers, whereas the other was a fairly extensive database containing more than 100 million

residential addresses. The catalog shopping frame and sample were provided by a national retail and catalog marketer, and the residential sample was rented from a national list broker. One thousand randomly selected names and addresses were obtained from each sampling frame. Surveys were then sent to a subsample of 500 randomly selected names from each sampling frame. The intent was to survey a total of 1000 households, of which half were known catalog shoppers and half were randomly selected residences. The additional names and addresses were needed to replace undeliverable surveys. Fifty-six surveys were undeliverable and were replaced with randomly selected addresses from the appropriate list.

Measurement

An 11-page, six-part survey booklet was developed and mailed. The survey began with a series of questions that assessed consumers' catalog purchasing habits. The second page assessed consumers' perceptions regarding catalog and advertising mail volume, including three items designed to

measure information control. Consumers were then asked how concerned they were about the ways companies use personal information about them. To avoid sensitizing participants to the research topic—and thereby inadvertently increasing actual privacy-related concerns—the word “privacy” was used only once in the entire questionnaire. The third survey section provided 16 specific examples corresponding to the five different categories of personal information. Consumers were asked to indicate how willing they were to provide the information item listed to stores and merchants when they made a purchase. The response categories were “always willing,” “somewhat willing,” “not very willing,” and “never willing.”

The fourth section of the survey assessed consumers’ attitudes toward catalogs and advertising mail and their beliefs regarding personal information use and information control. They also were asked if they believed there should be limits on how much information businesses should be allowed to collect about consumers. Items in this section were measured on five-point scales that ranged from “strongly disagree” to “strongly agree.”

The fifth part of the survey assessed how factors such as control over information use, type of personal information requested, and future mail volume and shopping benefits affected consumer purchase intentions. A series of full-profile conjoint scenarios in the context of shopping for clothing was used as a stimulus to collect the data needed for conjoint analysis. The scenarios asked respondents to assume that they were shopping for clothing and had to make a purchase decision based on the purchase conditions described. There were two reasons for using clothes shopping. First, to be meaningful, the scenarios had to involve a fairly significant yet universal purchase decisions. Second, consumers also had to be presented with a product category in which convenience and greater selection were appropriate and realistic benefits. To reduce the likelihood that shopping preference would influence the results, the scenarios did not specify a distribution channel. Rather, consumers simply were to assume they were shopping either at a local store or from a catalog. For each profile, respondents were asked to indicate how likely they would be to purchase clothing from

a company, using a four-point likelihood scale anchored by “definitely would not” and “definitely would.” A fifth column provided “unsure” as an option. In Table 1 we show the factors and levels and provide a description of each level.

The final section of the survey involved demographic items. Along with having respondents indicate their age, sex, marital status, educational attainment, employment status, and annual household income, this section asked about other at-home and from-home shopping purchases (e.g., television home shopping and 800-number purchases) and about personal computer ownership and subscription to online computer services. In addition, this section asked respondents if they had ever asked a company or organization to remove their name or other information from a mail or telephone calling list.

Data Collection

Several steps were taken to facilitate a high response rate. These included using large type and liberal spacing to ensure readability, formatting the questionnaire as a self-mailing booklet, using graphics, and including a cover letter that assured respondents of complete confidentiality. The initial mailing included \$2 with each questionnaire. A postscript at the bottom of the page pointed out that the \$2 payment was a “thank you” for completing and returning the survey. Finally, to make returning the survey as easy as possible, all respondents had to do was tape the booklet and drop it in the mail.

Response Rate and Respondent Profile

A total of 556 completed and usable surveys were received, which resulted in an overall response rate of 55.6%. The first mailing pulled 470 completed surveys. A second mailing, which went only to those who had not responded, produced another 86 completed surveys. A comparison of the first and second wave failed to detect any statistically significant differences between the two waves of respondents. The known and recent catalog shoppers list had a response rate of 61% (305 returned surveys), whereas the response rate was 50% for the listed household sample (251 returned surveys). The demographic profile of respondents is listed in Table 2.

Table 1. Conjoint Factors and Levels

Factors	Levels
Type of personal information	Demographic: age, marital status, and occupation. Lifestyle: three favorite ways to spend leisure time. Media habits: names of three magazines or newspapers you read most often. Financial: annual household income.
Future mail volume	Receive more advertising mail and catalogs in the future. Receive less advertising mail and catalogs in the future.
Control over information use	No control over subsequent use of information. Full control over subsequent use/dissemination of information. Partial control over subsequent use/dissemination, as information will only be provided to selected companies (i.e., other clothing companies).
Resulting shopping benefits	Greater future merchandise selection. Time and effort savings when shopping in the future.

Table 2. Respondent Profile

Demographics:			
Age	%	Employment Status	%
18–24	4.3	Full-time	50
25–34	15	Part-time	6
35–44	24	Self-employed	7
45–54	24	Retired	23
55–64	16	Homemakers	6
65 and older	18	Full-time students	1.5
		Unemployed	1.7
Sex		Income*	
Female	60	\$15,000 or less	9
Male	40	\$15,001–\$24,999	16
		\$25,000–\$50,000	41
		More than \$50,000	34
Marital Status			
Married	75		
Single	9		
Divorced/separated	9		
Widowed	7		
Education			
High school graduate	26		
Vocational school	8.6		
Some college	27		
College graduate	22		
Graduate school	11.5		

*Twenty percent of the respondents would not answer the income questions. The percentages given are based on those who responded to the question.

Notes: A comparison of the two subsamples revealed the following differences: Respondents from the known shoppers list were more likely than those from the listed households subsample to be female (73% versus 45%), between the ages of 25 and 44 (46% versus 30%), and employed full time (56% versus 43%) and to have indicated high school as their last formal education experience (31% versus 21%).

Results

Consumer Willingness to Provide Specific Types of Personal Information

To test H_1 , we analyzed respondents' answers to the series of specific information items. As Table 3 shows, consumers are most willing to provide marketers with demographic and lifestyle information and least willing to provide financial information and personal identifiers. For individual items, the vast majority of respondents indicated that they were never or not very willing to provide marketers with their annual household income, the kinds of credit cards they possessed, their social security numbers, or their two most recent credit card purchases. Conversely, the vast majority of respondents were always or somewhat willing to share their two favorite hobbies, age, marital status, occupation or type of job, and education. There were no statistically significant differences between the two sample frames with respect to willingness to provide different types of information.

H_1 also was assessed by grouping the individual information items into the appropriate general category. With the exception of financial information (represented by the response to a single item: "How willing are you to provide a company with your annual income?"), each category con-

sisted of two or more types of information. See Table 3 for item and category means. Respondents were most willing to provide demographic and lifestyle information. They were less willing to provide purchase-related information and least willing to provide financial and personal identifier information. Paired t-tests were conducted contrasting the means for the demographic and lifestyle categories with the items in each of the other categories. Although one purchase-related item (i.e., two department stores shopped most often) was not significantly different from the demographic and lifestyle category means, each of the remaining six t-tests was statistically significant ($p \leq .05$), which provides support for H_1 .

Overall Level of Consumer Concern

H_2 asserts that most consumers are concerned about the ways companies use personal information, and the results support this hypothesis. Forty-five percent of the respondents indicated that they were very concerned about the ways companies use personal information about them. Forty-two percent indicated that they were somewhat concerned, and 8% were not very concerned. Four percent said they were neither concerned nor unconcerned. Concern about the ways companies use personal information also manifested itself in respondents' answers to four agree/disagree statements shown in Table 4. First, most respondents did not believe that most catalog firms and other companies that sell products or services through the mail are concerned about consumer privacy. Second, the majority of respondents strongly or somewhat agreed that most catalog firms and other companies that sell products or services through the mail knew too much about consumers. Relatedly, most respondents strongly or somewhat disagreed that it was okay for a company to provide a mailing list of its customers to other companies. Finally, two-thirds of the respondents strongly agreed that there should be limits on how much information businesses can collect about consumers.

More important, the analysis also revealed a strong relationship between concern level and information-related beliefs and behavior. The very concerned respondents were significantly ($p < .001$) more likely to disagree strongly that it was okay for companies to provide a mailing list of their customers to other companies or organizations than were the somewhat or not very concerned respondents. They were also much more likely to agree strongly that there should be limits on how much information businesses can collect about consumers than the somewhat or not very concerned respondents. In terms of behavior, far more very concerned respondents had ever asked a company or organization to remove their name or other information from a mailing or telephone calling list than less concerned respondents ($p < .001$).

Desire for Information Control

H_3 proposes that most consumers desire more control over information collection and use. The results support that hypothesis. The vast majority of respondents desire more control over what companies do with their information as well as more control over the number and types of catalogs and advertising mail they receive.

Two other results also provide evidence of consumer desire for greater information control. First, half the respon-

Table 3. Willingness to Provide Different Types of Personal Information

	% Always Willing (1)	% Somewhat Willing (2)	% Not Very Willing (3)	% Never Willing (4)	Item Mean	Category Mean
Demographic						1.97
Marital status	49.1	24.9	12.3	13.7	1.91	
Last grade of school completed	44.4	25.0	13.9	16.7	2.03	
Occupation	42.1	27.5	15.4	15.0	2.03	
Age	42.0	32.7	14.6	10.8	1.94	
Lifestyle						2.07
Two favorite hobbies	40.5	35.0	13.6	11.0	1.95	
Two favorite magazines	39.1	32.8	14.2	13.8	2.03	
Two favorite television programs	38.2	30.6	16.5	14.7	2.08	
Two favorite charities	31.7	23.2	20.6	24.5	2.38	
Two favorite leisure activities	30.0	32.4	20.8	16.8	2.24	
Purchase-Related						2.74
Two department stores shopped most often	28.2	35.2	21.8	14.8	2.23	
What you buy from other catalogs	15.3	29.2	28.9	26.7	2.67*	
Two most recent credit card purchases	10.3	13.1	26.1	50.6	3.17*	
Personal Identifiers						3.01
Telephone number	15.8	19.5	37.7	27.0	2.76*	
Social security number	5.9	12.6	29.5	52.0	3.28*	
Kinds of credit cards owned	4.9	11.9	33.7	49.5	3.28*	
Financial						3.35
Annual income	2.9	11.2	33.7	52.2	3.35*	

* $p < .05$

dents said they would like more information about how companies use personal information. Second, responses to two information control-related agree/disagree statements provided an indication of why consumers desire greater information control. Most respondents strongly or somewhat agreed that they wished they had more information about how to remove their names from mailing lists (see Table 4). In line with other findings in this study, those respondents who were very concerned about how companies use personal information were much more likely to agree strongly. Relatedly, over half of all respondents strongly agreed that if they had more control over how companies used information about them, they would receive fewer unwanted mail and telephone offers, whereas only 6% disagreed (see Table 4). Again, those who were very concerned about companies' use of personal information had the strongest agreement.

Information Control and Purchase Intentions

Conjoint analysis was used to assess H_{4a} and H_{4b} . The conjoint factors and scenarios were pretested in a pilot study involving 25 undergraduate college students. On the basis of the pretest results, we decided to limit the type of personal information factor to four levels, the control over information factor to three levels, and the factors' future mail volume and shopping benefits to two levels each (see Table 1). This implies a $4 \times 3 \times 2 \times 2$ factorial design, or 48 full-profile scenarios, which we then reduced to 22 full-profile scenarios by using an orthogonal fractional factorial design, allowing conjoint analysis to be performed at the individual level. Given the conjoint design, it was possible to compute

partworths for each level for each respondent using multiple regression, in which purchase intentions were the criterion/dependent variable and control over information, type of personal information, future mail volume, and shopping benefits were the predictor/independent variables. Each respondent thus gave 22 observations on the purchase intentions scale for various combinations of the predictor variables. The adjusted R-squared can then serve as a measure of reliability. Seven regression parameters must be estimated, so the ratio of parameters to observations is 1:3, which allows us to perform meaningful tests of reliability. The distribution of adjusted R-squared is given in Table 5. For more than 75% of the sample, the adjusted R-squared is significant at the .01 level.

H_{4a} addresses the impact of information control on purchase intentions. As illustrated in Table 6, the partworth for full control is greater than the partworth for partial control, which is, in turn, greater than the partworth for no control. The differences between each of these partworths are significant at $p = .01$. Furthermore, because the higher the partworth the greater is the likelihood of purchase, we can conclude that H_{4a} is supported. Note that each respondent's partworths have been averaged and shown for each level of each factor in Table 6. H_{4b} addresses the impact of the type of personal information on purchase intentions. Table 6 shows that the partworth for personal finances is much less than the partworths for demographics and lifestyle information. The differences between the partworth for personal finance and those for demographics and lifestyle are significant at $p = .01$, and we conclude that H_{4b} is supported.

Table 4. Beliefs Regarding Direct Mail, Information Practices, and Information Control

	Agree ^a %	Disagree ^b %	Neither Agree nor Disagree %
Attitude Toward Catalogs and Advertising Mail			
Most of the catalogs and mail advertising I receive is helpful and informative.	39.9	37.4	22.8
I enjoy reading or looking at most of the catalogs and advertising mail I receive.	57.2	30.7	12.0
Advertising Mail Volume Preferences			
I'd like to get more advertising mail and catalogs about products and services I use or am interested in.	40.7	42.7	16.5
I'd like to get less advertising mail and catalogs about products and services I don't use or am not interested in.	86.7*	7.5	5.8
Beliefs Regarding Marketers' Information Practices			
Most catalog firms and other companies that sell products through the mail are concerned about consumers' privacy.	10.8	73.6	15.7
Most catalog firms and other companies that sell products through the mail know too much about consumers.	62.4	11.5	26.1
In general, the more a company knows about you as a consumer, the more useful their catalogs and advertising mail becomes.	47.2	29.4	23.5
It is okay for a company to provide a mailing list of its customers to other companies or organizations.	12.9	79.6**	7.5
There should be limits on how much information businesses can collect about customers.	85.6*	9.6	4.7
Beliefs Regarding Information Control			
I often wish I had more information about how to remove my name from mailing lists.	73.3	9.5	17.2
If I had more control over how companies use information about me, I would receive fewer unwanted mail and telephone offers.	84.0*	6.0	10.0

^aCombined "strongly agree" and "agree" responses.

^bCombined "strongly disagree" and "disagree" responses.

*More than half the respondents strongly agreed.

**More than half the respondents strongly disagreed.

Privacy Concern and Attitude Toward Direct Mail

According to H₅, consumers who are relatively unconcerned with the ways companies use personal information should exhibit a more positive attitude toward direct mail than the very concerned consumers. As Table 4 illustrates, the summated responses from two agree/disagree statements served as the dependent attitude measure. The measure incorporated respondents' beliefs regarding the overall utility of direct mail as well as enjoyment from reading or looking at direct mail. A factor analysis on the ten belief statements confirmed the two items grouped together.

Analysis of variance was used to determine whether those respondents most concerned about the ways companies use personal information were also those most likely to hold negative attitudes toward direct mail. The results support H₅. The mean attitude toward direct mail for respondents who were very concerned about information use practices was 2.9, versus 3.3 for those who were somewhat or not very concerned ($F = 20.44, p < .0001$). The data analyses also revealed several relationships between advertising mail volume and direct mail beliefs. For example, as weekly mail volume increased, so did respondents' sentiment that they received more catalogs and advertising mail than they preferred. More important, perceptions regarding the utility of catalogs and direct mail decreased as respondents' weekly advertising mail volume increased. Respondents who averaged six or more pieces per week were more likely to dis-

Table 5. Distribution of Adjusted R-Squared

Range of Adjusted R-Squared	Percentage of Respondents	Probability Value
Less than 30%	24	>.1000
Between 30 and 50%	15	.1000-.0100
Between 50 and 75%	35	.0100-.0001
Greater than 75%	26	< .0001

agree with the statement, "Most of the catalogs and advertising mail I receive is helpful and informative." They also were less likely to agree that they enjoyed reading or looking at most of the catalogs and advertising mail they received.

Direct/At-Home Shopping Habits, Shopping Benefits, and Privacy Concern

According to H₆, consumers who use catalog and direct marketing shopping channels heavily will be most concerned about the ways companies use personal information. A series of chi-square analyses found only one statistically significant relationship between direct or catalog shopping habits and consumer privacy concern. The analysis involving recency of catalog purchases showed that consumers who had made a catalog purchase within the past six months were less likely to be concerned about the ways companies use information about them than respondents whose last catalog purchase was more than seven months ago ($p = .04$).

Table 6. Factors (Average Partworths) Affecting Likelihood of Purchase (n = 555)

Factors	Levels	Mean	Standard Deviation
Control over information use	Full control	2.90	1.12
	Some control	2.57	1.11
	No control	2.03	1.00
Type of personal information	Personal finances	1.88	1.07
	Media habits	2.78	1.15
	Lifestyle	2.76	1.12
	Demographics	2.57	1.10
Future mail volume	Less mail	2.63	1.04
	More mail	2.37	1.03
Shopping benefits	Time saving	2.54	.98
	Greater selection	2.45	1.05

Notes: All pairs of partworths are significantly different from each other at the 1% level, except for media habits and lifestyle, which are not significantly different from each other.

This finding is the opposite of what was hypothesized. One explanation for this finding is that catalog purchasers who have more recently responded to a personally relevant offer are more likely to perceive the catalogs they receive to be helpful and informative. This may create, at least temporarily, a higher comfort level with catalog shopping and a more favorable attitude toward direct mail, both of which should reduce concerns over the use of information. No significant relationships existed between frequency of catalog purchases, catalog spending, use of television home shopping, or mail/telephone buying and respondents' concern about the ways companies use personal information.

H₇ suggests that when consumers desire merchandise from marketers that request personal information, purchase intentions will be greater if shopping benefits are offered in exchange for the information. Specifically, H_{7a} states that purchase intentions will be greater when time savings rather than a wider selection are offered. Table 6 shows that the partworth for time savings is significantly greater than the partworth for greater selection ($p = .01$). H_{7b} states that purchase intentions will be greater when consumers are promised that in the future they will receive less rather than more advertising mail. Table 6 shows that the partworth for less mail is significantly greater than the partworth for more mail ($p = .01$). Thus, both H_{7a} and H_{7b} are supported.

Demographic Characteristics and Privacy

Although not listed here as a formal hypothesis, a series of chi-square analyses involving sex, marital status, age, education, employment status, and income detected only one statistically significant relationship between demographic characteristics and privacy concern. The relationship involved education. The highest levels of privacy concern existed among respondents who had attended a vocational school or had some college education. Approximately 51% of these respondents were very concerned about how companies use personal information, compared with 34% of respondents who were college graduates and 46% of respondents who were high school graduates ($p = .018$).

Multivariate Analysis

Moving beyond tests of specific hypotheses, we used multiple regression analysis to identify the primary correlates of privacy

concern and to examine the interactions among the potential predictor variables. Consumer concern about the ways companies use personal information about them was dummy coded so that 1 represented "very concerned" and 0 represented "somewhat concerned" or "not very concerned." Using the bivariate results as a guide, we created six blocks of potential predictor variables and assessed them through stepwise multiple regression. The six sets of potential predictors were respondents' (1) information control preference level, a scale comprising three information control items (e.g., desire for control over the amount and type of advertising mail received); (2) desire for additional information, a scale comprising two items that assessed respondents' interest in learning more about the ways companies use personal information; (3) advertising mail volume preference, a scale comprising three survey items that measured respondents' preferences for amount and type of advertising mail received; (4) attitudes and beliefs toward direct marketing and mail; (5) previous removal of name from a mailing list; and (6) education, age, and sex. Two sets of measures were used to capture respondents' attitudes and beliefs toward direct marketing and mail: the two-item attitude toward direct marketing and mail measure and four agree/disagree items that assessed beliefs regarding information use practices and outcomes (e.g., whether respondents believed that companies were concerned about consumer privacy).

As Table 7 illustrates, respondents' attitudes toward direct mail advertising, their beliefs regarding direct marketing, and previous name removal behavior had the strongest correlation to privacy concern level. In general, respondents who were very concerned about the ways companies gather and use personal information had previously requested removal of their names from a mail or telephone calling list, received more catalogs and advertising mail than they preferred, believed companies knew too much about their interests, and did not perceive most of the catalogs and advertising mail they received as helpful or enjoyable to look at. Not surprisingly, these respondents desired more information about the ways companies used information and more control over information dissemination. At first glance, it may be surprising that they also indicated the highest level of interest in receiving more advertising mail and catalogs about products and services they use or are interested in. Upon reflection, however, this desire makes perfect sense. They

Table 7. Multivariate Regression Results: Predicting Consumer Concern Level

Model Summary				
Model	r	R-Squared	Adjusted R-Squared	Standard Error of Estimate
1	.132 ^a	.017	.013	.4919
2	.247 ^b	.061	.050	.4826
3	.285 ^c	.081	.068	.4779
4	.360 ^d	.129	.110	.4670
5	.376 ^e	.141	.113	.4661
6	.416 ^f	.173	.144	.4579

^aPredictors: (constant), marketers' knowledge about consumers, advertising mail volume preference.

^bPredictors: (constant), marketers' knowledge about consumers, advertising mail volume preference, desired control over dissemination, desired control over type of advertising mail, desired control over advertising mail volume.

^cPredictors: (constant), marketers' knowledge about consumers, advertising mail volume preference, desired control over dissemination, desired control over type of advertising mail, desired control over advertising mail volume, attitude toward direct mail, desire information on name removal, desire for less non-relevant advertising mail, desire for more advertising mail of interest.

^dPredictors: (constant), marketers' knowledge about consumers, advertising mail volume preference, desired control over dissemination, desired control over type of advertising mail, desired control over advertising mail volume, attitude toward direct mail, desire information on name removal, desire for less non-relevant advertising mail, desire for more advertising mail of interest, education, sex, age.

^ePredictors: (constant), marketers' knowledge about consumers, advertising mail volume preference, desired control over dissemination, desired control over type of advertising mail, desired control over advertising mail volume, attitude toward direct mail, desire information on name removal, desire for less non-relevant advertising mail, desire for more advertising mail of interest, education, sex, age, name removal.

^fPredictors shown below in Model 6.

Model 6			
Predictors	Standardized Coefficients (Beta)	t	Significance
Constant		5.570	.000
Advertising mail volume preference	.124	2.166	.031
Marketers' knowledge about consumers	-.144	-3.009	.003
Desired control over advertising mail volume	-.053	-.719	.473
Desired control over type of advertising mail	.045	.653	.514
Desired control over dissemination	.152	2.844	.005
Attitude toward direct mail	-.256	-3.151	.002
Desire information on name removal	-.195	-3.762	.000
Desire for more advertising mail of interest	.180	2.511	.012
Desire for less nonrelevant advertisement mail	.064	1.078	.282
Sex	-.074	-1.475	.141
Age	.047	.909	.364
Education	-.068	-1.396	.163
Previous name removal	-.190	-3.956	.000

want to receive more advertising mail that relates to their interests and eliminate the junk mail that is not personally relevant. They invite relevant mail into their homes, but non-relevant mail is an unwelcome intrusion. Overall, the final regression model was able to account for approximately 14% of the variance in consumers' concern level.

Conclusions and Implications for Public Policymakers and Marketers

In seeking to guide the formulation of effective self-regulatory or legislative solutions to consumer privacy concerns, this study was based on two recent research streams. First, it extends previous efforts to identify the types of personal information that generate consumer concerns (e.g., Culnan 1993; Equifax-Harris 1996; Nowak and Phelps 1992). Second, it continues the recent efforts to identify the specific situations and factors that give rise to consumer privacy concerns (e.g., Culnan 1995; Milne and Boza 1999; Milne

and Gordon 1993; Nowak and Phelps 1995; Wang and Petrison 1993). Furthermore, this study offers an assessment of the trade-offs consumers are willing to make when they exchange personal information for shopping benefits.

The findings consistently reveal a strong relationship between respondents' level of concern over the ways companies use personal information and respondents' information-related beliefs and behaviors. Respondents who were very concerned were significantly more likely than other respondents to (1) believe there should be limits on how much information companies can collect from consumers, (2) believe it is wrong for companies to provide customer mailing lists to other companies or organizations, and (3) have requested that a company or organization remove their name from a mailing or telephone calling list. More important, this study also found that many of the most concerned respondents were frequent catalog and direct marketing purchasers. This finding further highlights marketers' need to respond effectively to consumer privacy concerns.

Despite this need and the continued prominence of privacy issues, few studies have attempted to identify the potential correlates of privacy concerns or document specific information practices that foster consumer concerns. As suggested in our general conceptual model, the analyses consistently found six factors to be important correlates of privacy concern: (1) the type of personal information requested, (2) consumers' ability and desire to control subsequent dissemination of personal information, (3) consumers' perceptions regarding marketers' knowledge about them and their interests, (4) consumers' attitude toward direct mail, (5) consumers' preferences with respect to catalog and advertising mail volume, and (6) previous name removal request behavior.

Although understanding the role of each factor is helpful for developing policy that effectively responds to consumer concerns, the most important factors from a public policy perspective are the type of information collected and the amount of control consumers have over subsequent dissemination. Not only are these two factors primary drivers of consumer concern (Nowak and Phelps 1995), but they also represent areas that fall under the domain of public policymakers. This is an important point because though the overall pattern of results suggests at least five areas that must be addressed to alleviate consumer privacy concerns successfully, only the first two steps offered subsequently can be directly addressed by public policymakers. The final three suggestions can be implemented only by marketers. For First Amendment and other reasons, public policymakers must remain on the sidelines as individual companies decide on the proper amount of communication (advertising volume) and on how best to communicate information of interest to specific consumers (relevance). Finally, the implementation (though often driven by the fear of government regulation) and promotion of self-regulatory policies must be accomplished by the marketers themselves.

Implications for Public Policymakers and Marketers

Take into Account the Nature of the Information Requested

Consumers are least willing to provide financial and personal identifier information, and requests for (and use of) these types of information generate the greatest concern. Public policy should be more proactive with regard to these information categories. In this case, forming effective policy will require the delineation of circumstances under which the collection of specific types of information is an appropriate and necessary function of the transaction. Although the scope of such a task is daunting, the outcome would allow for policy that balances consumer concerns with legitimate business needs for information.

Because consumers do not object to providing demographic or lifestyle-related information, stringent policy with regard to these information types would do little to reduce privacy concerns. Indeed, such a restrictive approach could increase the amount of mistargeted advertising mail by reducing marketers' ability to select those consumers most likely to be interested in the product or service, which would thereby increase intrusion-related privacy concerns. Some marketers may argue that such intrusion causes little harm, because the consumer can always hang up the tele-

phone or recycle misdirected advertising mail. However, the cumulative effort to deal with all the mail and telephone calls is not trivial.

For marketers, it is important to note that consumers readily understand the need for financial information when purchasing on credit. However, as the conjoint analysis powerfully illustrates, a request for income information, particularly from a nonfinancial or noninsurance service marketer, has a profound negative effect on purchase intentions. Marketers need to resist asking for such information in situations in which the relevance is not readily apparent. Conversely, the finding that most respondents were willing to provide demographic, media, and lifestyle information is good news for marketers, because such information has a more direct relationship to message and media strategy. Furthermore, marketers can use the information consumers are willing to provide to estimate average income and thereby reduce the need to ask for this sensitive information.

Provide Consumers with at Least Some Control or Input into the Subsequent Dissemination of Personal Information

The results indicate that almost all consumers, even those who are relatively unconcerned about the ways marketers gather and use personal information, desire more information control. This finding is not surprising and is consistent with the findings of recent qualitative and experimental studies (e.g., Milne 1997). What is surprising is the paucity of policy, both governmental and self-regulatory, that effectively provides consumers more control.

For example, the Fair Credit Reporting Act (FCRA; 15 U.S.C. §168) requires banks to tell customers that they might disclose information to others and to give customers a chance to take their names off telemarketing lists. However, there is no effective way of enforcing the FCRA (Quinn 1999). Still, some progress is taking place. The Gramm-Leach-Bliley Act of 1999 (Public Law No. 106-102) requires banks, securities firms, and insurance companies to disclose their privacy policies and provide consumers a chance to opt out of having their information shared by third parties (Hamstra 1999). However, this new law allows the sharing of information among financial institutions under the same corporate umbrella. Given that mergers have created financial entities with many affiliates, extending the notice and opt-out provisions to cover affiliated companies would have provided more control for consumers.

Some marketers already give their customers the opportunity to opt out of the information they share with other companies. However, these company initiatives remain the exception rather than the rule. A study of marketers' privacy practices by Milne and Boza (1998) finds that only 33% of the companies inform consumers of the uses of the information collected. Indicating the uses of information is an essential first step in allowing consumers to opt out of specific uses. Therefore, it can be assumed that the number of companies providing consumers with the option to control the dissemination of their information can be no greater than what was reported by Milne and Boza and is most likely a much smaller number. Although only a small fraction of consumers decide to opt out when given the opportunity, it is important that the opportunity exists.

For marketers that view sharing information control as a cost issue, our conjoint analysis illustrates that offering more control has a relatively dramatic impact on consumers' purchase intentions. If these intentions translate into purchases, marketers that institute steps to provide consumers more control may be able not only to cover the costs incurred in developing and maintaining such programs but also to increase profits. Milne and Boza (1999) provide additional evidence, reporting that perceived control is negatively related to concern and positively related to direct mail usage. Another benefit of offering control is that respondents were more accepting of—and interested in—advertising offers that they had a voice in initiating.

Implications for Marketers

Institute Steps to Reduce Catalog and Advertising Mail Volume

The development of effective information policies requires an understanding of why consumers want more control. As the results of this study demonstrate, most consumers link the dissemination of personal information with increased advertising mail volume. First, slightly more than two-thirds of all respondents indicated that they received more catalogs and advertising mail than they would prefer. Similar percentages also indicated that they desired more control over both the number and type of advertising mail and catalogs their households received. Second, a negative relationship existed between advertising mail volume and attitude toward direct mail. Respondents who reported receiving the most advertising mail were the most likely to say they did not find most of the catalogs and advertising mail helpful and informative. They also were most likely to indicate that they wanted less advertising mail about products and services they did not currently use. Finally, those consumers who were most concerned about the ways companies use personal information were the most likely to desire a reduction in advertising mail volume. More than 90% of this group also believed that if they had more control over how companies used information about them, they would receive fewer unwanted mail and telephone solicitations.

This seemingly simple approach to reducing privacy concerns (mainly those related to the dimension of intrusion) has obvious shortcomings that must be overcome. First, a company may not want to reduce advertising volume if it fears its message may be lost in the clutter of competitive promotions. Second, many marketers have developed models to determine the number of times they need to contact consumers to maximize profit. Variations from this model may not be in the best interest of the company. Although it is not yet clear how best to reduce the volume of marketing offers, if the current trend continues and consumers (especially those most attractive to marketers) are overwhelmed with advertising mail and catalogs, all marketers using these channels will suffer.

Increase the Relevance of Catalogs and Advertising Mail

In conjunction with efforts to reduce volume, direct marketers need to increase the relevance of catalogs and advertising mail. In this case, relevance means that the consumer has an interest in or a need for the advertised goods or ser-

vices. As this and many previous studies illustrate (e.g., Wang and Petrisson 1993), junk mail and junk telephone calls are major contributors to consumer privacy concerns.

At least three findings suggest that increasing the relevance of advertising mail can help alleviate consumer privacy concerns. First, attitude toward direct mail was positively correlated with privacy concern. Consumers who had the least favorable attitudes toward direct mail were the most likely to be very concerned about the ways companies use personal information. The vast majority of the respondents with positive attitudes toward direct mail indicated that most of the catalogs and advertising mail they received were helpful and informative. Second, the conjoint scenarios indicated that many consumers were willing to let a marketer share data with related companies. Because respondents presumably were aware that any information sharing would lead to more mail, the increased willingness to provide personal data likely emanated from a belief that the additional mail would be of personal relevance and interest. Third, there was a positive correlation between respondents' assessment of how much direct marketers knew about them and privacy concern. Ironically, if direct marketers hope to make significant reductions in intrusion-related privacy concerns, they will need to use personal information and database technology to sharpen their messages and improve message delivery efficiency.

Use and Promote Self-Regulatory Policies and Practices

The results indicate that offering and publicizing data management practices that provide consumers with control over information dissemination are effective tools for addressing consumer privacy concern. First, nearly three-fourths of very concerned respondents indicated that they would like to receive more information about how companies use personal information. Second, consumers who believe that marketers' personal information collection and use practices result in more relevant advertising mail and catalogs tend to be less concerned about privacy. Finally, very few respondents believed that most catalog companies and other direct marketers were concerned about consumers' privacy. Given that many direct marketers are concerned about privacy issues, promotional and educational materials that illustrate concern and the steps being taken to alleviate the misuse of personal information appear to have much potential. Instead of simply calling attention to opt-out provisions, the results obtained here suggest that such efforts should offer—and demonstrate—information control features that provide consumers with tangible value and utility, such as reductions in unwanted advertising mail. Milne and Boza (1999) find that consumer trust is enhanced (and concern reduced) when companies communicate up front information policies stressing relational benefits and keep the consumer informed of the organizational activities designed to serve them better.

Limitations and Suggestions for Further Research

As with all cross-sectional surveys, this study provides only a snapshot of consumer beliefs, behaviors, and preferences. The ever-changing nature of the marketing environment, however, means that there is a constant need for updating

those snapshots. In the case of information privacy, the growth of electronic information collection systems, continued debate on information collection and use issues, and continued regulatory and industry-wide efforts to address consumer privacy concerns all make it necessary to examine consumer preferences and beliefs regularly.

It is also important to recognize the correlational nature of this research. Although this study found several highly suggestive relationships among consumer preferences, attitudes, beliefs, and behaviors, the nature of the research precluded establishing the exact direction and nature of these relationships. The conceptual model, for example, posits that attitude toward direct mail is a precursor to both beliefs regarding marketers' information practices and overall concern regarding the ways companies use personal information. However, it is also possible that attitudes toward direct mail are influenced, if not caused, by beliefs or concerns.

A single-item measure—"In general, how concerned are you about the ways that companies use personal information about you?"—was used to assess overall concern. Responses were limited to "not very concerned," "somewhat concerned," "very concerned," and "neither concerned nor unconcerned." Although single-item scales are less reliable, Milne and Boza (1999) suggest that the concept of concern is concrete, which offers at least some comfort when such a scale is used. Still, multiple items might have produced a better measure of the concept.

Although the results show the impact of the type of information requested on consumers' purchase likelihood and privacy concerns, caution must be exercised in generalizing these results. This study focused on general retail situations and the purchase of clothing (i.e., routine, relatively inexpensive purchases). Under these conditions, consumers expressed great reluctance to provide financial information. This is different from applying for a credit card or purchasing an expensive product on a payment plan, transactions for which consumers willingly provide financial information as part of the exchange process. Thus, although the results of this study provide insight into the general willingness of consumers to provide different types of personal information, such willingness will vary as a function of product and situational characteristics.

Despite these limitations, the findings illustrate the value of a comprehensive approach to examining privacy concerns. Unlike surveys that rely on a single question to document an overall level of consumer privacy concern, comprehensive approaches enable researchers to deal with the depth and complexity that surround information privacy issues. It is thus important that future research endeavors employ research designs and methods that identify and encompass the important situational and consumer characteristics that alleviate, facilitate, and/or mediate privacy concerns. This study, along with those undertaken by Milne and associates (e.g., Milne and Gordon 1993, 1994), suggests that trade-off and conjoint analyses are productive approaches for examining consumer privacy issues.

The rapid growth of the Internet and e-commerce also suggests that much further research should focus on the electronic, computer-based marketing environment. As a

marketing environment, the Internet and the World Wide Web bring with them new, and often invisible, methods for collecting and using personal information, along with several issues involving transactional security. Because the economic viability of many Internet-based marketers directly depends on their ability to attract consumers and convert them into loyal customers, personal information is a valuable commodity. Research involving privacy and information issues related to e-commerce, however, remains primarily in a nascent stage. Similar to initial studies involving privacy in direct marketing contexts, much of the early research has focused on documenting the general levels of consumer privacy concern and gauging public opinion on information privacy-related issues. These studies are useful for illustrating the existence of consumer privacy concerns, but true understanding of both the issues and consumer beliefs will only come about through more comprehensive studies. Thus, experiments, theory-based studies, and additional qualitative research must be undertaken to identify the similarities, differences, and concerns between traditional direct marketing and the world of e-commerce regarding information privacy.

In both the electronic and traditional direct marketing worlds, major questions need to be addressed: (1) What are consumers' knowledge and beliefs regarding new information gathering, processing, and use technologies? Which ones are they aware of? Which ones are of most concern—and why? Which dimensions of the privacy construct are most germane to new information technologies? (2) What steps, if any, do consumers take to protect their privacy? Do consumers attend to and use individual marketers' privacy policies in their purchase decisions? How pervasive are those consumer practices? Do consumers only take such actions in electronic marketing contexts? (3) What trade-offs are consumers willing to make in the electronic marketing world when they make marketing transactions? Are the trade-offs in the e-commerce world different from those in the traditional marketplace? What are the different, and important, situational characteristics that influence consumers' privacy-related concerns, beliefs, and behaviors in the electronic marketplace? and (4) How do policymakers, in industry as well as government, use and process consumer research to address and formulate information policies and practices? Which research or types of studies, if any, do they rely on? How do they interpret consumer and industry-related studies and translate study findings into policy or legislation?

The growing pervasiveness and sophistication of database, Internet, and information-processing technology will only fuel, rather than quell, consumers' privacy and personal information use concerns. In turn, policymakers, legislators, and marketing practitioners will struggle with how to respond to consumer concerns and interests appropriately and effectively. As the past 25 years of privacy-related research illustrate, sound research designs and skillful translation of research findings will be needed to influence information policies and practices successfully. However, such research can be undertaken—and used—to lend a more objective voice to the often emotional atmosphere that surrounds information privacy debates.

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